

1387

THE
PHRENOLOGICAL JOURNAL
AND
SCIENCE OF HEALTH.

A REPOSITORY OF
SCIENCE, LITERATURE, AND GENERAL INTELLIGENCE.

DEVOTED TO
**ETHNOLOGY, PHYSIOLOGY, PHRENOLOGY, PHYSIOGNOMY, SOCIOLOGY, PSYCHOLOGY, EDUCATION
MECHANISM, AGRICULTURE, NATURAL HISTORY, AND TO ALL THOSE PROGRESSIVE
MEASURES WHICH ARE CALCULATED TO REFORM, ELEVATE, AND IMPROVE
MANKIND, SPIRITUALLY, INTELLECTUALLY, AND SOCIALLY.**

Embellished with Numerous Portraits from Life, and other Engravings

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H. S. DRAYTON, A.M., M.D., EDITOR.

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"Quiconque a une trop haute idée de la force et de la justesse de ses raisonnemens pour se croire obligé de les soumettre a une expérience mille et mille fois répétée ne perfectionners jamais la physiologie du cerveau."—GALL.

"I regard Phrenology as the only system of mental philosophy which can be said to indicate, with anything like clearness and precision, man's mixed moral and intellectual nature, and as the only guide short of revelation for educating him in harmony with his faculties, as a being of power; with his wants, as a creature of necessity; and with his duties, as an agent responsible to his Maker and amenable to the laws declared by the all-wise Providence."—JOHN BELL, M.D.

"To Phrenology may be justly conceded the grand merit of having forced the inductive method of inquiry into mental philosophy, and thus laid the permanent foundations of a true mental science."—*Encyclopædia Britannica*, 8th Edition.



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and more disposed to award a degree of justice to Gall and Spurzheim. Says Professor Alexander Bain, of Edinburgh: "The phrenologist proved by an accumulation of unquestionable evidence the real connection between the brain and the mind; all other systems of investigating the mind, metaphysical, physiological, anatomical, having failed to show the relation existing between natural organs and the mind. . . . All theorists previous to phrenology could not prove their principles by appeals to observed facts; they could not show a relationship existing between cerebral organs and the function of the elementary powers they had analyzed in their own consciousness. Phrenology not only showed herself capable of doing this, but she became the first and only science of character."

The grand characteristic of the system of mind analysis introduced by phrenology is its simplicity, yet on that account it has been a stumbling-block to many of distinguished learning, while to the masses of the people it has been received with grateful enthusiasm; wherever a skilful phrenologist has appeared, he has been welcomed by the laity, and his teachings are understood; certainly any doctrine relating to the mental or physical organization of man, to be of value, should be simple, readily understood by the average student, and readily applied in the analysis of particular conditions.

JOSEPH FRANCIS GALL was a native of Baden, Germany, and born on the 9th of March, 1757. As a boy, he was fond of the study of nature, and traversed the fields and forests to make observations on insects, birds, and animals. This innate spirit of inquiry was the key to all his future life. Having chosen medicine as his pursuit, he was enabled to continue his inquiries in connection with the study of anatomy and physiology; and having completed his studies at the medical school in Vienna, he established himself in that city as a physician. Employing much of his leisure in the observation of character, he came to the conclusion that persons remarkable for

special disposition had a particular part of the head largely developed. He never conceived for a moment that the skull was the cause of different talents, as some have represented, but that the cause or influence, whatever it was, lay in the brain. Abandoning every theory and preconceived opinion, he gave himself up entirely to the study of nature, and being a physician to a lunatic asylum, he had opportunities for making observations on the insane. He visited prisons and schools, was introduced to the courts of princes and to seats of justice, and whenever he heard of an individual remarkable for any special endowment or deficiency, he studied the development of his head, and in this way gradually reached the conclusion that particular mental powers are indicated by particular configurations of the head.

The successive steps by which Dr. Gall proceeded in his discoveries are noteworthy. He did not first dissect the brain to discover the seats of the mental powers; neither did he, as many have asserted, first map out the skull into compartments and assign a faculty to each according as his imagination led him to conceive the place appropriate to a power; on the contrary, he first observed a correspondence between particular talents or dispositions and particular forms of the head; he next ascertained by removal of the skull, when he had opportunity to make an autopsy, that the figure and size of the brain were indicated by these external forms, and it was only after such facts were determined that the brain was minutely dissected and light thrown upon its structure.

He was about thirty-eight years of age before he ventured before the public to announce his discoveries in the functions of the brain.

SPURZHEIM.

His renowned pupil and associate, John Gasper Spurzheim, was born at Longwich, in Prussia, on the 31st of December, 1776. He was educated at the University of Treves, and after being graduated he went to Vienna. There he made the ac-

quaintance of Dr. Gall in 1800, and became associated with him in 1804, studied medicine and surgery, and, like the early apostles of Christianity, devoted himself to the dissemination of the new doctrine. He was associated with Dr. Gall until 1813, when he went to England for the purpose of lecturing on the subject. He remained three years in Great Britain, became a

tours and lectures. Meanwhile Dr. Gall had died on the 22d of August, 1828, distinguished men of France and Italy paying homage to his memory by the side of his grave.

In 1832 Dr. Spurzheim visited the United States, in response to an urgent invitation, but he had been scarcely three months in the country when he fell a



JOHN GASPER SPURZHEIM.

Member of the Royal College of Physicians in London, delivered lectures before the most learned in the principal cities and towns of England, Scotland, and Ireland, making numerous converts to the new science wherever he spoke. Returning to Paris, where he married, he remained for eight years, then revisited Great Britain, and for a second time spent some years in a very successful series of

victim to a fever on the 10th of November. He had been long enough in the country, however, to make a very marked impression, especially upon the people of Boston, for on the occasion of his funeral, many of the business houses in that city closed their doors, and the president of Harvard College and representatives of the science and theology of the city attended the exercises, and a monument

was erected to his memory in the cemetery of Mount Auburn.

To Dr. Spurzheim is due the admirable classification of the organs and faculties now generally accepted by phrenologists and largely by modern writers on mental science; he gave more accurate names and clearer analysis to many of the organs discovered by Dr. Gall and described and localized nine himself. In character he was most amiable, attracting all who approached him, while his great scientific abilities won upon the learned wherever he presented the truths of the phrenological system.

Among those Englishmen who gave in their adhesion to his teachings were the distinguished anatomists John Elliotson and John Abernethy; the latter directed the attention of his class in the Royal College of Surgeons, London, to Dr. Spurzheim's anatomical labors as "most important discoveries," and in his work on "Surgery" he said: "The views which Drs. Gall and Spurzheim have taken of the nature of the dispositions and faculties of men and animals appear to me, however, both new and philosophical, and these admit of being surveyed without any reference to organization or its supposed situations."

COMBE.

If the physiology of this era is indebted to Spurzheim for his masterly demonstration of the anatomical relations of phrenology, the philosophical or metaphysical thought of the period is indebted to Mr. George Combe for his masterly expositions of the relations of cerebral physiology to metaphysics.

He was born in Edinburgh on the 21st of October, 1788; educated at the university there, prepared for the legal profession, and was a successful practitioner for many years. Strong bias toward science led him to study anatomy and chemistry. At first a sceptic in regard to phrenology, he became, through attendance on the lectures which Spurzheim delivered in Edinburgh, thoroughly convinced that the teachings of that

master were founded in nature, and in 1824 he published his "System of Phrenology," which probably ranks first as a technical work on the subject. Later, his "Constitution of Man" was given to the public, and although nearly sixty years have passed since its publication, it is still read extensively in Europe and America, being considered one of the most remarkable works that have ever been written.

He visited the United States in 1838, made a three years' tour of the country, delivering lectures in the principal cities. He died in 1858, and to-day scarcely any name of the century is more revered by truth-loving Scotsmen, for his labors at home were directed toward the improvement of his countrymen, especially in departments of education, his opinions being to-day much discussed among the advanced educators of Great Britain.

Of Dr. Andrew Combe, the brother of George Combe, mention should be made before passing to the consideration of the work of Phrenology in America, our special topic. Dr. Combe warmly co-operated with the other phrenologists of Scotland in the open discussion and advocacy of their doctrines, and because of his important position in Great Britain as a medicist proved a very powerful ally.

THE AMERICAN PHRENOLOGISTS.

The early introduction of the new science of mind was mainly due to the advocacy of Dr. Charles Caldwell, who was born in that part of Tennessee which was afterward taken to form the territory of North Carolina, May 14, 1772. Having chosen medicine as his pursuit, he studied at the university in Philadelphia, and for a time resided in that city. About 1816 he made a visit to Paris, where he was drawn to a consideration of the claims of phrenology, heard Gall lecture, and became so deeply impressed that he soon developed into a zealous disciple of that teacher. Returning to Philadelphia, he accepted the chair of Natural History in the University

of Pennsylvania. Later in 1819, he became Professor of Medicine and Clinical Practice in the Transylvania University, Kentucky. In this connection he taught and wrote on phrenological topics, and lectured in different parts of the country, being the first to present the doctrines of Gall and Spurzheim in this manner to the American public. His lectures led

guages and widely circulated. His death occurred on the 9th of July, 1853.

After the visit of Dr. Spurzheim a very high degree of interest was exhibited in it, especially among the learned of New England, and at the collegiate centres discussions became common between the advocates and opponents of the new doctrine. Among the men of prominence



to the organization of several phrenological societies that for a time had a flourishing existence. In 1837 he established a medical institute in Kentucky, at which he taught the principles of phrenology as a branch of medical education, and continued to do so till 1849.

As a writer and lecturer, he is regarded as one of the most able of early authorities in American medicine, his works having been translated into foreign lan-

in American thought to-day who have shown marked favor toward the system of Gall, is the Rev. Henry Ward Beecher. Mr. Beecher was then a student in Amherst College, took part in these discussions, and having been on one occasion selected to contend against the claims of Phrenology, he sent to Boston for books treating of it, that he might be the better able to perform his part; the result of his examination of the books was quite

different from what this then young and ardent collegian expected, for he found himself overwhelmed by the weight of evidence in favor of the new system, and gave his testimony in its behalf. So strong became the interest of the Fowler brothers (they were then in Amherst together), that they determined to become public teachers of the new science, instead of entering upon the study of Theology, which they had both selected as their future profession, fully believing that in the phrenological lecture field they would find desirable experience that would be of service to them in their after career as ministers. Before they had long been at work in the new sphere, they found it so wide, and involving so many possibilities of usefulness to society, that they became satisfied that they could not do better than to remain in it.

THE FOWLERS.

The brothers left Amherst in 1834 and after special preparatory studies began in 1835 to lecture on Phrenology, and from that time to this, they have, as is generally known, been identified with the history of Phrenology.

In 1836, an office, or head-quarters, was opened by them, in what was then the centre of business for New York City; as time went on it was found expedient to open branch offices in other cities, but New York remained the chief centre for the publication of phrenological literature, and the stronghold of the science.

Orson S. Fowler, who has been the more prominent of the two brothers in this country, was born at Cohocton, N. Y., October 11, 1809. He was the first child born in the township, and that peculiarity of his birth may be said to be typical of his career, for pioneer-like he was to continue for many years at the head of the advancing cause that he advocated with such enthusiasm. His parents were prominent among the residents of his native town, but not possessed in a large measure of this world's goods, so that Orson was compelled to work his way from childhood up. He paid his way

through Amherst College by what he earned from work procured among the professors and students.

Mr. Fowler's first purpose in studying Phrenology was to compare its mental philosophy with that of the metaphysicians, Brown, Stewart, and Reid, whose works were commonly used in educational institutions. He borrowed books from Mr. Beecher, and read them carefully, with the result of his complete conversion to Phrenology, as we have stated. As a lecturer he is peculiarly impressive, because of the clearness and directness of his ideas and argument; the common-sense of his auditors being at once enlisted and appreciating the usefulness of his suggestions. In the many works he has published the same characteristics are manifest; they have been thrown together, for the most part hastily, and in the midst of pressing work, yet they are full of illustration, and easily comprehended, and teach truths of importance to our every-day life. His work on "Matrimony" has been sold to the extent of upward of half a million of copies. There has been even a larger sale of his "Love and Parentage," "Maternity," and "Hereditary Descent." Always a great worker, and, although seventy-five years of age, he still exhibits remarkable industry, persistence, and ambition.

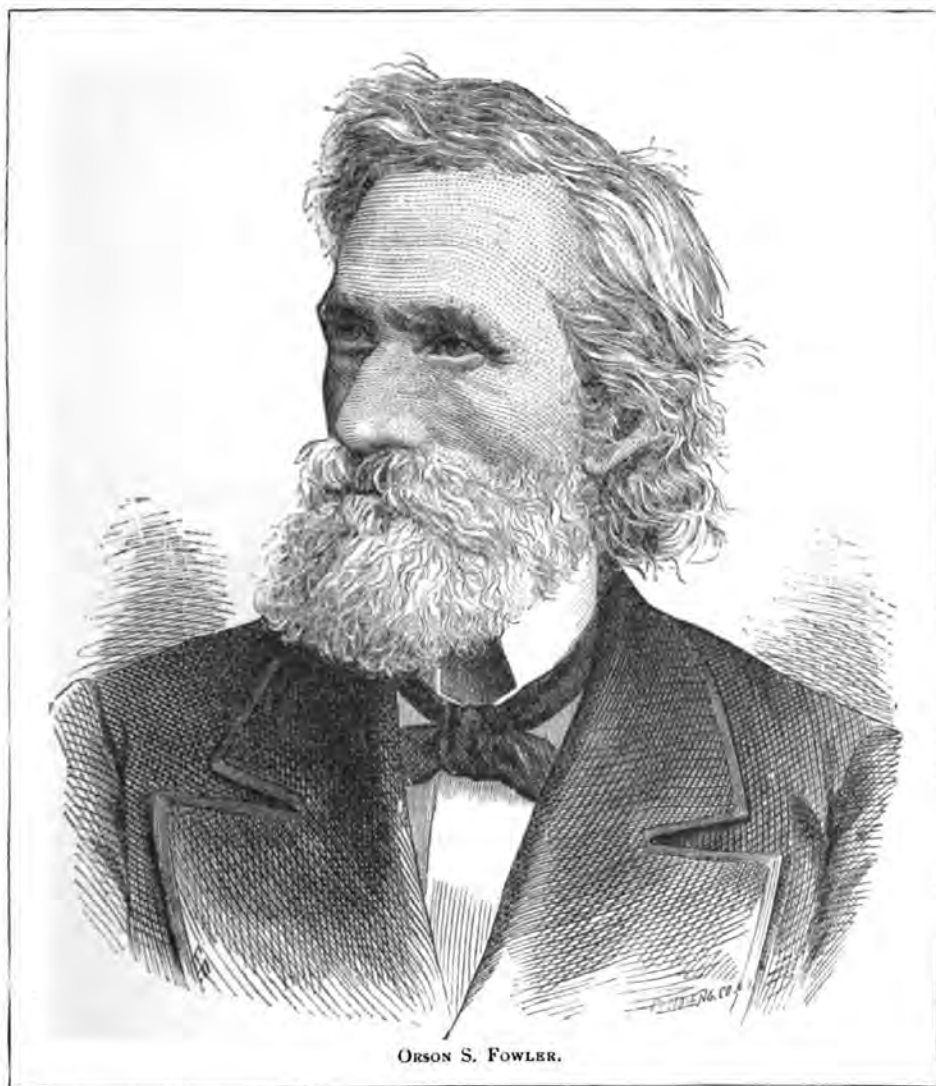
Lorenzo Niles Fowler was also born in Cohocton, and is about two years younger than his brother. He attended the school of the district, and assisted on the farm until he had reached the age of sixteen or seventeen, when he repaired to Dansville, Livingston County, where he sought the advantages of its well-known academy. From Dansville he travelled to Hadley, Massachusetts, to obtain better educational advantages and to further his preparation for a course in college.

After entering upon the new career of phrenologist, Lorenzo divided his time between office-work and lecturing. In prosecuting the latter he visited all parts of the United States, besides Canada, Nova Scotia, New Brunswick, and New Foundland. An extensive tour made in

1858, '59, and '60, in company with his partner, Mr. S. R. Wells, was followed by a trip to Great Britain, where the phrenologists were cordially received in the different sections of the kingdom. The impression made by this visit upon Mr.

every kind he weaves into his public addresses and private examinations.

His head-quarters have been for several years in Fleet Street, London, and his time is fully occupied; demands being constantly made upon him for lectures



Fowler's mind determined him to remain in England at least for a time; he has, however, lived there ever since. During the greater part of his residence he has travelled in England, Scotland, and Ireland, lecturing on topics related to Phrenology and temperance, moral and physical reforms, and indeed reforms of

and addresses here and there in different parts of the kingdom. As a lecturer on reformatory themes, especially physiology, character, and temperance, he is one of the popular *habitués* of the English platform.

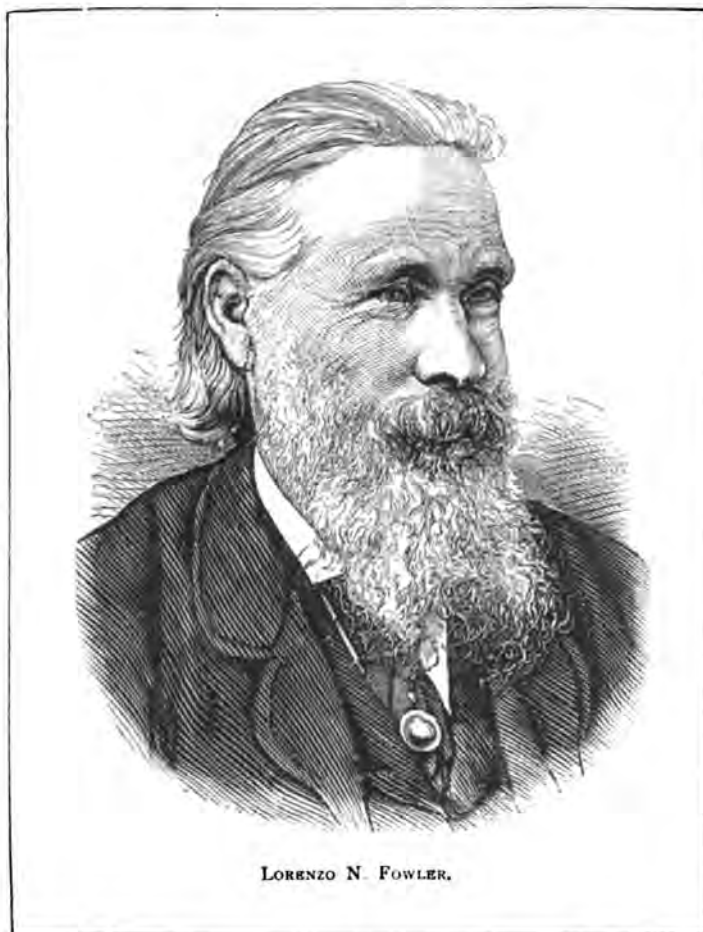
He has written much for the press in various ways. He furnished facts, data,

philosophical ideas, etc., for "Practical Phrenology," the first large volume published by the brothers in connection with their work. The little manual called "The Self-Instructor," which has enlightened thousands with reference to the principles of Phrenology, was contributed to by him. He originated the Phrenologist's Almanac, which after

active, vigorous man, and as useful as a teacher of truth as ever in his life.

CHARLOTTE FOWLER WELLS.

Phrenology differs much from other natural sciences in its relation to human society; it necessitates the general observation of human nature, and so embraces both man and woman, and is



LORENZO N. FOWLER.

many years developed into the later well-known "Annual." A volume entitled "Marriage, its History and Ceremonies," was published by him in 1846 and had a large sale. Many of his lectures have been given to the public in pamphlet and volume form. A late issue of this sort is his "Twelve Lectures on Phrenology." Still another is "Lectures on Man." Today, notwithstanding his age, he is an

naturally a field of study in which both sexes can engage with equal benefit. The pioneer woman in this field, the woman who is probably without a superior in this country and Europe for lifelong devotion to a cause at once educational and humanitarian, and that was ardently espoused in her youth, is Mrs. Charlotte F. Wells, a sister of the Fowler brothers. She was drawn while a girl of twenty to

study the system in which they had become so thoroughly interested, and in 1835, while attending school at Ludlowville, in Tompkins Co., near Ithaca, she instructed a class of ladies and gentlemen, by giving regular lessons for several succeeding months. Pursuing her investigations with unremitting attention, she became competent to make correct read-

the publication department that had grown out of it.

SAMUEL R. WELLS.

In 1844 she married Mr. Samuel R. Wells, who had become connected with the Fowlers as a student and assistant, and who later entered into closer relations with them as a partner. Mr. Wells was a



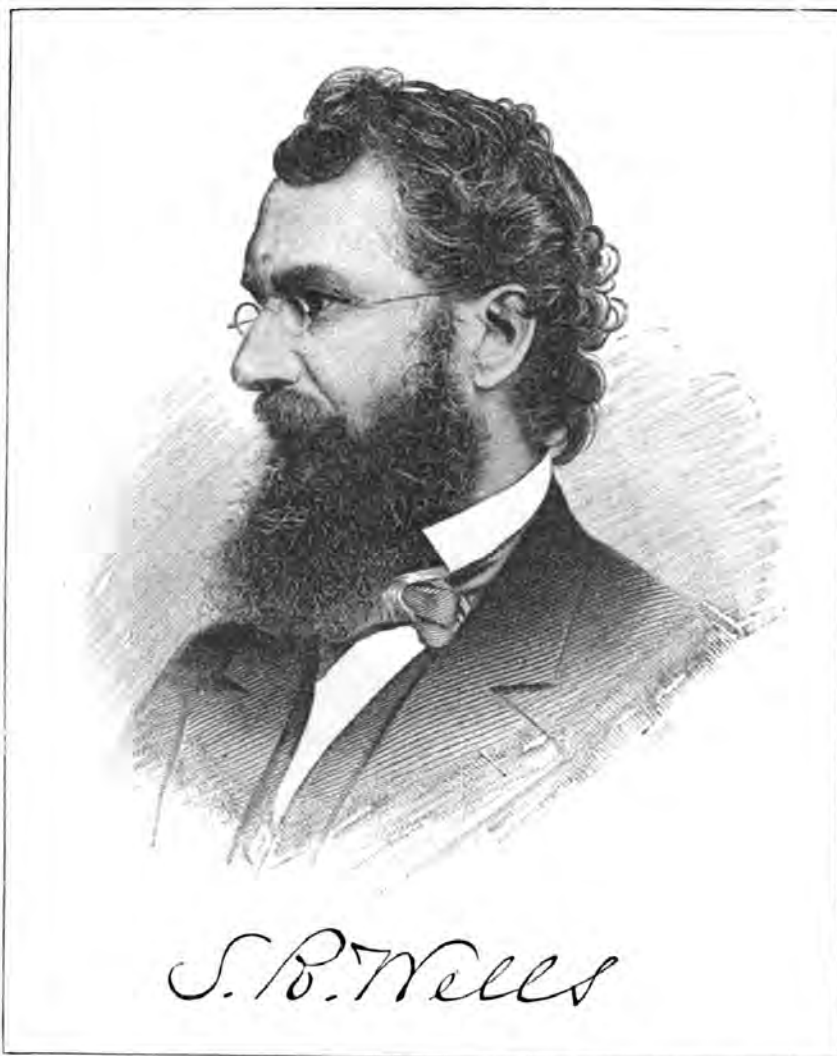
ings of character from the head, and two years later was invited by her brothers to associate with them in the business they had established in New York City. From that time, 1837, to the present, she may be said to have been constantly related to the prosecution of the phrenological work, contributing by her intelligence, courage, and rare activity to the maintenance and extension of the business in the New York office, and of

native of West Hartford, Conn. After leaving school he was apprenticed to learn the trade of tanning, which he pursued for a few years, but having decided to study medicine he went to Boston in 1843 with that intent; there he became acquainted with the Fowlers, and joined them in the professional tour they were making, and became soon afterward associated with them in business. Mr. Wells brought to the New York office

a mind well adapted to the conduct of a growing interest, an intellect appreciative of the widening influence and power of humanitarian truths. His plans were usually of a progressive and comprehensive nature, aiming at the improvement of the masses by the dissemination of

traction for the citizens of New York and to visitors. A large collection of portraits, busts, and crania was gradually formed, which now belongs to the American Institute of Phrenology, by gift from Mrs. Wells in 1884.

In 1855 Mr. O. S. Fowler retired from



books and periodicals teaching the laws of health, the precepts of hygiene, and the constitution of mind.

Under his management, and the sympathetic co-operation of Mrs. Wells, the catalogue of phrenological and scientific publications increased rapidly. The Phrenological Cabinet became a centre of at-

traction for the citizens of New York and to visitors. A large collection of portraits, busts, and crania was gradually formed, which now belongs to the American Institute of Phrenology, by gift from Mrs. Wells in 1884.

In 1855 Mr. O. S. Fowler retired from the firm, and in 1860 Mr. Wells and his remaining partner, Mr. L. N. Fowler, made the tour already mentioned.

On his return to the United States, in 1862, Mr. Wells resumed the management of his business, and published several works of his own, the most prominent of which are, "New Physiognomy, or Signs

of Character," which places what is known of Physiognomy before the world; "How to Read Character"; and "Wedlock, or the Right Relation of the Sexes."

Mr. Wells was a tall, impressive man, and graceful and winning in his manner to an unusual degree. Like most self-made, earnest men, he was inclined to over-work, and years of close attention to the indoor duties of his business told upon his strength, and he literally fell at his post, in the midst of a career of great usefulness, in the spring of 1875.

THE INSTITUTE.

A favorite aim of Mr. Wells was the establishment of an institution that would perpetuate the educational work of the phrenological teacher, and when in 1866 a charter was procured from the Legislature of New York, he deemed that a long stride had been made toward the accomplishment of his object, for immediately afterward a course of lectures was given to a large class of students, and ever since then the American Institute of Phrenology has held a session yearly or oftener, and is now on a paying basis, and pursues a curriculum of subjects employing eight or more different instructors.

Mrs. Wells entered cordially into this scheme, and since the death of her husband has diligently sought to promote its success by all the means within her power.

From the Institute upward of three hundred students have gone forth to give testimony to the truths they have each received with grateful appreciation. The late class numbered twenty-four students, among them ministers, teachers, medical students, and business men of mature years, some of whom had come from foreign countries to attend the course.

VETERAN ADVOCATES.

As we now look over the field we are surprised to note how many of the veterans who were "in at the start" are still alive, and bearing testimony to the truth. We may venture to say that no other department of science can produce

so many men as Phrenology, who for upward of a half century have been vigorous advocates and workers in their chosen sphere, and still proudly avow their loyalty to its principles. Besides the Fowler brothers and their sister Charlotte and Mr. Wells, Nahum Capen of Boston, Dr. Nathan Allen, and Nelson Sizer had been among the early disciples of Gall and Spurzheim. Nahum Capen belongs to one of the oldest families in Massachusetts, and was born in Canton, Norfolk Co., April 1, 1804. He was always of a studious, meditative disposition; chose medicine for his pursuit, but owing to ill-health was compelled to give it up and engage in what furnished him with more physical activity.

At the age of twenty-one he commenced business as a publisher and bookseller in Boston, with a branch in Concord, N. H. His firm, Marsh, Capen & Lyon, and its successor, Marsh, Capen, Lyon & Webb, were well known forty years ago for enterprise and connection with most distinguished authors of the time. In business relations Mr. Capen was an independent critic, not hesitating to advise writers according to his best judgment. He was selected by Hawthorne to read his first manuscript, which was published anonymously.

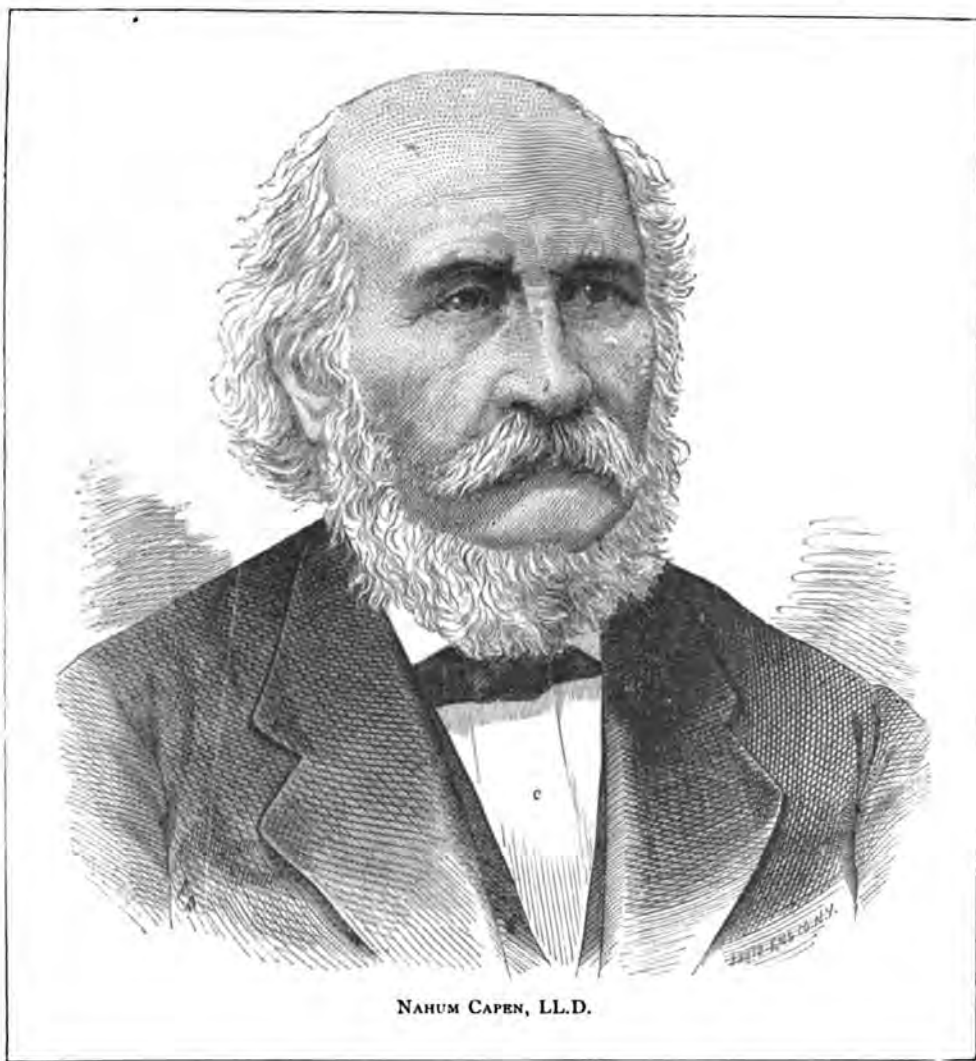
He was always deeply interested in philosophical studies, and promoted also the advance of scientific research as his business relations permitted. He lectured on topics in metaphysics, and when the discoveries of Gall were announced in America, was among the first to examine into their nature and merits.

Soon after the arrival of Dr. Spurzheim in Boston, in 1832, Mr. Capen made himself known to the distinguished philosopher, and so favorably impressed him that Dr. Spurzheim made Mr. Capen a confidential friend, committing to him the keeping of his funds. When Spurzheim died, after his short but brilliant career in America, Mr. Capen had in his hands several thousand dollars belonging to him, as well as valuable papers and other personal effects. At Mr. Capen's request

a committee was appointed to take charge of this property. Hon. John Pickering, Dr. Nathaniel Bowditch, and Mr. T. W. Ward, with other gentlemen, were such committee, and through them the money and property of Spurzheim were transmitted to his heirs in Germany.

nology," "Insanity," Dr. Combe's treatise on the same subject, and other works.

The science of Government has been a branch of study to which Dr. Capen has devoted much time—especially during the past thirty-five years. From time to time he has published his views on im-



A biography of this great man was prepared by Mr. Capen and published as an Introduction to a new edition of Spurzheim's "Phrenology in Connection with the Study of Physiognomy." He also wrote the "Life of Dr. Gall," and edited a translation of his works. He edited also Spurzheim's "Education," "Phre-

portant national measures, and been in correspondence with leading statesmen. Out of his political experience have grown the volumes of his great work, the "History of Democracy." At one time Mr. Capen was postmaster of the city of Boston, and there brought about several changes of great value to the postal ser-

vice generally. A late volume by Dr. Capen is "Reminiscences of Spurzheim, Combe, and others" that is valuable not only on account of its contents, but because it was written by one who spoke

field as an author and practitioner of Phrenology, that the mention of his name is sufficient to awaken a lively interest in thousands who have profited by his professional counsels, is Nelson Sizer.



Nelson Sizer,

from personal knowledge of the leading characters of whom it is a sketch.

NELSON SIZER.

A younger man than Dr. Capen, but one who has been so many years in the

His portrait indicates strong elements of character, at whose basis there is an excellent physiology. His brain is large, and his weight being nearly two hundred pounds, his nervous system is fully supplied with nutrition. Having been thor-

oughly temperate and orderly in his habits, he has confirmed in its integrity a constitution robust by inheritance, that enables him to accomplish a large amount of work. The head is relatively high, showing fulness in the moral organs, while the intellectual developments are particularly large in the perceptive region. He has a capital memory of whatever he has experienced, and with his large Comparison he is able in conversation, or while addressing an audience, or describing a character, to employ illustrations drawn from every side of nature and experience, that are both rich and vivid. Indeed he seems to think pictorially.

Nelson Sizer was born in Chester, Hampden County, Mass., May 21, 1812. On his father's side he is of Portuguese extraction, while from his great-grandmother he inherits Scottish blood.

His father, Fletcher Sizer, the fourth of a family of sixteen children, married Lydia Bassett, of Westfield, Mass., whose father was an Englishman, and in this way Nelson Sizer acquired an English impression in the direction of stability and personal dignity.

In 1839, his wife having died, he gave up the business of paper manufacturing, in which he had been engaged for years in Blandford, Mass., and engaged in the work of a phrenologist. For ten years he travelled and lectured, mainly in New England. In 1841 he joined Mr. P. L. Buell in a Phrenological partnership, and they gave extended courses of lectures in Washington, and in the leading towns in Maryland, Virginia, New York, Massachusetts, Connecticut, New Hampshire, and Vermont. In 1843 a joint work, entitled "A Guide to Phrenology," was published by the associates and used as a chart in making examinations.

Mr. Buell is still living, at the age of seventy-five, in Westfield, Mass., where for thirty or more years he has been editorially connected with the *News Letter*, now *Times and News Letter*.

Mr. Sizer aimed from the beginning to give Phrenology an elevated place in the

estimation of the public, and not make the new science a mere instrumentality of gain, and thus won the respect of his audiences and patrons. Believing that man's moral nature is the strongest and highest element, and that the best success must come from addressing himself to this element, he aimed to develop clearly in his teachings the moral and religious aspects of Phrenological science.

While lecturing he was a frequent contributor to the PHRENOLOGICAL JOURNAL, and also its agent.

In 1849 he was invited to take the position of Phrenological Examiner in the office of Fowler & Wells, in New York, and from that time has remained thus related, and is a resident of Brooklyn. Meanwhile he has contributed largely to the JOURNAL and other publications, his wide experience and extended observations rendering him a valued writer on topics connected with human nature. In 1859, '60, '61, '62, and '63, he had editorial charge of the JOURNAL, the proprietors being absent on professional tours in America and Europe. From 1864 to 1884, he was associate editor, besides being Vice-President and principal teacher in the Institute of Phrenology.

He has made more than 250,000 professional examinations, and many thousands confess that his advice has guided them to right pursuits or saved them from mental and moral wreck. In 1884 he became a constituent member of the joint stock association of the Fowler & Wells Company, and its Vice-President. He has published several books of great value; one entitled "Choice of Pursuits; or, What to Do and Why"; another, "How to Teach; or, Phrenology in the School-Room and the Family," and "Forty Years in Phrenology." These works serve especially to bring the science of human nature home to practical uses in every relation in life.

As a lecturer he is well known in New York, Brooklyn, and vicinity, his services being in frequent demand for associations, lyceums, and churches. He speaks extemporaneously; is animated,

direct, earnest, highly instructive, abounding in illustration, and is often in a high degree amusing. His most telling addresses are those which treat of temperance and moral reform.

The PHRENOLOGICAL JOURNAL was started in October, 1838, by the Fowlers, and became in a short time a most important ally in their efforts to disseminate the principles of the new science of mind.

The literary character of the publication was high and commanded the esteem of the press at large in the outset, and even those unfriendly to the subject that

ture on the part of men who were endeavoring to force a novel thing upon the public, but as years went on its character for pure and elevated teaching compelled general recognition, and a large circle of readers was gradually won that has never wavered in their loyalty. No other monthly magazine has a so widely distributed constituency. Monthly packages go to New Zealand, Tasmania, and other far-off lands in the East. If the lecturer and teacher has exercised an important influence upon small groups of people here and there throughout the country, the PHRENOLOGICAL JOURNAL, while being his help and ready circular,



OLD CLINTON HALL, CORNER OF BEEKMAN AND NASSAU STREETS.

it represented, commended the spirit of philanthropy and high-toned morality that pervaded its pages.

Since the PHRENOLOGICAL JOURNAL was started, there has been no positive interruption in its publication down to the present time. There have been times of crisis when it seemed that its suspension was inevitable, but ere the die was cast, some favorable turn, a providence, as it were, enabled the proprietors to continue it. In the beginning it was a new and indeed strange feature in American literature; to-day it stands alone, but its attitude or relation to the world of literature has greatly changed. Then, it was by some regarded as an experiment or adven-

ture has exercised a much more powerful influence upon the masses.

NATHAN ALLEN.

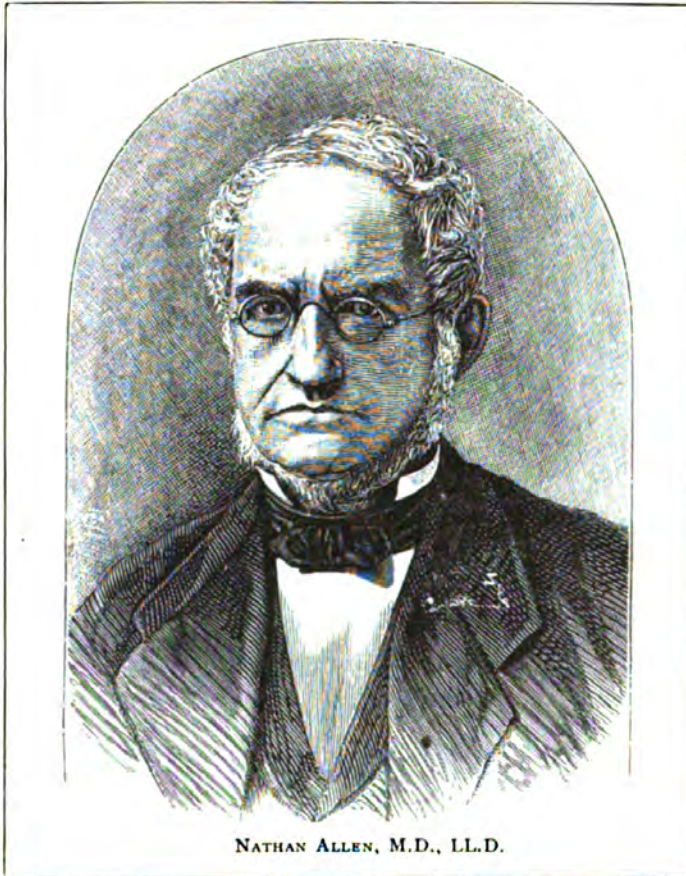
The first editor was Nathan Allen, then a student of medicine at Philadelphia. He was a native of Massachusetts, having been born at Princeton, in 1813. After finishing a collegiate course at Amherst, he taught school for a time, and then went to Philadelphia and entered the medical school there. After receiving his degree, he settled in Lowell, Mass., and commenced the practice of medicine, and soon afterward entered upon a course of researches relating to the laws of population, physical culture and

degeneracy, public health, hereditary influences in the improvement of stock, longevity in its connection with life insurance, causes and treatment of insanity, etc. The results of his investigations have found their way to the public in many essays and treatises.

Through these publications Dr. Allen opened a field of practical thought and discussion quite new to the majority of

chiefly instrumental in introducing the methods of physical culture for which Amherst College has taken special rank among American educational establishments. The plan which has been adopted by this institution is worthy of being imitated by all who are related influentially to the work of education and public hygiene.

Dr. Allen edited the PHRENOLOGICAL



NATHAN ALLEN, M.D., LL.D.

thinking and scientific men. Besides his numerous publications, he has scattered a great deal of useful teaching on health, hygiene, physical education, in addresses and lectures. His position on the Massachusetts State Board of Charities for twenty years, and his appointment as Examining Surgeon for Pensions have enabled him to exercise a marked public influence. For twenty-five years he has been a trustee of Amherst College, and

JOURNAL for three years, and the interest that this experience awakened in his well-balanced mind has never abated; on the contrary, it has been at the bottom of his labor in behalf of the social and sanitary relations of the New England people. To use his own language in this respect, uttered in the course of an address a few years ago :

"If you take men who have worked in the phrenological field for many years,

they will acknowledge that they are more indebted to Phrenology than to almost anything else; that they would not exchange their knowledge of it for anything else. I do not wish to be egotistical in referring to myself, but it is to Phrenology that I owe many of the ideas and thoughts that I have been advancing in articles for magazines, etc. Phrenology teaches that the great thing to be desired and gained is to have a well-balanced mind; to have the best development of brain, and each of the faculties well set over against the others. On looking back I find that it is to that general idea I am indebted for a correct understanding of physiological laws."

The following succinct delineation of Dr. Allen's character was read by Mr. Sizer, from the photograph of which the portrait given in this article is a copy, engraved on wood:

"This gentleman has a very marked organization. His head is large, and though he is at present stocky, solid, and weighs nearly one hundred and eighty pounds, we remember him as a slim, dark-complexioned young man, weighing perhaps one hundred and thirty-five, with a head richly covered with black hair and disproportionately large for the size and weight of his body. Then the mental and motive temperaments predominated. Since that time the vital system has acquired much more influence and power in the constitution, and he is now able to manufacture as much vitality as the large and active brain requires. He has an organization remarkable for its elasticity, executive efficiency, and abundant nutritive power. He inherits largely from the mother's side of the family, has a long body, and every function that belongs to constitutional vigor is well provided for.

"His mind works first on the intuitive principle. He gets a subject flashed, as it were, instantaneously upon his mind, with such vividness as to impress him with its truth and lead him to a decision, and he rarely has occasion to change such intuitive impressions. He has the ability to enter upon the logical investi-

gation of a subject, and though he is prepossessed in favor of a given hypothesis, he will work it out as he would a mathematical problem and accept results of investigation; but being very intuitive, he rarely has occasion to modify his first impression, except to intensify its force. He has all the conditions of an excellent memory; first, the phrenological developments which indicate ability to retain impressions; and secondly, that nutritive vigor of constitution which keeps the brain amply fed. This latter is a point not to be overlooked. Hundreds of persons are organized mentally for a good memory who, by the want of ample nutritive power, are unable to feed and sustain the brain and keep its apprehension vigorous.

"Dr. Allen has strong reasoning powers, but his Comparison originally was much stronger. As an element of reflection, he has of late years developed his Causality, which formerly worked through Comparison, but now he is able to use Causality in abstract thinking without any special relation to collateral topics. He can reason, *per se*, and is able to do what few men succeed in doing, viz., he can reason soundly and fairly on both sides of a disputed question. Hence, he can see his opponent's argument and give him full credit for its force, on the same principle that a pound weight in one scale may be said to give full credit to a half-pound weight in the other scale, and make no pretensions to superiority, except in the sum of eight ounces. While he is a man of strong convictions and definite ideas, it is easy and natural for him to give ample credit and respect to the other side of the question.

"He is ingenious, has mechanical judgment, and might have become a good architect and engineer. He is cautious, anxious about consequences, and, at the same time, he manifests a vigorous courage that enables him to push his own cause onward against opposition. If he had been placed in an educational field, or if he had studied law and been obliged to cultivate public speaking, he would

have made an able public teacher; but being more devoted to quiet investigation and to writing, his power for oratory and for swaying a present audience has not been so much called out.

"His Firmness is uncommonly strong. People give him credit for tenacity, and like it much in him when he happens to be co-operating with them, but they think it very inconvenient, and are apt to magnify its power, when it is exerted in antagonism to their cherished notions. He has strong Conscientiousness; believes in the truth; seeks to follow it without fear or favor. He is ambitious to be approved; suffers if he be disgraced, or his motives or conduct disapproved. He is a good friend, warm in his affections, strong in his regard for woman, and especially well calculated to win the confidence and co-operation of children. He has so much of his mother's nature that his social disposition qualifies him to be popular in families.

"He is systematic in his plans; clear and earnest in his statements; economical in his administration of affairs; vigorous, but not noisy or specially demonstrative in his energy, and is more qualified to move quietly but persistently in an intellectual and moral channel than to enter the arena as a noisy champion of a fiercely-contested case. The head and face, as exemplified in the likeness, evince strongly, though less, indeed, than in the real presence, sound common-sense, integrity of thinking, patience in the line of laudable effort, integrity of purpose, ingenuity, prudence, ambition to be approved, and that consistency and steady strength of the social nature which wins and holds friends, and renders a man popular where he is well known."

THE PRESENT EDITOR.

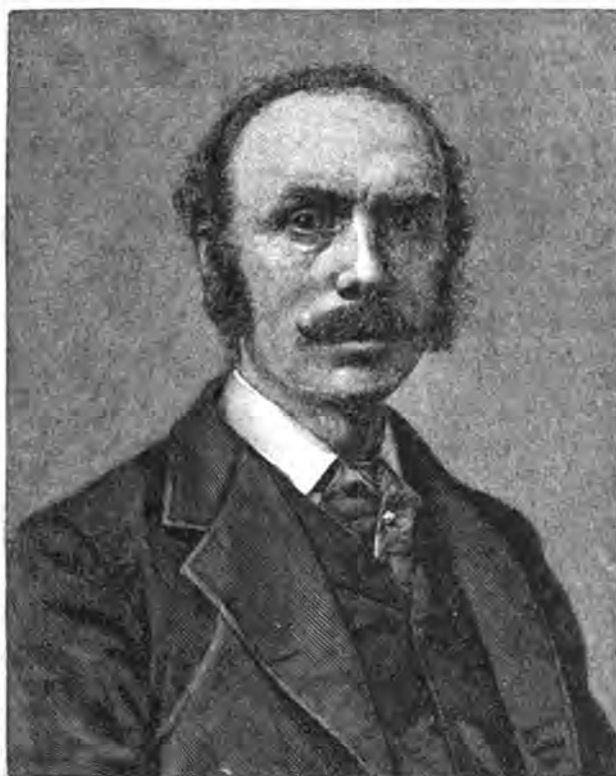
On Dr. Allen's retirement Mr. O. S. Fowler assumed the senior editorship of the PHRENOLOGICAL JOURNAL and kept it for several years. Next Mr. Wells added that capacity to his general management of the office, and on his death it

was occupied by Henry S. Drayton, who had been for several years assistant editor, and had discharged his duties with efficiency and success. Mr. Drayton is a native of New Jersey, but having in his veins the blood of Old and New England. From childhood he was fond of books, and a course at the New York University increased his desire to pursue some department of literature. Circumstances led him to accept a position in the office of a prominent law firm, of New York, where he remained three years, meanwhile attending a course of lectures in the newly established law-school of the University. The war between the North and South was in progress and business generally had been greatly depressed, so that the prospects of young men, newly admitted to the bar at that time, were far from encouraging. For the sake of being employed, Mr. Drayton accepted the offer of a firm well known in the law literature of New York, and was chiefly occupied in assisting them in the preparation of reports of legal cases for publication. The incidental acquirement of a knowledge of phonographic shorthand proved of value, as it enabled him to take notes in the courts and elsewhere, and subsequently in 1865, being offered a place as reporter in the office of Fowler & Wells, he accepted it, thinking that his literary and scientific tastes would be gratified in great part there, while his pecuniary interests were improved.

The relation there established between Mr. Wells and Mr. Drayton proved a happy one. In a short time the reporter was advanced to a higher and more responsible station, that of assistant editor, and contributor to the publications of the firm. Mr. Drayton is conversant with several languages, and has devoted considerable time to studies in Physiology, and in the furtherance of that object attended lectures at three different medical schools. Besides his editorial work, that would fill several volumes of itself, he has written several books. One, entitled "Light in Dark Places," appeared as a serial in the PHRENOLOGICAL JOURNAL.

and was subsequently published in book form. Another, entitled "Brain and Mind," of which he is joint author with Mr. James McNeal, has obtained a wide circulation in this country and Europe, and is considered one of the best text-books for the student in mental science. Another, entitled "Studies in Compara-

A gentleman who for several years rendered valuable service of a literary nature to Fowler and Wells, and who merits more than passing mention in this place, was Dr. D. H. Jacques, author of "Physical Perfection," and for several years editor of the *Rural Carolinian*, an agricultural monthly that flourished for a time in the



HENRY S. DRAYTON, LL.B., M.D.

tive Phrenology," and founded in part on Dr. Vimont's great work, "Phrenologie Humaine et Comparée," has appeared in successive instalments in the columns of the JOURNAL during the past three years. Besides these there are several minor publications of which he is the author or compiler. One of these, "Indications of Character," is a small thoroughly scientific manual that is very popular.

South. Mr. Jacques possessed a mind of rare intellectual culture, and wielded his pen with exceptional facility and eloquence on a variety of subjects in science and literature. His interest in Phrenological topics proceeded largely from a deep sympathy for the weakness of human nature, and his desire to do something toward the improvement of society. His last volume, that appeared a short

time after his death, was "The Temperaments," the only comprehensive treatise of its class in print.

THE HYGIENISTS.

The relations of the phrenologists to reforms in personal habit and life led them to take very advanced views. The Fowlers and their co-operators, by reason of their attitude toward the public as lecturers and publishers, naturally gravitated toward leadership in the new methods of treating disease introduced by Priessnitz. Hygiene and hydropathy seemed to have much in common, and concluding that their work could be promoted by alliance with the teachers of health reform, Fowlers and Wells, in 1846, assumed the publication of the *Water-Cure Journal*, that had been published a short time before by Dr. Joel Shew, and by energetic management secured for it a position of no mean value among the class publications of the country. After a successful career of about sixteen years the *Water-Cure Journal* passed into other hands, and was merged into another monthly of similar scope and purpose.

Of Joel Shew it may be said that he was a natural hydropathist, being at an early age accustomed to use cold water and snow to allay the inflammation of a burn or wound that he had sustained, and after he obtained his degree as a physician from an old-school institution, he adopted the system of Priessnitz, whose methods he had to a considerable extent discovered for himself previously, when entirely ignorant of the existence of such a man as the Gräfenberg reformer. The pioneer in American water-cure, his views and methods were of course unpopular, but ardent love for what he believed to be truth, joined with courage, energy, and perseverance, that were striking elements in his character, sustained him in his course.

He visited Europe twice for the purpose of obtaining all the information possible concerning the methods of water treatment as practiced in the different in-

stitutions there, and making the city of New York his principal field of operation. he introduced hydropathy into his practice. He did not affirm, as some have done, that the drugs of the old treatment are all necessarily bad, but that as a general fact, wherever pure water, bathing vessels, enemas, towels, etc., may be obtained, there water is the best remedy; the most effectual in relieving pain, "such a universal remedy as we would expect an all-wise Creator to place everywhere within the reach of man." He was eminently successful and placed water-cure on a commanding level. Besides a practical expositor, he was an author of many volumes that had a liberal sale; such, for instance, as the "Water-Cure Manual," "Water-Cure for Women," "Hydropathic Family Physician," being popular in their day.

RUSSELL T. TRALL.

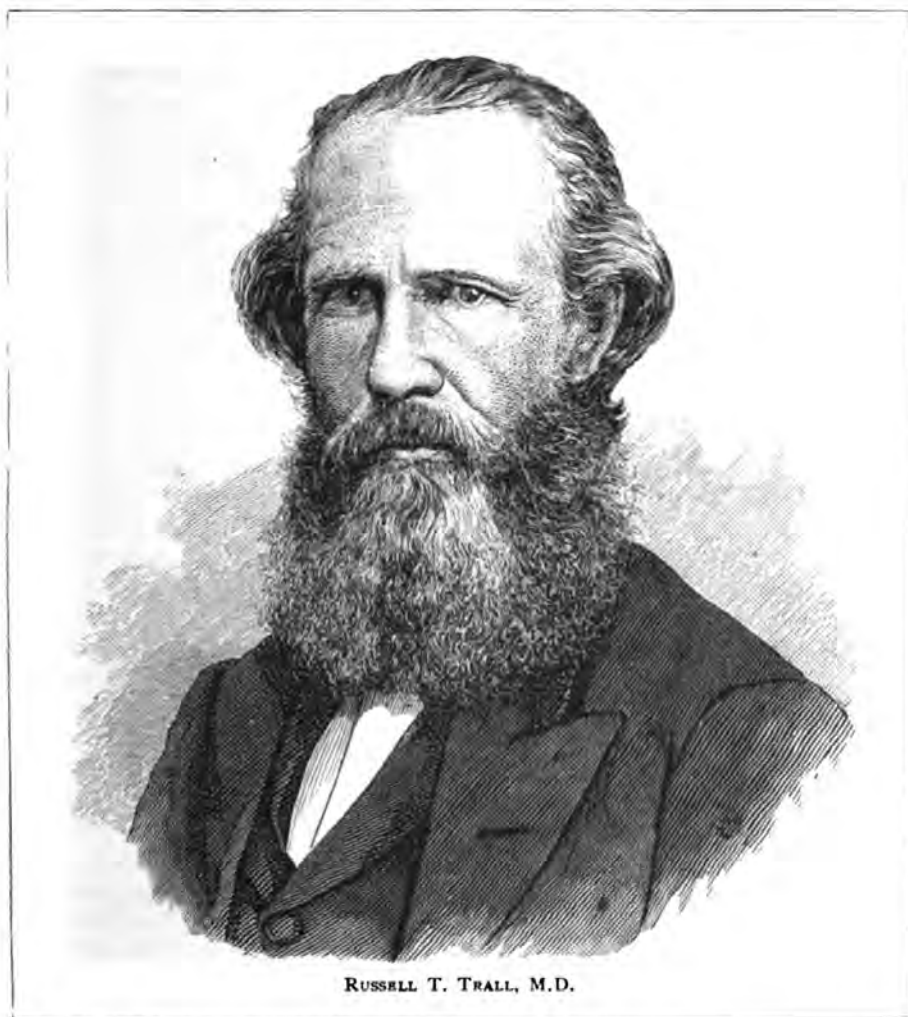
Among those who contributed most ably toward the growth of popular sentiment in favor of hygiene, reform medication, and hydropathy, besides Dr. Shew, were Russell T. Trall and Sylvester Graham. Dr. Trall was perhaps one of the most eminent hydropathists this country has seen. Richly endowed with intellectual gifts, and deeply versed in the methods of the medical schools, he was at the same time a most emphatic apostle of the principles of water cure and prophylactic hygiene.

He was born in Vernon, Conn., in 1812, and while very young his parents moved to Western New York; as the country then was almost a wilderness his opportunities for education were exceedingly meagre, and before he had emerged from boyhood he lost his health, and medical treatment failing, he determined to investigate the subject of his ailments for himself. In spite of much opposition and many difficulties he succeeded in obtaining a place with a physician, where he pursued his studies diligently for three years, and then attended courses of medical lectures, was graduated and commenced practice. He was, however, more

than ever dissatisfied with the methods of drug treatment, now that he had learned them in the schools, especially as he was still an invalid.

In 1840 he came to New York, where he found better opportunities for pursuing his investigations, and became fully

Cure in New York City, one of the first ever established in this country. In 1852 he obtained a charter from the Legislature of New York for a school of Hygiene, which he had organized a few years before, in which ladies and gentlemen were admitted as students on equal



RUSSELL T. TRALL, M.D.

satisfied that the whole system of medication as commonly pursued was in opposition to nature and contrary to common sense, and that the only true remedial agents were those bearing a normal relation to the vital organism, like air, light, water, food, exercise, sleep, electricity, etc. Casting about for an opportunity to bring his views to public attention, he succeeded in 1844 in opening a Water

terms. He was an exceedingly active and energetic man, working almost incessantly, and this too in spite of the fact that he was a delicate man comparatively, never having entirely overcome the constitutional weaknesses that were developed in his childhood. He lived, however, to the age of 65, dying at his residence at Florence Heights, N. J., where he had conducted an institution for about twelve

years. Notwithstanding his multifarious professional duties, he found time to contribute to several publications, and to prepare many pamphlets and books. The catalogue of his publications comprises more than twenty-five volumes, the most notable being the "Hydropathic Ency-

"Digestion and Dyspepsia," "Family Gymnasium," "Mother's Hygienic Handbook," and "Water Cure for the Million." As a writer he was remarkably fertile, but he wrote in a condensed style, and for clearness of statement, command of data, and vigor of expression, was unsurpassed



SYLVESTER GRAHAM.

clopedia," which has been so widely circulated. For several years he had charge of the editorial department of the *Water-Cure Journal*, which afterward passed into other hands, and became the *Herald of Health*. Others of his books that are familiar in thousands of American homes are "Popular Physiology,"

by any other contemporary writer on medical subjects.

SYLVESTER GRAHAM.

Foremost in the ranks of vegetarians stood Sylvester Graham, who evinced a hearty sympathy with the efforts of Fowlers & Wells to enlighten the public

with respect to the principles of hygienic living. From his childhood Graham was distinguished by great mental precocity. Gifted with unusual facility in the use of language, and extremely sensitive to the higher impressions, he excited much attention when a student at college. He entered the Presbyterian ministry, and ere long acquired much popularity, but the agitation of the temperance reformers of 1827 awakened his profound sympathy, and he joined them. In 1830 he was engaged by the Temperance Society of Pennsylvania to travel and lecture. He had previously studied anatomy and physiology, and applied their truths with great vigor in his lectures and writings.

Symptoms of consumption appeared when Graham was only sixteen years of age, and the remainder of his physical life was characterized by the transitions of invalidism. His studies in physiology led him to adopt the diet that has become associated with his name, and to the nutritive properties of which he declared he owed his fifty-eight years of life. He lectured extensively on diet and hygiene, taking high ground in behalf of vegetarian food as the natural diet of man. His work entitled "*The Science of Human Life*," was compiled from a series of twenty-four lectures, in which he discusses food topics from all points of view, and incorporates in the discussion many personal experiences that are very interesting to the reader. The author of this book pursues a strikingly independent course in his treatment of the principles of hygiene, and builds up a powerful argument founded upon an examination of human anatomy, of the vital laws with which man is endowed, and the effects produced in his organism by external agents, in favor of a well-selected diet from vegetable products as best for maintaining health and securing long life.

OTHER HELPERS.

The extensive operations of the phrenological and publishing business, as they continued from decade to decade, required many heads and hands. Hundreds

of men and women have been employed in it, some remaining years and giving the best service that a deep and growing sense of the important work done by Phrenology for the people would inspire. Many who were once employed as book-keepers, or salesmen, or cashiers, or assistants in other capacities, are prominent in professional or business circles in other parts of the country, and it were but scant justice did we not make more than mere mention of some of those who gave years of their best youth to help in the cause of Phrenology and hygienic reform.

One of these early assistants was Mr. Lester A. Roberts, of New York City, a cousin of Mr. S. R. Wells, and a gentleman well known in commercial circles for talent and judgment of a high order. He is a native of Connecticut, became connected with Fowlers & Wells in the summer of 1847, and with the exception of a few intervals of absence remained in the New York office until 1866. He soon rose to a place of the first responsibility, and contributed, by his previous varied experience and excellent judgment, to the growth and success of the business. On leaving the old place he entered as a partner the map-publishing firm of Colton & Company, which was soon afterward extended to the production of art lithographs. In this connection he has remained until the present time.

Mr. Roberts is a writer for the press, articles from his pen having appeared in the *PHRENOLOGICAL JOURNAL* and in the daily newspapers from time to time on topics of practical interest. As a man of affairs and a writer, he is distinguished for the breadth of his information and the calmness of his reasoning. He was associated in the organization of the Institute of Phrenology, and is one of its trustees; strongly believing in the utility of its mission and desirous of rendering that utility more conspicuous and understood by the masses, he warmly co-operates in every measure that would extend its influence.

Dr. Charles Shepherd, proprietor for

twenty years past of the well-known Turkish-baths on Columbia Heights, Brooklyn, was connected as a business assistant with this office prior to his establishment of the popular system of bathing that bears the name of its derivation. At Mr. Wells' suggestion Dr. Shepherd became interested in the subject, and went to Europe for the purpose

business until his appointment to the office of Postmaster.

Well known in the book trade of the city is Mr. Albert Turner, whose connection with the business has nearly attained the mature experience of twenty-one years. Mr. Turner was born at Fair Haven, Cayuga County, N. Y., where his parents were born and still reside.



LESTER A. ROBERTS.

of investigating the method pursued by the Orientals. He it was who set up the first Turkish-bath known in this country.

Another of these business assistants was Mr. Rodney D. Wells, now Postmaster of St. Louis, Mo. He was in the New York phrenological office during several years, and at length went Westward and settled in St. Louis, where he conducted a large

His grandfather, Isaac Turner, was one of the pioneer settlers of that part of the State, and was for thirty years the Squire of the town and counsel of the people in all legal and technical matters. He attributes the development of his character to the careful and conscientious training of his mother, who was an earnest member of the old Scotch Covenanter Church. This, with other excellent home-surround-

ings, did much toward keeping him proof in after years against many of the temptations that assail young men when abroad in the world and striving for themselves. He obtained the most of his schooling under the disadvantage of living a mile and a half from the district school, and having to spend his summers engaged in farm work. Notwithstanding this he be-

Finishing his studies there in the spring of 1864, he came to New York, bringing a letter of introduction from his grandfather to the late Mr. Samuel R. Wells, who soon after made a place for him in the Phrenological Office as general assistant and boy of all work. Commencing thus at the bottom of the ladder, by faithfulness, combined with natural tal-



ALBERT TURNER.

gan at an early age to teach the winter schools of the neighborhood, and attended three terms in the Red Creek Academy. Subsequently he went to Poughkeepsie, N. Y., and attended the Eastman Business College, where the thorough course of training in the principles of business practice given in that deservedly popular institute, helped to establish the foundation for his success in business life.

ent, he mastered the details of the publishing business, and step by step has been promoted to the position he now holds as Treasurer and Manager of the Fowler & Wells Company.

In 1879 he married Miss Sarah C. Barton, an intelligent lady, who, like himself, is deeply interested in Phrenology, Health, Temperance, and other reformatory matters.

He has been for many years a member of the Presbyterian Church, and conducts a Union Sunday-school in the place of his residence, Passaic, N. J.

Shorthand reporting early commanded the attention of Fowlers & Wells. With so much lecturing, book-making, business and literary correspondence as their work involved, they were compelled to obtain the best clerical assistance; and when the invention of Isaac Pitman was introduced into this country, it was welcomed by none more gladly than by the proprietors of the PHRENOLOGICAL JOURNAL. They obtained the services of shorthand amanuenses, and awakened the attention of the business community to the value of the art in mercantile affairs, for years publishing and circulating the best text-books relating to it. Their office became a training-school where many of the best phonographers known in the courts, in literature, and in the records of legislation were fitted for their useful capacities. Of these Mr. George R. Bishop has become prominent as a writer on shorthand improvements. One, Mr. S. T. Burnham, of Chicago, is now an astronomer of world-wide fame. Another, Mr. Edmund T. Davis, has achieved high reputation for ability.

Mr. T. J. Ellinwood, who has reported Mr. Beecher's sermons since 1858, was previously a reporter in the Phrenological Office; so was Mr. William Anderson, prominent in New York City as a law reporter, and for years connected with one of the leading journals. Edward Hayes, employed long in the Treasury Department; Joel English, Secretary of the Ætna Fire Insurance Co., at Hartford, Conn.; R. C. Schultz, now practicing medicine in New York, and E. S. Belden, also a physician, but in California, may be said to have been graduated from the phonographic department of Fowler & Wells. James Andem, the confidential secretary to a public official in Washington for years, accompanied Messrs. Fowler & Wells during their professional tour in this country and Europe.

Some, receiving their first impulse from

the friendly counsel of their employers, have made their practice of shorthand the viaduct to reputable position in journalism and law, or in medicine, or in the pulpit. One of these is Mr. John P. Jackson, who has been for several years in the foreign service of the *The New York Herald*, and is one of that paper's most valued correspondents. Another, Mr. C. J. Hambleton, is an enterprising lawyer in Chicago. Another, Mr. Samuel Barrows, left the office to take an important position in the office of the Secretary of State at Washington, and later entered the Unitarian ministry, where his culture and literary capability have advanced him to the editorship of the *Christian Register* of Boston.

Still another is a clergyman, and another, Mr. J. T. Platt, is a professor at Yale University.

Out of the Phrenological Office have gone many women trained and fitted for posts of responsibility, as amanuenses or writers. As a matter of fact, the professional and business departments of Fowler & Wells have helped to place more women in situations of distinguished usefulness and independent self-support, than any other private business house in the country.

CONCLUSION.

When the brothers Fowler opened their first office in New York, the centre of business interests was the vicinity of Broadway, Nassau and Fulton streets, now far down town, and neighboring streets like John, Dey, Beekman, Park Place, Maiden Lane, Barclay, contained the private residences of many of New York's best citizens. On the corner of Beekman and Nassau, in what, until within a few years, was a favorite landmark of old New Yorkers, Clinton Hall, American Phrenology had its head-quarters for eighteen years. An illustration of this building is given elsewhere in this article, as it appeared in the days of its prosperity, and before the craze for tall towers surmounting nine or ten stories of stone and brick came in to crowd and darken

the narrow streets of down-town neighborhoods. The up-town movement of business following the growth of the population induced occasional changes of the Phrenological Office, but these changes were always made reluctantly, and usually were in consequence of the determination of land-owners to pull down the old structures and build new and larger storehouses. At 308 Broadway, a little above the City Hall, the stay was ten years; at 389 Broadway, eleven years. Then a considerable removal was deemed practicable, and 737 Broadway became the focus of the professional and bookselling departments. After five years, a transfer was made to the present location, 753 Broadway, a new and handsome building having been erected here by the Trustees of the Sailors' Snug Harbor Fund. This location is central in its relation to the book trade, and many educational and progressive interests. Near by is the Cooper Union, the most important work of practical benevolence that New York has to show; opposite that is the great pile of the American Bible Society. A few blocks below is the handsome structure of the New York University, and the fine Washington Square. A few blocks above is Union Square, with its historical monuments and beautiful surroundings. This quarter of the city has become the leading centre of retail business for dry-goods, art materials, and jewelry, and its old character as a resident neighborhood is rapidly disappearing before the demands of the time.

The Fowler & Wells Company was incorporated on the first of March, 1884, under the general law for organizing joint stock companies. It is interesting to note the character of the changes in the firm style during the long continuance of the business. At first, or in 1835, it was O. S. & L. N. Fowler; in 1845, or ten years later, it became Fowlers & Wells; in 1855, Fowler & Wells; in 1865, Samuel R. Wells; in 1875, S. R. Wells & Co.; then five years later the old title, Fowler & Wells, reappeared; and finally The Fowler & Wells Company suitably

decorates the exterior wall of the building in which its business is conducted. While the specialty of publications relating to human phrenology and physiology is vigorously maintained, the growing catalogue of the Company includes a variety of topics, everything indeed that possesses a character of utility to the public. The list contains upward of two hundred books, among them an elaborate and highly-prized edition of the Greek Testament, a volume of poems by a popular author, notes of American travel by a well-known English lady, an essay on sociology and economy, and so on.

The throngs of busy people as they flow along the broad pavement of Broadway, contain many who linger near the entrance of 753, to scan the display of attractive objects that fill the window. Inside, arranged on shelves and suspended on the walls, is the large collection of the Institute, the peculiarity of which draws many visitors, some from motives of study, some to spend a leisure half-hour in curious observations. All, however, carry some impression that is likely to tarry in their recollection and bear fruit to their moral good in some respect. The books in the extensive and growing list of the Fowler & Wells Company, the PHRENOLOGICAL JOURNAL and the other publications of the company, the professional departments through which members of the company or its agents come into public and private contact with the people, have but one aim, the instruction and elevation of society.

There is no backing or support of wealth behind this establishment; its projectors and proprietors have never aimed to amass fortunes, but have expended their gains in the work and mission to which they were devoted. The strength that has sustained this work for so many years and is its chief bulwark to-day is a moral force that has never failed to triumph over difficulties and crises, and will in all probability continue to triumph so long as the same grand purpose stimulates the brain and hand of those at the helm.

PHENOMENA OF IMMORTALITY.

BY far too many theologians, demonstration in religion has been deemed superfluous. Reliable evidence, meaning probable, has been applied in its place, and while many scientists have set forth hypothesis as fact, some religious writers have kept facts in the background, because not universally admitted. But if demonstration is the expression of truth by outward signs, then may it be regarded as placing man among the immortals of the universe.

We ought not to regard immortality as the exclusive teaching of religion, more than the existence of God. Paul regarded the heathen as having a revelation in Nature sufficient to leave them without an excuse for their immorality. Warburton's theory of the silence of the Old Testament on a state of future existence, is as valid as a revelation with no object for its bestowment. Its background is the supernatural; of God, angels, and celestial intelligences mingling in mundane affairs. Even the prohibition of necromancy was a declaration of the soul's life beyond the grave. The Great Leader told the Sadducean materialists that they did err in not knowing the Scriptures in their disclosures of a future state; and there are many as blind as they in modern times, who make much pretension of biblical erudition, and yet regard the God of the Hebrew patriarchs as the God of annihilated beings.

The realm of Nature abounds with suggestions of the life to come. They move over the earth, flutter in the atmosphere, glow in the stars, speak from within to the utterances from without; and leave the unbelievers of them as under the frown of Creation for their unnatural neglect. The phenomena demanding our attention have been observed in all ages, and have produced convictions in the rudest as well as the most cultivated minds; from the sombre Egyptian to the cultivated Greek, the stolid African and adventurous Indian

have understood them as well as the Athenian Socrates or British Newton.

There is what we call *Instinct*, which, like the attractive power of the magnet, draws out the forces of all creatures to seek what is needful to their well-being. It does not act from forethought or deliberation, but from quick and decisive impulse. Reason often misleads, but not so instinct; and hence the lower animals are safe examples in their several orders to those above them. They enter upon existence with the ready skill of artificers, doing the best of work for themselves without the need of improvement. The spider weaves his web before seeing the flies upon which he feeds. The chrysalis of a caterpillar, complete in its design, awaits the insect transformation; smooth in the inside, but stiff and knotty without, so that egress to the new world may be easy, while no foe pressing above can effect an entrance, there is preparation for a change in its condition of renewed life, acting independent of prudential forecast. The awkward tortoise waddles to the shore, digs a hole for its germinating eggs, covers it, levels it with the soil so carefully that all traces of it are concealed from dangerous eyes. The paper wasp builds its nest of paste-board which a skilled paper-maker might take as the product of one of his own craft; yet these winged creatures have no knowledge of the qualities of the materials so finely compacted, and served no apprenticeship to use them. They have no history of inventions; have never improved on the works of their predecessors; fabricating as skilfully to-day as when they first appeared upon the earth.

"Tell me why the ant,
Midst summer's plenty, thinks of winter's want.
By constant journeys careful to prepare
Her stores; and bring home the corny ear;
By what instruction does she bite her grain.
Lest hid in earth and taking root again,
It might elude the foresight of her care?"

The provident oversight of the Cre-

ator, without their mental forecasting, directs them to the fulfilment of their destiny. He deceives them not, and they are not deceived. By an inexplicable impulse the birds migrate in their season to better climes awaiting them. Their instincts are from God, and in human beings they are none the less from Him. "In my Father's house are many mansions; if it were not so I would have told you. I go to prepare a place for you." Ideas of God and a future state have never been reasoned into men; they may be said to be intuitive, and never can be reasoned out. Their influence is seen wherever humanity is found; in the building of sacred temples, and in the forms of priestly orders and rites of worship. The background of them all was reality, and in their front was unmistakable realization; unseen forms beckoning them to a higher destiny, and impressions of the marvellous influencing imagination, hope, faith, and gorgeous anticipation. Instinct in animals is of a prophetic character; it prepares them for contingencies sure to come; but in man his reason can judge of it, and, if he does so reverently, he will see the hidden wisdom of the Supreme. Can the Being who would not deceive the dragon-fly in its pendent coffin, cheat so wondrous a creature as man in his highest impulses after perfection? Will He silence the Sibyl-like voice within, evoked by Himself, the cry of the *Ideal* after the grand and the good, which, hearing the whispering, "There are better things to come where time is not," will still feel after them and press on? The best, the wisest, and the happiest of the race have been those true to those impulses which they knew could not mislead or disappoint them.

THE POWER OF THE SOUL OVER THE BODY

is another indication in the same line. St. Paul presents the true philosophy when he speaks of the inward and the outward man; the one the real personage, the other but the tabernacle in which he dwells, and soon to be taken

down and laid away. The one is the agent, the other but the instrument; and like a mighty internal force capable of rending its movable covering. It gives to the outward its internal likeness, making the skull that "dome of thought and palace of the soul," the indicator of its deathless tenant. It leaves its traces and impressions on the face, and as mental improvement advances, and moral ideas become dominant, beams with benevolence and spirituality. When a sacred orator becomes as if inspired with his theme, how often have the hearers seen the countenance glow as with the splendors of the Old Shekinah? Soul-elevation will give an angelic expression to every look, and tone of the voice. How often has a holy radiance surrounded the face of the expiring saint. It was but the glory shining through of the invisible realm. Instances have been known to the writer where the mourners around the bed have stood transfixed as on the Border Land of the Eternal. The arguments of many materialists go to prove that soul-health is dependent on bodily equipoise and well-ordered muscles and nerves; but in many cases the weaker the corporeal nature, the healthier becomes the spiritual. "Almost well," were the last words of Richard Baxter. The profligate Earl of Rochester was convinced of the immortality of his soul, from the fact, that as his bodily faculties grew weaker, his mental grew stronger. The mightiest intellectual triumphs have been achieved by authors dwelling in feeble and diseased bodies like sceptreless kings in mean novels. Neander, Pope, Calvin, and Baxter were physical sufferers through life. The greatest conquests of soul have been gained over terrific forms of suffering in the flames, on the rack, and on the blood-reeking scaffold. Pain has tried its utmost on shrinking nerves, and with every frightful horror, but the inward man has soared above them with eagle eye and the seraphim's song; yea, feeling itself untouched by pain or decay. The same exhibitions are seen in another

form, which, for the sake of a better nomenclature, we may call

SOMNAMBULISM.

In this condition the intellectual powers act independent of the senses. There is vision with other eyes, and hearing with other ears than the corporeal. The real man, though in the body, seems to be out of it. There is life and motion, yet of a wholly abnormal kind. What would have been impossible in ordinary circumstances, becomes an accomplished fact. When a French Archbishop was in the seminary, he knew a young minister who arose in the night, took pen and ink, and composed his sermons. Whenever he had finished a page he read it aloud, but without the use of his eyes. He wrote most eloquently; but when a sentence did not please him, he would erase and re-write it. The Bishop, to test his powers, put a stiff pasteboard under his chin so as to hide his manuscript, but there was no interruption in the composition. Shakespeare's *Lady Macbeth* is described as performing similar operations. Dr. Abercrombie gives the case of an eminent lawyer, who, being consulted respecting a very difficult lawsuit, after several days of intense thought, got up in his sleep and wrote a long paper. The following morning he told his wife that he had a wonderful dream, and that he would give anything to recover his train of thought. She had observed his strange movements, and directed him to his writing-desk, where he found his opinions clearly and luminously written. If testimony can prove anything, there is abundant proof that there can be sight through other eyes than the physical; that there are soul-eyes and soul-sensations above the mundane, which never terminate in their uses through failure and decay. We get glimpses of them sometimes, enough to convince us that muscles, nerves, and brain do not make up our two-fold being.

PROPHETIC DREAMS

open a very interesting realm for study in the same line. Men talk about them,

write about them, theorize about them; often think they have a key to unlock them; but if really honest, will confess there is much about them mocking their philosophy. The oldest records in the world, received as the history of fact by the Christian public, presents cases where the most remarkable events were foretold, involving revolutions and dynasties. A venerable clergyman used to tell his friends, how his emigration from Europe, the city of his labors, and a view of the streets and houses, with the signs over the stores, were forecast before him in a night-vision. Years after the nocturnal disclosure, he crossed the ocean, sailed up a bay studded with islands, settled in a New England city, and was amazed at the display of islands, a river, wharves, houses, names on signs, and ships at anchor, which a mysterious power had laid before his soul's eyes. Cicero, who was by no means credulous, tells us of two Arcadians who came to Megara, and took different lodging-places. The one appeared twice to the other in a vision of the night, first seeking aid, then as murdered; and stating that his corpse would be taken early in the morning in a covered wagon passing through a certain gate out of the city. This dream agitated his companion, and going at the appointed hour, met the murderer with the wagon and body, and handed him over to the officers of the law.

The dream of Mr. Williams of Cornwall, who saw the assassination of Chancellor Percival by Bellingham in the vestibule of the House of Commons, was fully related in the *London Times* of August 16, 1829. The narrator dreamed the same thing three times. The event was exactly according to the vision, as to time, place, and circumstances. The attempts at explanation are often more difficult to comprehend than an honest zeal to the testimony afforded. According to the Baconian method, facts should always beat down hypotheses.

PRESENTIMENT,

or a vivid impression of events taking place, or about to happen, has been much

commented upon. Like the providential government of the universe, which some deny because they can not reconcile it with their ideas of what should become historical, many call such foreboding impulses, mere fanciful impressions. Calphurnia's warning to Julius Cæsar, "Beware of the Ides of March!" they would relegate to the pages of fairy tales. Yet if such skeptics would carry their negations to those who, in obedience to such disclosures, have been saved from great losses, dangers, and death, they would not wonder that they were proof against their scoffs. Professor Boehm, of Germany, often used to tell his friends how he owed his life to presentiments of threatening danger. When in company, he felt an uncontrollable impulse to arise and go home. He yielded very reluctantly, and coming to his room saw nothing unusual. But the impression grew upon him with increasing force that he *must* remove his bed from its corner to another part of the room. The monitor gave him no rest; so calling his servant, the bed was removed. At midnight he heard a heavy fall, and arising, saw that a heavy beam, with much of the ceiling, had fallen where his couch had so lately stood. He had saved his life by timely compliance. If it be objected, that such impressions often come unattended with any important result, the answer is, that there is a difference between a mere flitting fancy, and a strong grip on the caution of a man, his judgment, and his will. One may think he hears a knocking when he does not; but that is no proof that he may not hear the real sound of his door-bell. The lower animals may teach such a better lesson. Penetrated by the life around them, and in sympathy with the elements in which they move, they seem to learn easily the sign-languages of Nature's unrest and aroused inroads of wrath. They announce, when the sky is yet in smiling mood, the symptoms of anger. When the dwellers around Vesuvius sense no upheaving presaging of wrathful visitation, the nightingale prophesies like a sibyl in heart-rending notes, flutters over

the troubled depths; she seems to see gathering the forces of destruction. Balaam's ass was empowered to see clearly where the prophet's eyes were closed. Their instincts do not deceive them; and if the life of man is worth many of the feathered tribes, and there are unseen intelligences behind our outer wall of materiality, is it irrational to suppose that in exceptional cases they should be permitted to touch our sense-bound eyes that we might escape to a place of safety? Where some persons see facts in one direction, they forget to look in another; as the Siamese prince, certain that water, according to his experience, was a yielding fluidity, was ready to punish the traveller who declared that he had seen and walked upon it as a solid. The inward senses of millions are never opened, through this perversity, to the wonders of the universe in which they live.

TRANCE VISIONS

have often arrested the attention of the people to the marvels of the world to come. In them the veil of materiality is folded up, and entrance given into their disclosures. These phenomena have been associated with hysteria and catalepsy: in which there is complete insensibility, rigidity, and loss of the power of voluntary motion. Much has been considered deceptive and absurd, but there are many instances that defy all skepticism, and bring spectators to the border of the supernatural. The well-authenticated experience of William Tennent was not much inferior to that of St. Paul, who was caught up into Paradise and saw unspeakable things. The world little knows how much of unwritten history lies under these experiences. A relative of the writer gave him a particular account of an aunt who on a sick-bed sank away into the invisible; was pronounced dead beyond all hope, but recovered, told of the surpassing glories she had seen; and that she was permitted to come back for a short time to tell those dear to her what she had seen, and then hasten back to her abiding home. After a short time

she said she must leave them ; and after they had sung a hymn about the land of pure delight, by her request, with a bright smile departed beyond the veil. We have known other cases, on the most unimpeachable testimony, where deception was utterly precluded, and the departure of the person so favored was like the entrance of a guest into the most royal feast. Sometimes these experiences are given long before death to holy souls as a sort of prelude to the after-world of joy. In the "Memorials of a Quiet Life" we have an interesting narrative of the acquirements of the wife of the distinguished Julius Hare in the realms of the supernatural. Her husband was the brother of Archdeacon Hare, and she was a relative of the late Dean Stanley. While she was in Southern Europe in 1865, she seemed to draw near to the gates of Death. She became cold and rigid. Her arms were motionless ; no beating of pulse or heart. Her face became radiant, one smile succeeding another in her state of supreme beatitude. She continued in this condition sixty hours, when she somewhat revived. Then she sank away into a deeper trance, in which she continued for a hundred and twenty hours ; then into another, in which she remained twenty-six hours. The French attendant insisted that she was dead. Physicians and nurses alike declared that all was over. During all this time her face glowed as that of an angel. In her lucid intervals she spoke of seeing her departed friends, of being surrounded with angelic beings, and of wandering in scenes of indescribable beauty and magnificence. "No description," says her nephew, "could be given of the unearthly beauty of her face, of her uplifted eyes, of her trembling hands clasped solemnly in prayer or raised in blessing." Such soul-ecstasy is often of a brief period, but it leaves its impress on the entire subsequent life. Sometimes the subject is overpowered, as by a cloud of glory, and falls insensible to the ground ; but on recovery an abiding presence remains, making the earth look like a dark passage-

way to the court of the Great King. If man has a double nature, an immortal within the mortal, why should it be esteemed improbable, but that in some favored hours the scenes of earth may be withdrawn, and those of higher states of existence let down around the watchers on the outposts of Time?

Some such experiences are given to quicken the soul in its upward travel. In the autobiography of Heinrich Stilling we have his record of such disclosures as given to his grandfather, Eberhard Stilling. When this remarkable author was a boy, he was taken by his grandfather and aunt to procure wood in the forest. They took some refreshment with them, and coming to a verdant plain, at the end of which was a beautiful spring, the venerable man left them, promising soon to return. After some time they heard his whistle, to which they replied. As he drew near them his countenance and demeanor showed that something unusual had befallen him. They listened with wonder and falling tears to his strange recital. He had seen, he said, an unearthly light ; a beautiful landscape unmatched by anything on earth. The air was cool and filled with perfume. He saw before him ascending ranges of palatial structures, gardens, brooks, bushes, alcoves, beyond the power of description. Out of one of the most splendid mansions came a celestial being, whom he recognized as his departed daughter-in-law, the mother of Heinrich. As they all wept, he continued, "Ah, glorious angel ! She said to me, 'Father, yonder is our eternal habitation ; you will soon come to us !' Children, I shall die soon—how glad I am at the thought !" For succeeding weeks the pious old man seemed as if a stranger in his own house. He said, "I am very well, yet I have no rest ; I can not be still anywhere. Just as if there was something in me that impelled me ; I also feel an apprehension of which I know not the reason." The end came soon. The dear old man fell from the roof of his house, and was soon in the beautiful abode awaiting him on high.

VISITATIONS OF THE DEPARTED

are among these marvels of proof. It is not difficult to sneer at all such statements, and charge them to worn-out superstition. But it were well to remind such, that one person's ignorance is not the criterion of another's knowledge. That such appearances have been, it would be utter recklessness to deny. People often laugh to get rid of conviction, and deny what they half believe themselves—in company. They may assert their belief that once, when Time was young, the gates of Blessedness were not only ajar, but open, so that angels and the spirits of the just communed with their younger brethren; but now the ladder has been removed, and such immortal visitants come no more. But no good reasons have been given why, since the apparition of Samuel came to Saul; Moses and Elijah appeared upon the mount to three apostles; and the risen saints after Christ's resurrection appeared to many in Jerusalem—that was the last Divine wisdom would allow. Reasonable people should ask, "What are the facts?" and then weigh them in the balances of probability. As in science, history, and religion itself, they will discover error enough; so in narratives of the superhuman, they will meet with much untruth, yet in connection with much that is reliable. What has been, should not be deemed of impossible occurrence. Dr. Johnson, John Wesley, President Dwight, Oberlin, and others of great mental research, had faith in such apparitions. The celebrated Lord Chancellor Brougham gives in the narrative of his life a remarkable instance. With a skeptical friend in Edinburgh, he entered into a covenant that he who died first, should, if possible, make known unto the survivor his experience in the invisible state. Years after, when on the continent of Europe, to his amazement, his former acquaintance suddenly appeared sitting by his side. Before a word was said Brougham fainted away. Soon recovering, he noted the day and hour

when the spectre appeared. Many months after, the news arrived in the Scottish capital of his friend's death in India, at the very time entered in his record. If nothing came of this supposed visitation, his Lordship's fainting away might be pleaded as its cause rather than result; but how account for the coincidence of time? It took months then for news to reach Britain from India; but when it came it verified the vision. In numerous cases, such visitations of the departed have been seen by relatives at the very period of their decease; and the testimony would be hard to disprove, but is usually attempted on the plea of a distempered imagination—which is but placing supposition in the place of fact, to get rid of a difficulty. The narrators of these marvels have not all been sickly, diseased, superstitious persons, but persons of robust intellectuality; generals, captains of ships, authors, physicians, and active business men, as well as ladies of the utmost honesty. To ask why such visitations are not more common, is to venture into the unknown; inasmuch as miracles, preternatural and extraordinary events cease their office when the wonderment is gone. But if there is another and a higher existence in reserve for us, certainly it is in the line of Infinite benevolence to give us some instances of it, by drawing aside the curtain and affording us a view of what is on the other side.

SUPERNATURAL DISCLOSURES OF THE
RULING POWERS OF HEAVEN

have often been given to appreciative subjects. These phenomena differ somewhat from those we have already described. The visitors are not glorified humans, but the reigning Divine. The old Hebrew prophets speak of seeing not only some of the highest orders of the celestial, but of the Eternal One made manifest. Abraham, Moses, Joshua, and Daniel appear as witnesses. Let us consider some modern cases. The celebrated Colonel Gardiner most earnestly

believed that Christ appeared to him in the solitude of his chamber; spoke to him, and in such a way, from the surpassing light around His person, as to throw him senseless to the floor. The result was a spiritual transformation analogous to that of St. Paul. A venerable man, remarkable for his devotion, whose word was never questioned, and whose life was a commentary on his Christian profession, gave the writer a similar account of himself. The Holy One stood as before him. Light filled the room. He stretched forth his hands to clasp Him to his bosom. Does the reader ask, "What came of it?" He answers, a changed life from evil to the highest good.

The late President Finney was by no means a credulous man, but a man of the keenest intellect, and early inclined to scepticism. His conversion from the legal profession to that of the Gospel ministry, he narrates in his autobiography. "It seemed," he says, "as if I met the Lord Jesus Christ face to face. . . . It seemed to me that I saw Him as I would see any other man. . . . He stood before me and I fell at His feet and poured out my soul to Him. . . . I could feel the impression like a wave of electricity going through and through me. It seemed to come in waves and waves of liquid love, for I could not express it in any other way. It seemed like the very breath of God." William Cower, John Flavil, William Tennent, and others, give us similar experiences. A venerable clergyman in Massachusetts, while meditating in his study, was heard by his wife below, to fall upon the floor. She found him insensible, but with a rapt expression and beaming face; and upon his recovery seemed in a state of beatification too exalting for long continuance in his corporeal nature. Here again we anticipate incredulous smiles at statements so entirely beyond the range of the experience of objectors. Let it be so; but those who have been so favored can afford to let them alone in their cold, material isolation.

Then there are the so-called

VIEWS FROM THE BORDER LAND.

These are not the magnified creations of a distempered brain, but are wonderfully varied according to the character of the seer. They may be called visionary shadows; but they are the reflections of the substantials of the universe. If the more we get away from the material shell we get into the potentials, it is equally true that beyond the bodily eye lie the marvels of the upper realms. A little has been recorded here, but the greater part remains unwritten. Death comes with a serious and awful aspect to mankind; yet to multitudes it has come with a smile and welcome; and the period of bodily dissolution has been the hour of supremest bliss. Mere will has not been the agent, but a force behind it and a glorious attraction before it. The immortal within has been in the attitude of a jubilant guest to the court of the Great King. Lady Elizabeth Hastings was the marvel of her age in beauty and accomplishments. Congreve called her the "Divine Aspasia," who "without the least affectation consulted retirement, the contemplation of her own being, and that Supreme Being which bestowed it." She led a life of seclusion, benevolence, and prayer. A painful surgical operation hastened her exit from time. A change came over her countenance, and her eyes lit up as she exclaimed in broken tones: "Bless me, O Lord! What is it that I see? Oh, the greatness of the glory that is revealed in me—that is before me!" Peard Dickinson exclaimed: "Hark! do you not hear? They are come for me. I am ready, quite ready. Stop, say nothing but glory, glory!" Robert Wilkinson said: "Oh, what has the Lord discovered to me this night! Oh, the glory of God, the glory of God and heaven! Oh, the lovely beauty, the happiness of Paradise. God is all love, He is nothing but love! Oh, help me to praise Him!" Mr. Adams, of the Gaboon Mission, said: "I hear music, beautiful music, the sweetest melodies! I see glorious sights; I see heaven. Wonderful, wonderful, wonder-

ful things I see. Let me go. Oh, how beautiful!" We are well aware of the feeble attempts of scepticism to explain all this on natural principles. "The mind wanders in the hour of dissolution; fancies that ruled the life, dominate in death; take the helm abandoned by the reason, and guide the dying down the rapids of decay." Indeed, if so, how happens it that the sensualist, the selfish, the miser, the drunkard, do not have these dying raptures? Why do they sink away shouting in view of a Bacchanalian Paradise: the disclosures of conquered kingdoms awaiting them; palaces of gold opening their welcome doors; and why do not their faces glow in the light of opening gambling Baden-Badens, Jardin Mabilles, and Cremorne Gardens? No science explains such phenomena that is worthy of sober consideration.

THE RECOGNITION OF DEPARTED FRIENDS

is sometimes apparent in these dying scenes. The distinguished Hannah More stretched forth her hands and called by name a beloved sister long deceased. A distinguished physician in Boston, describing the death of a lady in middle age, says: "After saying a few words, she turned her head upon her pillow as if to sleep; then unexpectedly turning it back, a glow, brilliant and beautiful exceedingly, came into her features. Her eyes opening, sparkled with singular vivacity. At the same moment, with a tone of emphatic surprise and delight, she pronounced the name of the earthly one nearest and dearest to her, and then dropping her head upon her pillow as unexpectedly as she had looked up, her spirit departed to God who gave it." The physician, a man of scientific eminence, then adds: "The conviction forced upon my mind that something departed from her body at that instant, rupturing the bonds of flesh, was stronger than language can express." Dr. Oliver Wendell Holmes speaks of a similar case, where the watcher of the dying had the consciousness that "something arose as if the spirit had made

itself cognizant at the moment of quitting its mortal tenement." Some years ago a number of instances were given in *Appleton's Journal* of recognition in the hour of death. A family lost two daughters in a few months. The younger, named Anna, when spending her last moments in talking about her teachers and friends, suddenly looked up with joy and surprise, and cried out, "Clara! Clara! Clara!" and in a few moments in silence, in which she seemed to behold her sister, breathed her last. A pious gentleman, who lost a younger brother, in his expiring hour raised his eyes to the ceiling as if seeing some remarkable object, and then said, "How beautiful you are." Then stretching out his arms, said, "Come, and take me!" We give another case still more remarkable. Russel C—, an active business man and a Christian, was killed in a railway disaster. His aged mother, living in another State, was in such a dying state that it was deemed best not to inform her of the sad fate of her son. As the time of her departure drew near, while in the perfect use of her faculties on all subjects, she exclaimed, to the surprise of all, "Russel is here!" "Why, no, he is not," said the daughter. "But he is," she persisted, and expressed her unbounded joy in beholding him.

We have thus far endeavored to build only on facts. Experiences are valid. If we can not rely on consciousness, then let us construct our science on moonshine. We are much inclined to believe with Young, "What is here is shadow, but beyond is substance." We do not believe that we are mere walking phantoms to the region of eternal nimbus. Let some believe so if they can, but sure we are that in a short time they will wake up to find themselves mistaken, and mistaken where they might have known the truth, and where it was immensely desirable to be known. There never was a more unworthy use of reason than for a human being to use it for the demonstration of his brutality, that he is only a combination of matter and gas hastening to destruction. It is an effort to discrown

humanity and herd it with the simious quadrupeds and creeping insects. Guilt speaks of a future state in the most fearful tones, and Virtue proclaims it as the coronal of its attainments. The eloquent heathen Cicero maintained that there was a presage of immortality in every soul, but that it took the deepest root in the most exalted minds; but yet in the lowest savage, the wish for it is an argument; for the natural longings often meet with their natural

gratifications; and both hope and fear look beyond the boundaries of matter. Something more than its suggestions move in all of us, and its insignia blaze in the stars and glow in the panorama of the creation all around us.

"Oh, listen, man!

A voice within us speaks that startling word.
'Man, thou shalt never die!' Celestial voices
Hymn it unto our souls; according lays,
By angel voices touched, when the mild stars
Of morning sang together, sound forth still
The song of our great immortality."

JOHN WAUGH.

THE GREAT COTTON CENTENNIAL.

IF evidence were needed by any one that the South has entered upon a new era of industrial and commercial prosperity, it would be only necessary to refer the sceptic to the great Exposition in New Orleans. The array of materials in the several gigantic buildings that were erected to celebrate the centenary of cotton, contains exhibits from all parts of the country, it is true, but the accumulation of Southern products, manufactured and natural, is an overwhelming demonstration of a growing activity in all parts of the South. The people are beginning to realize the richness of the Gulf States in the sources of wealth, and are turning them to account in the thousand channels of industry.

It is claimed that the war almost destroyed the manufacturing spirit of the South. This is true in a degree, but prior to this war there had been a marked reduction in the number of factories at work in several of the States, a decline that had been going on for ten years. Following the period of reconstruction, there came a revival of manufactures, especially in cotton, and during the past ten years the advancement, especially in Georgia, North Carolina, Alabama, Tennessee, and Virginia, has been rapid.

Georgia is the Empire State of the South as concerns manufactures. Its fine water-power has helped greatly to further these interests, and its mills are

rapidly extending their facilities and capacity. South Carolina comes next to Georgia, and the rapid development of the cotton industry in the South is probably as well illustrated in this State as in Georgia.

In 1880 there were fifteen mills in operation; in 1882, twenty-six, counting Graniteville and Vaucluse as one; in 1880 there were 1,776 looms and 92,788 spindles; in 1882, 4,120 looms and 180,701 spindles. The mills paid in wages in 1880, \$340,166, and employed 2,195 hands; in 1882 the wages paid were \$728,900, and 4,262 hands were employed. The capital invested in 1880 was \$2,768,500; in 1882, \$4,547,000.

While cotton will continue to be the chief product of the South for a generation to come, the growth of other interests within a few years points to their importance in the trade of the nation and of the world in the near future. The mining and manufacture of iron, for instance, has assumed a noteworthy character in Alabama, Tennessee, and Virginia.

The Virginia iron works are among the oldest in the South, and the Tredegar Works, of Richmond, played an important part during the late war in supplying the Confederates with munitions of war; but the iron foundries and forges of Alabama are quite new, and the making of iron in that State at such cheap rates has naturally had the effect of en-

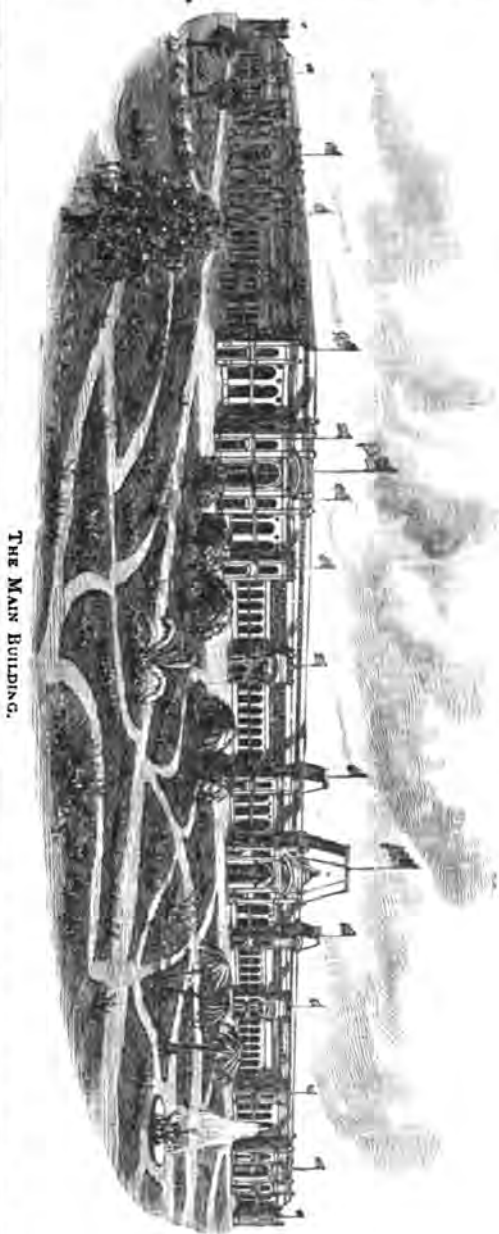
couraging the manufacture of all classes of goods in which iron enters as the chief or principal substance, and the result is a marked increase in the number of factories devoted to stoves and hollow-ware, agricultural implements, plows, etc. The number of plows now made in a single Southern State, Georgia, very nearly equals the total number turned out in the South during the census year.

Millions of foreign as well as of home capital are invested in the different enterprises of Alabama, while in Tennessee the variety of commercial, agricultural, and industrial interests is not exceeded by that of any other Southern State. Having an advantage in large and convenient water-ways for transportation, and large cities that have long been emporiums of trade, this State was in the situation to profit by any revival of business activity.

Memphis is one of the most important cotton-seed oil centres in the country, its six mills crushing the oil for a great portion of Arkansas, Tennessee, Mississippi, and other States. It is an important centre in the South for slaughtering animals. Its other more important industries are the manufacture of carriages and the sawing of lumber, there being no less than twelve saw-mills in the town. Nashville has nine carriage factories, and turns out more wagons, carts, etc., than any city in the South. Its flour-mills are the most important in Tennessee, and grind a large proportion of the wheat crop of Central Tennessee. It is also an important lumber focus, cutting a great deal of the black-walnut and other cabinet woods used in the Western furniture factories; it is, itself, a leading manufacturer of furniture and other wooden-ware, and a large producer of leather, and saddles, harness, etc. Chattanooga's industries are confined principally to iron-foundry work, and the manufacture of cars and machinery.

It may be said with truth, that the vast resources of the South in minerals were practically unknown before the late war. Even as late as 1870 not a ton of coal was

mined in Georgia; but in 1880 the census reports 150,000 tons. In Alabama, 11,000 in 1870, and in 1880, 322,000 tons, and for the States of Alabama, Georgia, Arkansas, Kentucky, Tennessee, and



THE MAIN BUILDING.

West Virginia, the coal output rose from 900,000 tons to 3,700,000 tons. There were in 1870 but 40,000 tons of iron ore mined in Alabama, Georgia, Tennessee, Virginia, and West Virginia, and in 1880

there were 575,000—an increase of more than 1,200 per cent. Great as the gains were, they have been far exceeded in the years that have elapsed since the census was taken.

The mining products of the Mississippi

structures even larger than those of the Centennial at Philadelphia would be required to accommodate the exhibits proffered by foreign and home manufacturers.

Briefly describing the chief erections, we give attention first to



THE UNITED STATES BUILDING.

Valley, as reported by the census of 1880, were valued at \$175,154,000, of which a large proportion were from the Southern States.

The New Orleans Exposition, like all other exhibitions, is a natural outcome of popular enterprise, a laudable desire on the part of those who have helped to build up their section in the enterprises of human economy. Opening in December, it celebrates the first centennial anniversary of the cotton industry, and is properly called the Cotton Centennial, as one hundred years ago, the first shipment

THE MAIN BUILDING.

This is the largest of the kind ever erected. It is 1,378 feet long by 905 feet wide, without courts, and has a continuous roof composed largely of glass, so arranged as to afford an abundance of light without subjecting the interior to the direct rays of the sun. Within, the view is unobstructed. From one side or corner of the building to its opposite, the interior showing all the phases of industrial activity is seen. There are no partitions, and the lofty pillars supporting the roof, present no impediment to one's



HORTICULTURAL HALL.

abroad of raw cotton was made, the quantity being equal to about one bale of the present export. When the management had decided upon the location of the buildings, and had fairly considered the scope of the undertaking, it was found that

vision. The interior is surrounded by wide and spacious galleries, twenty-three feet high, which are reached by twenty elevators and by convenient stairways. The machinery department occupies a space of 1,378 feet long by 300 feet wide.

within the main building, and has an extension added in iron 350 feet long and 150 feet wide, for heavy machinery, described under the heading of Factories and Mills. From the galleries overlooking more than two miles of shafting can be seen

became so numerous, that the necessity for additional accommodations became imperative, and the management determined upon the erection of a structure specially for the United States and State exhibits.



THE ART GALLERY.

driving every known character of machinery. Music hall, with a seating capacity for 11,000 people, a platform capacity for 600 musicians, and a mammoth organ built to order for the exposition, occupies the centre of the interior. The main building will contain general exhibits.

THE UNITED STATES BUILDING

is devoted to the U. S. and several State exhibits, and is 885 feet long by 565 feet wide. At the time of the adoption of the plans it was supposed that the main build-

The Government exhibition is of itself very large, each department having its distinctive place. The department of State shows samples of cotton, wool, and cosmos fibres, and of the fabrics made from them, from all parts of the world, arranged in continental groups representing the geographical divisions of the world's commerce, etc. The Post-Office department exhibits the improvements in mail facilities, and a branch office in the building for the accommodation of visitors, is to show the practical



FACTORIES AND MILLS.

ing, in conjunction with the horticultural hall and such minor outside buildings as were necessary, would afford ample space for all exhibits; but the interest in the Exposition had become so widespread, and the inquiries and applications for space

workings of the postal system. The Treasury department exhibits coast survey, light-housing, life-saving service, customs, internal revenue, engraving, printing, etc. The War department shows arms, ordnance, engineering, medical,

surgical, and hospital services, progress in same, etc. The Navy department shows naval arms, ordnance, projectiles, torpedoes, dynamo-electric machines for firing, models of war vessels ancient and modern, etc. The Interior department has everything pertaining to the inventions and improvements in American industries and to the history, customs, and habits of the aboriginal races, etc. The United States Fishery Commission, the Department of Justice, Bureau of Agriculture, Bureau of Education, and especially the Smithsonian Institute, are fully represented. In addition to the Government, the collective State exhibits and

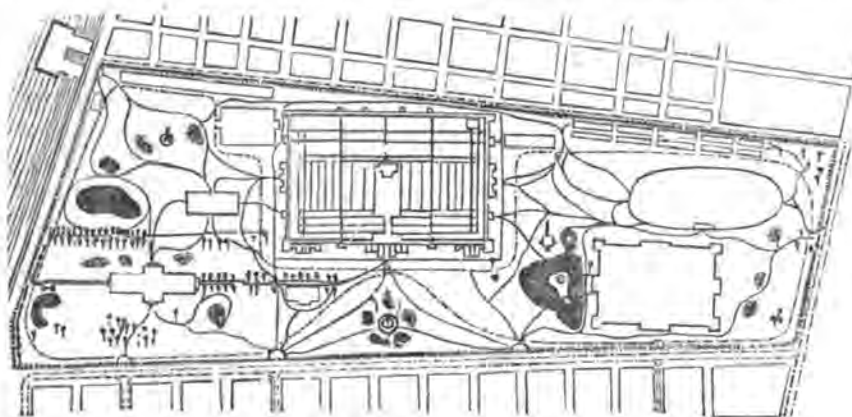
in which the most delicate flowers from the far South grow and bloom in brilliant perfection. Tropical fruits in the various stages of growth are exhibited.

ART GALLERY.

This is 250 feet long by 100 wide—an elegant structure, built of iron, and so arranged for mounting, accessibility, and light as to present the best effects, and with ample accommodation for as large a collection as was ever exhibited on this hemisphere.

MACHINERY AND PROCESSES.

The building devoted to the large machines, or combinations of machinery



PLAN OF THE EXPOSITION GROUNDS AND SITE.

the general educational display is located in this building.

THE HORTICULTURAL HALL

is 600 feet in length and 194 feet wide, the largest conservatory in the world. It is substantially built as a durable structure, becoming, by arrangement with the city, a permanent feature of the Park. It is located on high ground in the midst of a live-oak grove. Surmounting the centre is a tower, 90 feet high, roofed with glass. Beneath this tower, in constant play, is a grand fountain. 20,000 plates of fruit will be shown on tables extending through the hall, and around the hall are arranged an infinite variety of rare tropical and semi-tropical plants, flowers and shrubbery. There is a tropical hothouse, 250 long by 25 feet wide,

for accomplishing certain kinds of industrial production, is styled "Factories and Mills," and is an extension of Machinery Hall. It is a large iron building, 350 feet long by 120 feet wide. In it cotton is shown in all stages of manipulation from the boll to the bale, the newly invented "Cotton Pickers, Openers, and Lappers," as well as the various and complex machinery for ginning, cleaning, baling, and compressing, being in constant operation during the day. The supply of field cotton for this purpose will be abundant. Here also are the various kinds of machinery used in the rolling of cane and manufacture of sugar, and in the harvesting and milling of rice. Various kinds of factory and mill machinery for wood working, brick and tile making, etc., are located in this structure. Adjacent to this building is a

line of saw-mills, extending toward the river. Besides, there are fully twenty other buildings, among them the Mexican building is an imposing affair, costing about \$200,000.

The location of the Exposition is a pleasant and convenient one, it being the City Park, a fine area of picturesque land

lying between St. Charles Avenue on the north and the Mississippi River, and covering about 247 acres. The buildings have an eastern frontage toward the main part of the city. Access to all sides of the grounds is provided by an electric railway.

H. S. D.

CHARACTER IN CANES.

"A MAN is known by his walk," says one of old, and the observer of human nature finds no difficulty in accepting the statement, for walking does express much that lies in character. Now comes one, and has something to say regarding the relation of a cane to the mental peculiarities of him who carries it. We can readily believe much that he says, although his statements may not possess the diacritical stamp of the careful scientific observer. A writer in one of the Philadelphia newspapers has been interviewing a dealer in walking-sticks, and thus presents his views on a subject that, in a business way, is of chief importance to him :

"There is more character in sticks, hats, and boots than in any other portion of a man's attire. Now, just you stand and watch a minute. See, here comes an eminent lawyer. He's got a strong, sound malacca cane, with a bone or ivory handle. Notice how he carries it. Do you see, he grasps it firmly about three inches below the handle and holds it before him, giving it a little downward jerk every now and then? It is just as he employs his hand when laying down the law. He doesn't want that cane to walk with; he is upright and strong. He just carries it to emphasize his thoughts with, and he would feel quite lost without it. Now observe this dudish fellow coming along, with a useless little bit of a cane with a fancy head. Isn't it exactly a counter-part of himself? Thin, but without pith; plenty of varnish, but no backbone. Look at its fancy handle. Isn't that like his head? Now take a look at this big fel-

low walking along with his head up, poised well on his broad shoulders, swinging an ugly-looking club that appears to have seen service. He looks as if he'd knocked about a bit, too, and I'll bet that old stick he carries has seen him through many a trouble."

"How came you to observe these things so closely?"

"Oh, I don't know. I've been in the walking-stick business for a long while, and I s'pose I kind o' notice who buys certain sticks. I can tell you one thing : that I can generally pick out the kind of stick a customer is going to purchase. A doctor or a lawyer will choose a strong, straight cane, with a well-shaped handle ; a clergyman will probably buy a thick and heavy natural stick, with which to enforce his doctrines, if he belong to the muscular Christian order, or a dark-colored, characterless, manufactured stick if he is of the meek and unopinionated sort. A young student wants a thick, straight stick with a heavy ferule, and he carries it as though he were going to fight his way through a crowd with it. If a man comes to me and picks up the first stick he sees and buys it, I put him down as a scientific man. He only carries a stick for something to employ his hands. If he didn't he would probably bite his nails. Some men want strangely-shaped sticks of natural wood, or canes made from odd materials. These as a rule are men of weak natures but original thought. Their weakness shows itself in some eccentric piece of costume, as often as not, in the choice of a cane. I sell more light, fancy canes than anything else, because a swell

or dude, or whatever you like to call him, is always changing his style and so needs a change of stick. Now the man who buys a strong, flexible cane is generally of a cruel nature. As he goes along the street you may notice him making feints at everything he meets and, whenever he can, striking things. He likes to see his cane cling round a post, he likes to hear it whanging through the air. If he is out in the country he will cut off numberless flower heads or blades of grass, and if he owns a dog or a horse, he will be everlastingly trying the strength of his cane upon it."

"Do ladies buy sticks of you?"

"Oh, yes. And they have their characteristic likes and dislikes as well as men. Some young ladies had a craze for canes a little while ago. By and by the fashion is coming in again. The ladies wanted a long, straight cane of malacca or some ornamental wood. It had to have a long ferule of ivory, or some precious metal, or even stone, as agate, onyx, or cornelian, about four to six inches long,

and a straight handle ornamented with carvings of ivory, or embossed and engraved if gold or silver. There had also to be an ornamental tassel of silk or morocco leather. These canes added a sort of dignified air to a tall lady, but were not so becoming to one of short proportions. Elderly ladies frequently purchase crutch-handled sticks, and they are very particular in their choice of a wood or cane.

"But the most amusing kind of a lady customer is the one who affects the masculine character. Nothing satisfies her but her short, stumpy cane, about two feet long, with a bone, ivory, or silver handle, like a hunting-crop. These ladies generally have a dog, either some kind of a terrier or one of a very large breed. They wear round Derby hats, and, as a rule, a man's stand-up collar, with a jaunty bow and a cut-away jacket. I tell you, it does one good to see them step out on the street and whistle their dog after them. They capture all the men's hearts, and they know it."

"MAMMIE IN A-WADIN'!"

IT is a great many years since I was a child. I sit here by my window in a cushioned arm-chair and look at the little children playing in the street, and try to realize how long ago it was that I, a child myself, and smaller than any I see there, was hurt in a way that may seem trivial enough when told, and yet, which has never been once forgotten through all these long and busy years.

There were a dozen of us playing together—the very game going on now in the street below—"Mammie in a-wadin'! Mammie in a-wadin'!"—one improvised by poor children with few playthings and limited leisure for pastime. Its popularity is proved by its survival for more than half a century, and the words with the old familiar cadence seem only an echo from that far-away time—that still, beautiful June evening, when, after a day spent in cutting carpet-rags and hem-

ming crash towels, I found a chance to run out of doors and join the noisy, shouting group, making the street ring with their merriment. What our play lacked in frequency and variety we made up in noise and vigor, and I, with cramped back and stiffened fingers, feeling like a prisoner released from a cell, was enjoying it more than any of them. Before ten minutes had gone by, I heard a harsh, *staccato* voice, "Ellen, come into the house this minute and go to bed!" I can at this moment feel the thrill of anguish which struck through my small soul as those terrible words rang out louder even than my companions' shouts.

With many children it is almost instinctive to demur and delay, even if they do not dare to actually disobey any disagreeable command. I had been differently trained. I never even realized that remonstrance was possible. This was one

of the very few times in my life when I did attempt to oppose a will stronger than my own. I struck my hands together in positive anguish. "Oh, mother! mother!" They were the only words I could utter, even if the look upon my mother's face had not been sufficient to paralyze my tongue. I went into the house as I was told. I went to bed, and never, through the manifold sorrows of maturer years, have I shed bitterer tears than for hours I poured out upon my pillow. The breath of the June roses floated into the open window of my little attic bedroom. The full moon flooded it with light. I could distinguish every word shouted by the children. I could tell by their voices whose turn it was to be "Mammie," and how deep and dangerous had grown the "wadin'." But for me, all joy and hope had gone out of the world. I have suffered much through life, as is the lot of mortals, but never more than then, in proportion to years and circumstances. It was not wholly the disappointment of losing the hour's play upon which I had set my heart, though that for a child was bitter enough to bear. But the whole experience was a complete and awful revelation of an injustice, and even cruelty, against which my childish nature rose in rebellion.

I was the last of many children, all of whom had been early sent into the world to earn a living for themselves. Years of poverty, privation, and hard work had produced upon my mother that most disastrous of all results—a souring of temper and hardening of heart. Doubtless, she had a mother's natural love for her youngest born, but she had no time or strength to spend in showing it. The rasped and tired nerves continually asserted themselves. On that day she had been particularly irritated. It was one of those occasions, familiar to all housekeepers, when from the kindling of the morning fire to the straining of the night's milk, everything had gone wrong. I was sorry for her as well as for myself. I was almost always feeling sorry for my poor perplexed and troubled mother.

The noise of the children in the street increased her irritation. No doubt the ten minutes which elapsed before she interrupted our game, were minutes of heroic endurance to her, every nerve quivering in protest against our noise. But it was only in later years that I thought of these things. At that time I cried out in agony against the wickedness of making me—innocent as I was of any wrong, sympathetic as I felt for all her troubles, patient and faithful as I had been through long tedious hours to hateful tasks—of making me suffer because her irons would not heat; because she had broken a pitcher; because she had burnt her hand; because her world was a wretched, miserable place, and the joyous light-heartedness of ours jarred upon her tired body and discouraged soul.

It's sad for a child to have no remembrance of a mother, no happy recollections of childhood; but sadder still, it seems to me, the recollection of such a childhood as mine. I was still young when my mother's weary hands were folded in an eternal rest. Many of the cares which she had found so heavy, rolled from her shoulders upon mine. The burden was no easy one. I sympathized more with her—consequently sorrowed more for her—as the years went by. I learned the secret of her discontented life and early death. When my own children were born in the old homestead, when sickness came and my husband died and the crops failed, through the cold of winter and the droughts of summer, I have in imagination, as well as in grim reality, lived over again my mother's life. But never once have I forgotten that long-ago June evening, the color of the moonlight, the smell of the roses, the shouts of the children—white-haired men and women now, all there are left of them—and the convulsed little mortal upon the bed, whose present was only a consciousness of unbearable pain, whose future seemed hopeless, and darkened by the blackness of endless wrong and tyranny. Never once have I failed to apply its lesson to my own children.

The sorrows of childhood are neither trivial nor imaginative. They are as great in size, as painful in intensity, sometimes as vital in consequences as those of mature manhood, as the child's figure is as perfect as the man's, though lacking the man's proportions. The sense of justice is as strong—it seems sometimes even stronger—than in maturer years. And every child born into the world has certain inalienable rights which every grown man and woman is bound to respect.

Hosts of tired, tormented, housekeeping mothers! how it wearies one even to

think of your monotonous, miserable days, wading almost beyond your depth in poverty, or sickness, or drudgery, often all combined, seeing no sunshine anywhere, except by faith on the eternal shore which lies beyond this seemingly limitless ocean—try for your own sakes and for those of your little children, to keep a steady footing in the tide of trouble which often threatens to overwhelm you. You can not save them if you sink yourselves, and the mother should be the one in which the child can always most safely trust.

C. B. LEROW.

SKETCHES OF ORGANIC EXPRESSION.

THE new symbolical chart described in another part of this magazine, contains a rich field for suggestion and reflection. Many of the designs are entirely new, and more accurately represent the action of the powers or faculties of the mind than any designs heretofore pub-

lished. For instance, the accompanying sketch, numbered 6 in the common order, represents the action of Combative-ness. Such a scene is not of unusual occurrence in the counting-room or business office of the day, where two gentlemen taking opposite sides on a certain question become somewhat warm in their

discussion of it; not proceeding to blows, which is the low or brutal phase of the organ exercised, but each earnestly insisting that his view of the subject is correct, and endeavoring by a vigorous argument to demonstrate it.



COMBATIVENESS.

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FRIENDSHIP.

influence of the faculty of Friendship, or as it is frequently termed, Adhesiveness, because it inclines people in whom it is strong to join in personal association with others. In the engraving, two gentlemen arm in arm are walking on the street, engaged in familiar talk. Their attitudes show attention and interest. We

can imagine that they have just descended the steps of the entrance to the house in the background, that may be used as the head-quarters of a club, that well-known institution of society in our larger cities, where gentlemen approach each other in close companionship.

The design marked 12 is a capital illustration of a common phase of the action of Approbateness, as observed in



APPROBATIVENESS.

polite society. The artist has caught the attitude and movement with singular fidelity, of a lady and two gentlemen at a moment when the faculty is excited and producing its special effect upon the conduct. Notice the very gallant demeanor of the gentlemen in their salutation to the lady they have met in the park, and

note also the coy gratification with which the lady responds to their greeting. Her lithe pose, the sideward inclination of the head, and the manner in which the fan is held, show unmistakably the pleasure she feels by the courteous attention given by her passing acquaintances. In the foreground is the bird of varied plumage that is usually set forth as a symbol of vanity, an excessive manifestation of Approbateness.

In number 8, the jolly bon-vivant tells the story of appetite, when permitted to



ALIMENTIVENESS.

develop into a powerful, over-mastering organ. Alimentiveness strong gives fondness for the pleasures of the table, the foods and drinks of the versatile caterer; and unless checked, epicurean habits are formed that lead inevitably to disease and death.

In the complete chart, the coloring lends an effect to these designs that is not seen in the plain print of our engravings.

MONARCHY ADDRESSING REPUBLICANISM.—How to address the head of our Government seems to be something of a puzzle to foreign monarchs; and they are far from agreed. In writing to the President her Majesty usually makes use of the constructively patronizing formula of "My Good Friend." Kaiser William, in congratulating General Grant on the American centenary, wrote "Great and Good Friend," which strikes one as much better than the British formula. The

Emperor Francis Joseph began his letter with "Honorable and Dear Friend," while the Czar said simply, "M. le President." The Czar perhaps showed the best taste of all, for the other monarchs, by using an out-of-the-way form of address, seem to show that they thought of beginning with "My Brother," but on reflection decided that they could not quite, and so hit on a compromise. The question is a serious one, and might worthily engage the mind of a Chesterfield.



THE SANITARY SURVEY OF A HOUSE.

THE following notes are from the pen of a practical observer, as communicated to the *Sanitary News*, of Chicago. Although of an official stamp, they contain such counsel as every housekeeper should be willing to accept and use as far as possible. Did people as a general rule exercise reasonable care in the hygienic relations of their houses or apartments, they would escape, not only diseases of an epidemic nature, but almost entirely the common fevers that are especially prevalent in spring and fall:

In every village, town, or city, there are buildings denominated by the older and more superstitious residents of the place "haunted houses"; that is, some murder, crime or mystery is so connected with the history of the house as to bring it into disrepute, and the spirits of the departed are supposed to hover around the house and make it untenable. And so there are in every village, town, or city, certain houses which, by reason of their history, may well be called by sanitarians haunted. In some, whole families have been swept away by consumption, caused by dampness of the soil under and around the dwelling; or, in others, faulty plumbing or foul surroundings have caused the death of the younger members of the household from diphtheria or some other filth disease.

Fortunate, indeed, would it be if the spirits of the departed would warn prospective tenants away from these fated dwellings, or induce the owners to set

their houses in order, and to look well to the surroundings. But there are no ghostly monitors to point out the unhealthy houses or sites, hence we must look to those more tangible mentors, our local health authorities, to perform this kindly work.

Recognizing, then, that an important duty to be imposed upon health boards is the proper inspection of dwellings with regard to their healthfulness, let us outline a plan to be followed in this work. To obtain a history of each house in a city or town would be a difficult task, if no system were employed; but, on the other hand, the desired facts could be collected with ease if a comprehensive form be used by means of which important points are noted.

As it was the intention of the board of health of Paterson, N. J., to make a sanitary survey of at least a portion of the dwelling-houses in that city, we set about to prepare a list of facts concerning which information was desired. At first thought this seemed an easy exercise, for it was supposed that such a form could be found ready at hand in some treatise or report on sanitary subjects; but as the plan developed by study, it was ascertained that no scheme for the sanitary survey of a house had been published, hence our form had to be evolved and built up from the foundation. This proved to be a very interesting task, and the writer herewith

offers the schedule which resulted from his study of the subject, with notes thereon, hoping that it may assist other students of public hygiene, and perhaps excite discussion, and thus draw attention to the strong and weak points in it.

I shall now take up the various points to be considered in what seems to be their natural order. First, we should examine the sanitary condition of the street on which the house faces.

THE STREET.

Under this head note the direction the street runs—whether north and south, or east and west—for the information thus derived bears on the amount of sunlight a house receives; for instance, a house which faces the north will receive none of the morning sun in the lower rooms. Next note the width of the street, for a narrow street with high buildings on both sides would not allow much circulation of air or play of sunlight, and the street and lower stories of the houses would be damp.

The grade of the street also is of importance, and has to do with the rapidity with which surface-water runs off, and hence bears on its cleanliness and dryness. The condition of the pavement also has much to do with the healthfulness of a street, for, as Dr. E. J. Marsh puts it: "The condition of a street for convenience of travel runs closely parallel with its condition as to cleanliness, and the streets in worst repair are generally the dirtiest, and an unpaved street in a city can scarcely be kept clean."

The gutters also claim our attention, for those made of rough or cobble stones allow much filthy material to collect in the spaces between the stones, and can not be kept clean.

Notes on the sewer in the street should be taken, and should comprise the material of which it is built, the size, shape, depth below the surface, fall, and whether it is competent or not.

When these notes are down we may then easily sum up and express an opinion as to the sanitary condition of the street.

Before leaving the street it would be well to observe the presence or absence of shade trees—how close they are to the house, and whether they interfere with the lighting of the house. In wide streets, with houses well set back from the sidewalk, shade trees are of great value, as they keep off the glare of the sun and temper the air very much; but in narrow streets they are a positive detriment, for they are apt to cause dampness in the front rooms and basement of the house.

THE SITE OF THE HOUSE.

We note down under this head: How high the site is above sea-level; whether the soil is gravel, sand, rock, clay, loam or made ground—whether it is the site of an old watercourse or swamp; is the site damp and has it been drained; if so, how? All these facts have the most important bearing on the healthfulness of a house, for we can not expect a house built upon a damp soil, or upon made ground, or ground filled up with organic matter to be in a good sanitary condition.

Before going into the yard it would be well to make a diagram of the site and to put down the outlines of the house, and also the position of the well, cistern, cesspool, privy, and the drains.

THE YARD.

Going into the yard we observe whether it is paved and drained; whether slops and garbage are allowed to accumulate; how the privy-vault and cesspool are constructed, and if offensive, and how far these are from the well or cistern.

The water-supply, whether from the city mains, well, or cistern, should be examined into. If from well or cistern an analysis should be made. Sources of contamination should be found out. Observe, also, whether cattle, goats, or fowls are kept in the yard, and whether any nuisance exist on the lot or on the adjoining property.

THE HOUSE.

From an external inspection we note how the house faces, the number of

stories, the material of which it is constructed, and the kind and quality of the roof. If the house is of wood, observe if it has been properly sheathed before the clap-boards were put on and whether "fire-stops" were put in.

The size of the house and the ratio of unoccupied space on the lot are of importance; also, whether there are any back buildings. We next visit the cellar and notes are taken as to its height, construction and condition. How is the foundation built—of stone, brick or rubble? Is there any damp-course? How far above the side-walk is the ceiling? Are windows provided for light and ventilation? Is the cellar floored or concreted, and is it dry? Is it used for a dwelling or a sleeping-room or workshop?

The condition of the water-closet, if in the cellar, should be looked after, for it will generally be found to be filthy.

The ventilation and lighting of the house are to be next considered, and the existence of rooms not provided with a communication with the external air should be looked for. The methods of heating should also be noted down. Under the head plumbing and drainage, full and careful notes should be taken, for more defects will be noticed here than elsewhere in the dwelling. We observe whether the house is connected with sewer or cesspool; if so, by what means;

and is the house separated from the sewer or cesspool by a vented running-trap, properly situated? A searching examination should be made for all defects, and proper tests applied to learn if any leaks exist.

When we shall have completed our notes on the house and its surroundings, we then jot down the vital statistics, such as the population, number of families, number of each family, number under 5 years of age, and number of rooms used by each family.

Now comes in a very important series of facts relating to the amount of disease or the number of deaths in the house under inspection, and the accuracy and usefulness of our deductions depend upon the care with which the records are kept by the local health board. To be of any use to society the vital statistics of a town should be kept and used by the local health authorities in a systematic manner. The returns of deaths, and of cases of contagious and preventable diseases, should be so tabulated that the sanitary officer may at any time tell the condition of any house in the town. If, for instance, cases and deaths of dysentery, diphtheria or typhoid fever occur frequently in a certain dwelling, a strict search would, in most instances, reveal the cause, and thus we may be enabled to avert trouble in the future.

WM. K. NEWTON, M.D.,
Health Officer of Paterson, N. J.

INFLUENCE OF MIND OVER BODY.

MR. CROSSE had been bitten severely by a cat, which, the same day, died from hydrophobia. He seems resolutely to have dismissed from his mind the fears which must naturally have been suggested by these circumstances. Had he yielded to them, as most men would, he might not improbably have succumbed within a few days or weeks to an attack of mind-created hydrophobia—so to describe the fatal ailment which ere now has been known to kill persons who had been bitten by animals perfectly free from rabies.

Three months passed, during which he enjoyed his usual health. At the end of that time, however, he felt one morning a severe pain in his arm, accompanied by severe thirst. He called for water; but "at the instant," he says, "that I was about to raise the tumbler to my lips a strong spasm shot across my throat. Immediately the terrible conviction came to my mind that I was about to fall a victim to hydrophobia, the consequence of the bite I had received from the cat. The agony of mind I endured for one

hour is indescribable; the contemplation of such a horrible death—death from hydrophobia—was almost insupportable. The pain, which had first commenced in my hand, passed up to the elbow, and from thence to the shoulder, threatening to extend. I felt all human aid was useless and I believed that I must die. At length I began to reflect upon my condition. I said to myself, 'Either I shall die or I shall not; if I do, it will only be a similar fate which many have suffered, and many more must suffer, and I must bear it like a man. If, on the other hand, there is any hope of my life, my only chance is in summoning my utmost resolution, defying the attack, and exerting every effort of my mind'; accordingly, feeling that physical as well as mental exertion was necessary, I took my gun, shouldered it, and went out for the purpose of shooting, my arm aching the while intolerably. I met with no sport, but walked the whole afternoon, exerting at every step I went a strong mental effort against the disease. When I returned to the house I was decidedly better; I was able to eat some dinner, and drank water as usual. The next morning the aching pain had gone down to my elbow, the following day it went down to my wrist, and the third day left me altogether. I mentioned the circumstances to Dr. Kinglake, and he said he certainly considered I had had an attack of hydrophobia, which would possibly have proved fatal had I not struggled against it by a strong effort of mind."—*The Cornhill Magazine*.

SNOWFALLS UNHEALTHFUL IN CITIES.

—It is usually supposed that cold, and consequently the icing of a filthy area, has an antiseptic effect, destroying the myriad germs of disease in the dust and dirt of alleys and highways. But that this is a delusion has been repeatedly demonstrated by careful experiments. In 1878 the German investigator Fritsch, by means of solid carbonic acid and ether, exposed putrefactive fluid bacteria and other forms of germ life to intense cold.

While in a temperature of four degrees below zero they were apparently numbed, but after subjecting them to the enormously low temperature of eighty-seven degrees below zero, which was allowed gradually to rise in the course of two and a half hours to the freezing point, he found they were not killed, but when transferred to a suitable nutritive fluid they grew rapidly. Similar results were reported to have been obtained last year by a French investigator. So long as the streets and courts are not coated with snow or ice the winds and rains may be counted on to carry off some dust and do a certain amount of scavenging. But the snow-and-ice coating serves as a protection to the disease-breeding germs, under which they hibernate only to come forth when we have a thaw with increased pestilential power. The problem of keeping dry and iceless streets in winter is as grave as that of keeping clean streets at other seasons of the year. When it is remembered that the hygrometric condition of the air also is most perilous to health when the iced pavements are giving off their accumulated moisture no effort to keep them dry seems too painstaking. Apart from the inconvenience and costly delays to business caused by snowed-up streets sanitary considerations alone would justify a large outlay of money to have the disagreeable masses hauled away from the main thoroughfares to points where they would be harmless.

VACCINATION.

COME! a truce to hesitation: just submit to vaccination,

To condemn to extirpation one particular disease;

And in place of one affection, you can have a whole selection—

Any number of diseases—any quantity you please.

It will all be pleasant sailing till you find your system ailing

From some malady imparted by some healthy little man;

Not a babe from bound to border but inherits some disorder

Big or little, from its daddy, or its mammy, or its gran.
London Fun.

ROBERT KOCH,

THE EMINENT MICROSCOPIST.

ROBERT KOCH, the discoverer of the bacillus of consumption, was born in 1843, and became a Doctor of Medicine in the year 1866. During his studies he made microscopic investiga-

Koch was sent there to make thorough investigations. He exerted his microscopic skill, but could not discover what he sought. Afterward he was transferred to Breslau, where he discovered



tions a specialty, introduced new methods of observation, and of staining the objects to be investigated, especially those exceedingly minute, as parasites and bacteria, that could not otherwise be distinguished from their surroundings. When the cholera was raging in 1866 in Hamburg, Prof. Virchow expressed the opinion that the bearer of the epidemic might be a parasitic organism, and Dr.

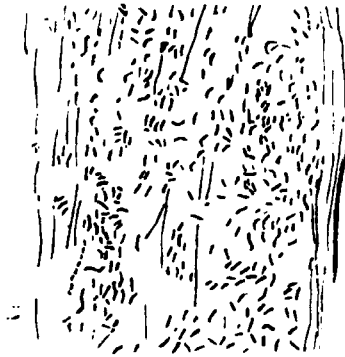
the spleen bacillus and its peculiarity in producing inflammation. When the Imperial Health Office was created, the Director of the Institute, Dr. Struck, appointed him the head of the microscopic department. In this relation he announced a discovery of great importance—that of the *bacillus tuberculosis*, or a minute carrier of pulmonary consumption. When all Europe was fearful, two

years ago, that the cholera, which was then in the Nile country, might cross the Mediterranean, Germany and France sent special commissions to Egypt to investigate the character of the epidemic, and seek for remedies. The French Commission returned without achieving any result, after Dr. Thurlliers, head of the Commission, had fallen a victim to the disease. As the cholera diminished in fierceness, Dr. Koch with his staff, went to Calcutta in the Delta of the Ganges, and there sought for the causes of cholera at its supposed central source. In Egypt they had found a comma-like bacillus in the intestines and excrement of choleraic subjects, which in India they succeeded in propagating artificially, and came to the conclusion that this bacillus was the real cause of the cholera contagion.

But it was long ago supposed that the cholera, like other epidemic diseases, had its origin in microscopic organisms, that were diffused through the air, the water and in the earth, and which, as soon as introduced into the human body, multiply in gigantic proportions, and occasion the most violent disturbances. It is known that the charbon, or spleen fever of cattle, is caused by such fungi, and it is thought that malaria, or the common fever of lowlands, is produced by similar fungi emanating from swamps or marshy grounds.

The cholera bacillus is called by Dr. Koch the Comma bacillus, as it resembles a curved little stick (see illustration), and by this form it is distinguished from other similar organisms. The most favorable state for this organism is dampness; continued dryness destroys it quickly. The deposits of cholera patients on wet linen or on damp ground, after the lapse of twenty-four hours were generally transformed into a dense mass of cholera bacilli, but acid sourness quickly destroys them, and it is encouraging to know that even the small amount of acid that is found in a healthy stomach, appears sufficient, as shown by experiments on animals, to kill this terrible little animalcule.

The portrait of Dr. Koch, so far as can be inferred from it, shows a man of superior intellectual development. He should be, with such an outline of brow, prompt in observation and comprehensive in judgment. He is a close, studious observer, belongs to the scientific class or type of men, who are not content with surface indications, but go beneath and inquire into the causes and origin of things. He looks for the facts, and is well endowed with powers of analysis and of diacritical skill, and is best satisfied with results that he has obtained for himself. Details do not annoy or perplex him. We should judge from the prominence of the brow, especially at the lower middle region, that he enjoyed a multitude of details, especially when



THE BACILLUS OF CHOLERA.

their bearing aided toward the confirmation of a result that he sought. He is admirably constituted for close and complicated investigations. As a chemist or an electrician he would take excellent rank. He is courageous and persistent, yet not unkind or ill-natured. As an acquaintance and friend he should be known for a genial cordiality and disposition to do his part.

The late prevalence of cholera in France, Spain, and Italy has stimulated the inquiries of the physiologists of Europe to an unusual degree. Dr. Koch visited Marseilles, Toulon and other places and made observations, but although confirmed in his view of the bacillus, some other observers of eminence do not accept it. In this connection it is proper to add an item or two from eminent au-

thority on the treatment of this most dreaded malady, especially as it completely refutes the old stimulating methods that have so long obtained in choleraic cases.

Dr. S. M. Thompson, for instance, in a report of his experience in the treatment of cholera during the epidemic of 1867-8, in the British Hospital of Buenos Ayres, South America, says:—The ordinary stimulant remedies recognized by the common practice were very faithfully tried, but in spite of them the death rate was alarmingly high, and after camphor, chlorodyne of all kinds, astringents and carminative mixtures, calomel and quinine, chlorate of potassium, inhalations of chloroform, lead and opium pills, aromatic sulphuric acid, brandy and wines, separately and combined, spinal ice-bags, hot jars, sand-bags, sinapisms, liniments, etc., etc., had been tried without success, the following line of treatment, suggested by Dr. Nelson, was adopted. The vomiting and diarrhœa were encouraged by copious draughts of cold water until the stomach appeared quite clean of all food. This accomplished, a pill of one grain of fresh opium was given dry. The importunate cry for water, water, was unheeded, and the patient quieted with the assurance that he would be given all he wished to drink after he had awaked from the sleep which the opium would produce. The sleep thus caused usually lasted from ten to fifteen minutes. On awakening, an acidulated drink, as half a dram of tartaric acid dissolved in ten ounces of water, was given the patient to swallow. It is thought necessary that no drink be given until the opium pill has had an opportunity to be absorbed. The dejections were disinfected with carbolic acid, the experience of the physicians having taught them that this disinfectant was preferable to all others, the sulphate of iron not excepted. In this respect the experience corroborates that of Dr. Koch, who, by the way, speaks very slightly of copperas, whose use as a disinfectant is being so largely advocated in this country at the present time.

Another important point in connection with this treatment was abstinence from food from four to six hours, and, indeed, until the patient had become so improved as to have restored his natural functions. Some two hundred and thirty cases were thus treated, and the success was sufficiently marked to warrant the following conclusions:

1. That in Asiatic cholera during the onset and prevalence of severe action of the poison, all stimulants and medical draughts are worse than useless, and only tend to increase the irritability of the stomach, and waste the strength of the patient by increasing the diarrhœa and vomiting.

2. That a free current of air, which was always sought for by the patient, was most beneficial to him, while hot jars, sand in bags, sinapisms and counter irritants only add to the indescribable torture which already afflicts him.

3. No emetic is used but cold water.

4. That perfect rest of body is, in the majority of cases, sufficient to prevent cramps, or at least to mitigate the severity of them.

5. That when a physician is called to the patient who is in a state of collapse, or rather profoundly under the influence of the presence of the poison, for some hours, or even less, in severe cases; when the breath is colder than the surrounding atmosphere; when all secretion has ceased, and the pulse can not be felt either at the elbow or axilla, and circulation has practically ceased, while the heart, meantime, continues to beat, and the mind remains sometimes preternaturally clear, it is useless, if not actually cruel, to apply treatment more active than tepid or cold affusion externally, with a tablespoonful of some acidulated drink as above, every ten minutes or quarter of an hour.

PEOPLE WHO DO NOT EAT BREAD.—The *Gartenlaube*, a publication well known in the domestic life of Germany, has an article on those civilized nations

whose peasantry, to a large extent, eat little or no bread. Baked loaves of bread are unknown in many parts of South Australia and Italy, and throughout the agricultural districts of Roumania. In the villages of the Obersteiermark, not very many miles from Vienna, bread is never seen; the staple food of the people being *sters*, a kind of porridge made from ground beech-nuts, which is taken at breakfast with fish or curdled milk, at dinner with broth or fried lard, and with milk again for supper. This *sters* is also known as *heiden*, and takes the place of bread, not only in the Steiermark, but in Carinthia, and in many parts of the Tyrol.

In the north of Italy the peasantry live chiefly on *polenta*, a kind of porridge made out of boiled maize. The *polenta*, how-

ever, is not allowed to granulate, like Scotch porridge, or like the Austrian *sters*, but is boiled into a solid pudding, which is cut up and portioned out with a string. It is eaten cold as often as it is hot, and is in every sense the Italian peasant's daily bread.

The modern Roumanians are held by many scholars to be descended from a Roman colony, in other words to be the cousins of the Italians; and curiously, or rather reasonably enough, a variation of the *polenta* called *mamaliga* is the national dish of Roumania. The *mamaliga* is like the *polenta* in that it is made of boiled maize, but it is unlike the latter in one important respect, as the grains are not allowed to settle into a solid mass, but are kept distinct, after the fashion of oatmeal porridge.

REFORM IN MEN'S DRESS.

IN the Health Exhibition, London, there was shown the patterns of a new effort in progress among the Germans for the reform of men's attire. The effort is due in great part to a German by the name of Jaeger, Professor of Zoology and Physiology at Stuttgart, and founds its claims on the doctrine that man should wear garments made of substances obtained from animals, and nothing of a vegetable nature. It is asserted that the absorption by vegetable life of poisonous emanations from animal life is a process not limited to living plants, but continued by vegetable fibre, such as cotton, linen, etc., with the difference that, while the living plant assimilates these emanations, the dead fibre can not do so, but exhales them again when wetted or warmed. Thus our clothing, in consequence of its vegetable character, attracts and retains those noxious principles which should, on the contrary, be thrown off with the utmost promptness. On the other hand, animal material, such as wool, is made by nature to protect animal life, and will not prevent, but assist the

evaporation of the emanations from the body. This can readily be proved by the sense of smell.

What is known as Dr. Jaeger's sanitary woollen clothing is so contrived as to obviate these evils. This dress consists, for men, of tight-fitting stockinet undergarments made of pure undyed wool, fastened over the shoulder, and of double thickness over the breast. The coat or jacket is double-breasted, buttoned well up to the throat, contains no lining or padding unless of pure wool, and is either undyed or treated only with uninjurious fast dyes. The same rule applies to the trousers, while the waistcoat is either dispensed with altogether, or it forms an inner flap affixed to the side of the coat. Inside the sleeves and the trousers legs there is a contrivance, which, fastening tight around the limb, prevents up-draughts; for cold, rheumatism, lumbago, etc., are caught by the sudden rush of cold air to one particular part of the body, and not by the gradual cooling of the entire system. The feet are clad in pure woollen socks with divisions for

each toe, while the upper part of the boot is made of felt, the lower part also of felt or of porous leather, and the inner soles consist of perforated leather and layers of felt. Thus the boot is thoroughly porous, and the feet are consequently kept as clean and as pure as the hands.

By doubly protecting the front of the body, where the blood-vessels converge, these are stimulated; and, as an even temperature throughout is maintained, the necessity for great-coats is obviated, rain or damp having little or no effect, for in every case gradual and even evaporation is insured. While they are the best protection against cold, these clothes are also the coolest in summer. Little or no change need be made between winter and summer, at least in the temperate region; and means have been found by which this system can with equal facility be adopted by women. Nor can a "woollenite" be easily distinguished from the "woodenites," as the wearers of vegetable fibre may be called. The substitution of a collar made of unstarched white cashmere for the customary starched linen collar is the most conspicuous feature in the dress; otherwise it would be difficult to detect the disciples of this system. The cashmere collar, however, is not only most comfortable, but is a preventive of throat disorders.

All these precautions taken during the day must be continued at night. The bed must also be free from vegetable fibre. The linen sheet must be replaced by woollen blankets or camel-hair rugs, with white cashmere sheets, if preferred. The mattress and the pillow should also be stuffed and covered with wool; but when thus protected the sleeper need fear neither cold nor change of temperature, and is, therefore, urged to keep his window well open at night. Indeed, the possibility of thus securing pure air in the bedroom without risk is one of the most important advantages of the system. In reward for this great change in the mode of living, the action of the skin is so stimulated that the noxious principles, the "bad humors" our forefathers so often spoke about, are soon given off and

evaporated. Corpulence is reduced, the flesh becomes firm and thoroughly "hardened," while the acceleration of nervous action and a general improvement in the physical and mental working powers is demonstrated. Then, according to Dr. Jaeger, the body has resumed its "normal" condition.

A WONDERFUL COW.—According to an agricultural paper, the following quantities of feed were consumed by a certain Jersey cow in one week, and during that time the cow produced 26½ pounds of butter:

35 lbs. of hay at \$12 per ton.....	\$0.21
48 " bran at \$30 per ton	48
35 " carrots at 25 c. per bushel.....	15
12 " oat-meal at 1½ c. per lb.....	18
6 " corn meal at 1c.	6
6 " oil-meal at 1½ c.	9
Total.....	\$1.17

Twenty-six and a half pounds of butter for \$1.17, make the cost 4½ cents per pound. There would seem to be a handsome margin of profit if butter had to be sold at the price of the oleomargarine imitation.

WORCESTERSHIRE SAUCE.—Who that takes a meal now and then at a restaurant, has not found the inevitable bottle of the above-named tongue-blistering concretion staring him in the face almost every time. And how many would pour it over their broiled chop did they know the character of the composition. This is what the *Druggists' Circular* represents it:

Vinegar	1 quart.
Allspice, powdered.....	2 drams.
Cloves	1 dram.
Black pepper, powdered.....	1 "
Mustard	2 ounces.
Ginger.....	1 dram.
Salt.....	2 ounces.
Shallots	2 "
Sugar	8 "
Tamarinds.....	4 "
Sherry.....	1 pint.
Curry powder	1 ounce.
Cayenne.....	1 dram.

How is it possible for a man to taste his meat after deluging it with this train of paralyzers?

NOTES IN SCIENCE AND AGRICULTURE.

International Conference on a PRIME MERIDIAN.—On the 1st of October last, there assembled in Washington forty persons representing the following governments: Austro-Hungary, Brazil, Colombia, Costa Rica, Denmark, France, Germany, Great Britain, Guatemala, Hawaii, Italy, Japan, Mexico, Netherlands, Paraguay, Russia, San Domingo, San Salvador, Spain, Sweden and Norway, Switzerland, Turkey, Venezuela, and the United States. A resolution was passed, after some discussion, and the meridian of Greenwich was recommended to all governments for adoption, the representatives of twenty-one governments voting in favor of it, San Domingo against it, and France and Brazil not voting.

The conference also resolved that longitude continue to be counted as at present in two directions, up to 180° , instead of in one direction up to 360° , as had been recommended by the Roman conference. Although the Greenwich meridian has long been the standard for four-fifths of the world's navigators and geographers, its adoption by all will be a common benefit. The ancient geographers drew the first meridian through Ferro, the westernmost of the Canary Islands, and this is yet followed to some extent. The French have also used the meridian of Paris, the Spaniards that of Madrid, while we have used both that of Greenwich and Washington.

Minute Screws.—A newspaper correspondent describes the American watch manufactory at Waltham, Mass., and in speaking of the astonishing minuteness of some very essential parts of the watch, says: "A small heap of grain was shown to us, looking like iron filings, or grains of pepper from a pepper-caster—apparently the mere dust of the machine which turned them out—and these, when examined with a microscope, were seen to be perfect screws, each to be driven to its place with a screw-driver. It is one of the statistics of Waltham worth remembering, that a single pound of steel, costing but fifty cents, is thus manufactured into one hundred thousand screws, which are worth eleven hundred dollars."

Organized Conflict with an Insect Pest.—According to a London paper, civilization has triumphed over a traditional scourge of humanity. From the time of the plague of Egypt until now locusts have been a terror to all dwellers in the East. Cyprus was, it appears, infested with them when it was annexed to the British Crown. With characteristic enterprise the Government set to work to rid the island of them, and a Parliamentary paper recently issued contains a most interesting account of the campaign. The war material was of imposing dimensions, consisting as it did of 100,000 square yards of canvas for screens; 12,611 square

yards of oilcloth, 20 tons of zinc for traps, besides 76,183 stakes for screens. When these materials were worked up, they amounted, with other additions which were found to be necessary, to 11,083 screens, each 50 yards in length, which, if stretched continuously, would have formed a line 315 miles in length, or almost enough to encircle the whole coast of the island. So efficient was this formidable equipment, that it is estimated that no fewer than one hundred and ninety-five thousand million of locusts were destroyed in the traps which were thus formed. Indeed, the whole colony of insects was practically exterminated; and in places where in former years vast swarms of locusts have assembled they are now almost completely conspicuous by their absence. The agricultural gain to the island will be enormous.

An Ancient Armored Ship.—An old book entitled "*A Universal History*," published by J. Coote, London, 1759, contains the following:

"The invention of ships is very ancient, since God himself gave the first model thereof to Noah, for the building of his ark, to save the human race from the waters of the deluge.

"The first celebrated ship of antiquity, besides the ark, is that of Ptolemy Philopater, which was 280 cubits long, 38 broad, and 48 high; it carried 400 rowers, 400 sailors, and 3,000 soldiers. That which the same prince made to sail on the Nile, we are told, was half a stadium long. Yet these were nothing in comparison with Hiero's ship, built under the direction of Archimedes; on the structure whereof Moschin, as we are told by Snellius, wrote a whole volume. There was wood enough employed in it to make fifty galleys; it had all the variety of apartments of a palace, banqueting rooms, galleries, gardens, fish ponds, stables, baths, a temple of Venus, etc.

"It was encompassed with an iron rampart, eight towers, with walls and bulwarks, furnished with machines of war; particularly one which threw a stone of 300 pounds, or a dart 12 cubits long, the space of half a mile; with many other particulars related by Athenæus."

Terrestrial Electricity and the ATMOSPHERE.—An article appeared in the Franklin Institute *Journal* for 1830 taken from the Bibliothèque Universelle, which is interesting because of its relation to late developments in terrestrial electricity:

"This subject has been treated by M. Carlo Matteucci, of Bologna, who endeavors to found certain explanations of natural phenomena upon the supposed accumulation of electricity upon the surface of the earth. He considers that there is an accumulation of this power upon particular localities, the electricity itself being developed by evaporations, or other circumstances upon the surface, or by internal

chemical action; and when developed, being retained in particular situations by the non-conducting power of the neighboring earth. This non-conducting power is supposed to depend either upon the particular nature of the ground, or upon its becoming dry by evaporation, and, therefore, it is said, it is rather upon elevated and isolated places than upon plains, above rocks than over forests, in summer than in winter, and in the middle of the day than during the night, that these stormy clouds are formed, which frequently can only be explained by terrestrial electricity.

"One explication furnished by his theory, is considered as ingenious; it applies to those luminous appearances which so frequently occur in the atmosphere during the evenings and nights of summer, and are called heat lightning. These are attributed to electricity produced and accumulated as already mentioned. After sunset, the vapors which condense, form a conducting stratum near the surface, which serves gradually to reestablish the electric equilibrium between the earth and the atmosphere. It is especially in plains that these flashes are observed, because the electricity accumulated on high and isolated places escapes rapidly in consequence of their form, low temperature, and the great variety of the atmosphere about them."

A Chinese Farm-House is a curious looking abode. Usually it is sheltered with groves of feathery bamboo and thick-spreading banyans. The walls are of clay or wood, and the interior of the house consists of one main room extending from the floor to the tiled roof, with closet-looking apartments in the corners for sleeping-rooms. There is a sliding window on the roof, made of cut oyster shells, arranged in rows, while the side windows are mere wooden shutters. The floor is the bare earth, where at nightfall there often gathers together a miscellaneous family of dirty children, fowls, ducks, pigeons, and a litter of pigs, all living together in delightful harmony. In some districts infested by marauding bands houses are strongly fortified with high walls, containing apertures for fire-arms, and protected by a moat, crossed by a rude draw-bridge.

An American Pyramid.—A tourist in the land of the Aztecs says: "We climbed up the steep sides of the pyramid generally known as the 'Casa del Adirno,' or 'House of the Prophet'; and from its summit, from the roof of its topmost building—difficult to reach and offering precarious foothold—a glorious panorama was spread before us. West, directly below us, was the 'House of the Nuns'; south, the principal building of the group, the 'House of the Governor,' raised upon its immense terraces, one of which also supported the 'House of the Turtles,' with the 'Nameless Mound' beyond them all; east by south lay the ruins of the 'Old Woman's House,' all tumbled about her head; from south to west circled mounds and

clusters of ruins such as the 'House of the Pigeons,' and the remains of an extensive series of buildings; beyond this city could be seen other ruins, perhaps other cities, reaching out in a long line that could be traced miles away. A great plain surrounded us, smooth and level as the sea, with a range of hills encircling us from northwest to southeast. This mound or pyramid, lying due east from the city, was probably used as a place of sacrifice. The rooms of the building that forms the apex of the structure are small, and with the peculiar arch without the keystone, the entire building being about 70 ft. long and only 12 ft. deep. It is rich in sculpture, and the hieroglyphics on the western part are in a good state of preservation. The entire pyramid is 105 ft. high, and the top is reached by a staircase 70 ft. wide, and containing ninety steps. The steps are narrow and steep, and we can well believe that when, as the old historians relate, the high-priest kicked the body of the victim of sacrifice from the house of the altar, it fell the whole distance of a hundred feet to the ground—that it never stopped till it came to the bottom."

Cotton, Grain and Potato Crops.

—The Agricultural Bureau in one of its late bulletins, reported that the indicated yield of cotton per acre this year, is lower in nearly every State than in 1880, which was one of average production. The lowest yields are now, as then, in Florida, Georgia, Alabama, and Texas. The returns by States indicate the yield per acre as follows, the figures being subject to modification by further returns: Virginia, 180 pounds; North Carolina, 175; South Carolina, 152; Georgia, 135; Florida, 105; Alabama, 130; Mississippi, 175; Louisiana, 190; Texas, 143; Arkansas, 200; Tennessee, 160.

The returns of the rate of yield of corn indicate a product somewhat in excess of eighteen hundred million bushels, or an average rate a small fraction above twenty-six bushels per acre. The best yields are, as in 1883, in what has been designated the Great American Desert. The "arid regions," in the vicinity of the hundredth meridian, have produced heavy crops of maize of high quality. That line of longitude has ceased to be an absolute barrier to corn production or general farming. The quality of corn is better than in 1883 nearly everywhere, and in the Northern belt it is worth 25 to 75 per cent. more. The potato crop is nearly an average yield, or ninety bushels per acre, and exceeds one hundred and ninety million bushels.

The Growth of Fruit Culture in CALIFORNIA.—An acre of vineyard almost anywhere in the State, the *Sacramento Bee* says, will yield five tons of grapes, worth \$30 a ton, making a total of \$150, against a total of \$19.80, from a yield of 30 bushels of wheat on the same area of land. The profit on the grain is \$1.80; on the grapes, at least \$100. This estimate for grapes is moderate. A single vineyard of 300 acres, near Fresno, is

producing this year about 2,000 tons, worth \$50,000, at \$25 a ton. It would take about 2,500 acres of land, producing 30 bushels to the acre, to raise grain enough to bring that amount this year. But we have more illustrations. J. W. Cassidy's ten-acre cherry orchard, near Petaluma, this season produced a crop of higher market value than could have been raised on 700 acres devoted to wheat. In full bearing, with the crop worth 10 cents a pound, it has been estimated that the yield of his orchard would bring \$37,500. But only taking half this sum (\$18,750), the returns are more than our estimate would allow from 700 acres of land in wheat. Still another example: R. B. Blowers, in Yolo County, has 20 acres of vineyard devoted to seedless sultana grapes. The yield this season is estimated at 20 tons to the acre, and he has been offered \$40 per ton, but he will convert the grapes into raisins, and thus make more money. Forty dollars per ton would be \$800 per acre, or \$16,000 for the yield of a vineyard of 20 acres. Instances of this kind might be multiplied, but these should suffice for the present.

Mr. P. L. Bunce, of Sutter County, began growing fruit on an experimental scale, his ranch being almost wholly given up to wheat. Now he has an orchard of 32 acres, 12 of which command a rental of \$1,000 a year, cash in advance, clear of all expenses. This is equivalent to more than 8 per cent. profit upon a valuation of \$1,000 an acre.

The conversion of the wheat ranches of California into orchards and vineyards would be an industrial revolution of incalculable benefit to the State.

Provided, we would add, that the fruit is not converted into intoxicants—which would inevitably lead to the demoralization, in great part, of the people.

The Farmer's Position.—A writer in the *Maine Farmer* thus puts it: "Now, we understand well enough that farming is not a life of ease, nor are farmers constantly lying on beds of roses. It means work. It means business, and, if successful, it means energy, enterprise, forethought and skill; and for that matter, so does every other. That is what we are here for, and that is what our Creator gave our faculties for. It does me no good to have Vanderbilt held up. There is only one Vanderbilt among more than fifty millions of people, and if he is any happier than I am, it is not because of his wealth, but in spite of it. Let us look for a moment at some of these monopolies. Take, for instance, the cotton print manufactories. They are sending out goods for five cents a yard. One dozen eggs will purchase four yards. It does not appear to me that farmers are very severely preyed upon by them. Three good lambs will purchase a very respectable suit of clothes. Was this ever the case before? Do the importers of sugar bear hard upon the farmers, when it can be purchased at present prices? The list

can be extended to almost the entire expenses of the household. Does the farmer find fault, or have any occasion to find fault, with the price he can get for his oxen, his horses, or any other products of his farm? If so, I ask him when the money received for such products would ever purchase so much of the needed supplies for his family use?"

A House of the Stone Age.—A very interesting discovery of a house of the stone age was recently made in a marsh at Schulsonried, in Wurtemberg. The house or hut was still preserved; the flooring and a part of the walls were intact, and, as appeared from a careful admeasurement, had formed, when complete, a rectangle, 32 x 23 feet. The hut was divided into two compartments, communicating with each other by a foot-bridge made of three girders. The single door, looking toward the south, was about three feet wide and opened into a room 19 feet long by 12 feet wide. In one corner lay a heap of stones, which had apparently formed the fireplace. This room was the kitchen, "the living-room," and probably a night refuge for the cattle in cold weather. The second room, which had no opening outside, measured about the same, and was, no doubt, used as the family bed-chamber. The floors of both rooms were formed of round logs, and the walls of split logs. This, be it remembered, was a hut of the stone age. It may be safely presumed that the lake dwellings of the bronze age were larger in size and less primitive in their arrangements. At both periods the platform supporting the houses communicated with the shore by means of a bridge (probably removable at pleasure), and with the water by ladders. These ladders, as appears from an example found at Chavannes, were made of a single stang, with holes for the staves, which protruded on either side.

A Luminous Tree.—A most remarkable tree or shrub is said to grow in a small gulch near some springs about twelve miles north of Tuscarora, is about six or seven feet in height, with a trunk which, at its base, is three times the size of a man's wrist. It has innumerable branches and twigs, and resembles somewhat the barberry-tree. Its foliage at certain seasons of the year is so luminous that it can be plainly distinguished in the darkest night for a distance of more than a mile, while in its immediate vicinity it emits sufficient light to enable a person to read the finest print. Its foliage is extremely rank, and its leaves resemble somewhat, in size, shape, and color, those of the aromatic bay-tree of California. The luminous property is evidently parasitic, and consists of a sort of gummy substance, which, upon being transferred by rubbing to a person's hand, imparts to it the same apparently phosphorescent light, while that on the leaf entirely disappears.



ELEMENTARY PRINCIPLES OF PHRENOLOGY.

PHRENOLOGY explains the powers and faculties of the mind, by studying the organization of the brain. Its doctrines, briefly stated, are:

1. The brain is the organ or instrument of the mind.
2. The mind has many faculties, some of which may be stronger or weaker than the rest in the same person.
3. Each faculty or propensity of the mind has its special organ in the brain.
4. Size of brain, if the quality be similar, is the measure of its power.
5. The quality or temperament of the organization determines the degree of vigor, activity, and endurance of the mental powers. These temperaments are indicated by external physical signs.

There are three chief temperaments, as follows:

THE MOTIVE TEMPERAMENT, corresponding to the old *Bilious*, has a strong bony system, an abundance of muscle, dark hair, dark eyes, prominent features, and dark complexion.

THE VITAL TEMPERAMENT is evinced by large lungs, a powerful circulatory system and large digestive and assimilating organs, abundance of blood, and animal spirits. The form is plump, the limbs rounded and tapering, and the complexion light or florid.

THE MENTAL TEMPERAMENT (formerly called *Nervous*) depends on the development of the brain and nervous system, and is indicated by mental activity, light frame, thin skin, fine hair, and delicate features.

DEFINITIONS OF THE MENTAL FACULTIES.

[See diagram of the head above for location of corresponding organs.]

No. 1, Amativeness—The faculty of physical love lends attractiveness to the opposite sex, and a desire to unite in wedlock and enjoy their company. *Excess*: Tendency to licentiousness. *Deficiency*: Indifference to the other sex.

A, Conjugial Love—The monogamic faculty, giving a desire to reciprocate the love of one in matrimony. *Excess*: Morbid tenacity of attachment. *Deficiency*: Domestic vacillation.

No. 2, Philoprogenitiveness—Parental love; the parental instinct. Disposes one to give due

attention to offspring and pets. *Excess*: Idolizing children; spoiling them by indulgence. *Deficiency*: Neglect of the young.

No. 3, Friendship—Adhesiveness; the social feeling; desire for companionship; attachment to friends. *Excess*: Undue fondness for friends and company. *Deficiency*: Indifference to social interests.

No. 4, Inhabitiveness—Gives a desire for a home, place of abode; also gives rise to love of country and offensive nationalism. *Excess*: Undue exalting of one's own country and home. *Deficiency*: A roving disposition.

No. 5, Continuity—Gives undivided and continued attention to one subject until it is finished. *Excess*: Prolixity; absence of mind. *Deficiency*: Excessive fondness for variety.

E, Vitativeness—The love of life; desire to exist. *Excess*: Great clinging to life; dread of death. *Deficiency*: Indifference to life or the care of it.

No. 6, Combativeness—Defense; courage; force of character; energy and indignation. *Excess*: A quick, fault-finding, contentious disposition. *Deficiency*: Want of spirit; tameness.

No. 7, Destructiveness—Executiveness; thoroughness and severity. *Excess*: Cruelty; vindictiveness. *Deficiency*: Inefficiency; lack of fortitude under trial.

No. 8, Ailmentiveness—Desire for food; appetite. *Excess*: Gluttony; intemperance. *Deficiency*: Want of appetite; indifference to food.

No. 9, Acquisitiveness—Desire for property; the principal element in industry, economy. *Excess*: Selfishness; avarice; covetousness. *Deficiency*: Want of economy; wastefulness; prodigality.

No. 10, Secretiveness—Concealment; policy; conservatism. Misdirected, or in *Excess*: A prime element in hypocrisy, double-dealing, and evasion. *Deficiency*: Want of reserve or proper tact.

No. 11, Cautiousness—Fear; apprehension of danger. *Excess*: Cowardice; timidity. *Deficiency*: Headlessness; recklessness; imprudent haste.

No. 12, Approbativeness—The desire to please; to gain admiration and popularity; to cultivate the amenities of social intercourse. *Excess*: Vanity; undue sensitiveness to praise or blame. *Deficiency*: Disregard of the opinions of others.

No. 13, Self-Esteem—Dignity; governing power; independence. *Excess*: Arrogance; imperiousness. *Deficiency*: Self-distrust and depreciation.

No. 14, Firmness—Steadiness; perseverance; decision; tenacity of purpose. *Excess*: Stubbornness; obstinacy. *Deficiency*: Instability; unsteadiness.

No. 15, Conscientiousness—Justice; self-examination; integrity; scrupulousness in matters of duty. *Excess*: Censoriousness; great scrupulousness; self-condemnation, and undue censure of others. *Deficiency*: Indifference to right or wrong; equivocation.

No. 16, Hope—Looks to the future; buoys the mind with high expectations. *Excess*: Renders one visionary and extravagant in expectation. *Deficiency*: Tendency to despondency and gloom.

No. 17, Spirituality—Faith, trust, and belief in the immortal and invisible. *Excess*: Superstition; fanaticism. *Deficiency*: Skepticism; incredulity.

No. 18, Veneration—Reverence for the Deity; also imparts deference for superiors, and respect for whatever is honorable. *Excess*: Idolatry; undue deference. *Deficiency*: Disregard for things sacred and venerable.

No. 19, Benevolence—The desire to do good; sympathy; philanthropy. *Excess*: Morbid generosity. *Deficiency*: Selfishness; indifference to the wants of others.

No. 20, Constructiveness—The mechanical and tool-using faculty. It aids in the construction of garments, houses, ships, and schemes. *Excess*: Attempting impossibilities; impractical contrivances. *Deficiency*: Inability to use tools; no mechanical aptitude.

No. 21, Ideality—The esthetic faculty, or love of the beautiful; essential in literature, art, and all refinement. *Excess*: Fastidiousness; romance. *Deficiency*: Lack of taste.

B, Sublimity—This organ contributes to the imagination. The stupendous in nature or art excites this faculty. In *Excess*, it leads to exaggeration. *Deficient*: It shows inability to appreciate the grand.

No. 22, Imitation—The copying instinct. It adapts one to society by copying manners; is a chief channel for obtaining knowledge and benefit from associations. *Excess*: Mimicry; servile imitation. *Deficiency*: Oddity; eccentricity.

No. 23, Mirthfulness—Wit; humor; love of fun. *Excess*: Improper ridicule of subjects. *Deficiency*: Excessive sedateness; indifference to wit and humor.

No. 24, Individuality—Observation; desire to see things and identify points of thought; memory of objects. *Excess*: Prying curiosity and inquisitiveness. *Deficiency*: Dulness of observation.

No. 25, Form—Gives memory of countenances and of the shapes of things. *Excess*: Undue sensitiveness to want of harmony in shapes. *Deficiency*: Forgetfulness of faces and forms; can not cut or draw well.

No. 26, Size—Power to measure distances and quantities by the eye. *Excess*: A constant comparison

of size and proportion. *Deficiency*: Inability to estimate size and distance.

No. 27, Weight—Adapts man to the laws of gravity, whereby he walks erect, balances himself, and judges of the weight of things. *Excess*: Disposition to climb and attempt hazardous feats. *Deficiency*: Inability to judge of the perpendicular, or to keep the centre of gravity.

No. 28, Color—Enables one to discriminate hues and remember colors. *Excess*: Great fondness for colors; fastidious criticism of tints. *Deficiency*: Inability to distinguish colors; "color-blindness."

No. 29, Order—Method; system; neatness. *Excess*: Undue neatness. *Deficiency*: Slovenliness; disorder.

No. 30, Calculation—The power to enumerate, reckon, etc. *Excess*: Disposition to count and "reckon" everything. *Deficiency*: Lack of talent in relations of numbers; can not add, multiply, etc.

No. 31, Locality—The exploring faculty; love of travel, and ability to remember places. *Excess*: An unsettled, roving disposition. *Deficiency*: Poor memory of places; liability to lose the way.

No. 32, Eventuality—The historic faculty; memory of occurrences. *Excess*: Tedious relation of facts and stories. *Deficiency*: Poor memory of events.

No. 33, Time—Gives a consciousness of duration; aids the memory with dates and music. *Excess*: Undue particularity in matters relating to time. *Deficiency*: Fails to remember dates or keep time.

No. 34, Tune—The musical instinct; ability to distinguish and remember musical sounds. *Excess*: Disposition to sing, whistle, or play at improper times. *Deficiency*: Inability to appreciate music.

No. 35, Language—Located in the brain above and behind the eye, and when large, the eye is prominent and full; when small, the eye appears to be sunken in the head. *Excess*: Redundancy of words; more words than thoughts or ideas. *Deficiency*: Lack of verbal expression.

No. 36, Causality—The ability to comprehend principles, and to think abstractly; to understand the why and wherefore of subjects. *Excess*: Too much theorizing and impracticable philosophy. *Deficiency*: Weakness of judgment; inability to think or reason.

No. 37, Comparison—The analyzing, illustrating, comparing faculty; enables one to use figures of speech, similes, proverbs, etc. *Excess*: Captious criticism. *Deficiency*: Inability to reason by analogy.

C, Human Nature—The power to discern motives, character, and qualities in strangers. *Excess*: Intense personal prejudice; offensive criticism of character. *Deficiency*: Indiscriminating confidence.

D, Suavity—Agreeableness; tendency to speak and act in a pleasant manner. *Excess*: Affectation; blarney. *Deficiency*: Want of ease in manner.

Note.—The student will be greatly aided in his study of Phrenology by the use of a good bust, which shows the location and grouping of the organs more accurately than they can be presented on a flat surface, or as in the head that illustrates this article.



FOWLER & WELLS CO., *Publishers*
H. S. DRAYTON, A.M., M.D., *Editor.*

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OUR WORK.

IN opening this number the reader has met an article descriptive of the work which the predecessors of the Fowler & Wells Company established in this country, and which the recently organized Company has taken up, and intends, if it be possible, to perpetuate and extend. We trust that no reader will account it a fulsome or grandiloquent message, but simply what it is intended to be, a plain, honest statement of facts. The old subscribers of this monthly, and there are some whose names have been entered afresh for forty successive years, will, we are confident, promptly indorse what is said of the influence of the work done by this house during the long term of its existence.

It is said by statisticians that but two per cent. of the men who commence business in New York, succeed in establishing a profitable enterprise, and after fifty years scarcely one per cent. of the enterprises that had been hopefully started have a representation. It would seem that a commercial venture to be enduring, must have something more

than a pecuniary motive in its foundation, something more than a desire for personal gain or selfish aggrandizement. There must be in fact an element of sympathy, a "touch of nature" that draws upon the feelings of others, and impresses the community that a wholesome moral influence is exerted, and so from the community there comes a response of sympathetic acknowledgment, as well as of practical support.

In full appreciation of the need that oppressed the American people for instruction with regard to mind and body, the brothers Fowler commenced that wonderfully interesting career which is not yet closed. Years have passed since they were personally associated in the conduct of the business of the Phrenological office in New York; yet the main line or object which was designated in 1835 has never been departed from, and may we not presume to believe that the maintenance of this business with its numerous departments—altogether out of proportion to the small amount of capital employed in them—if the truth were known—has been due chiefly to the moral force that has pervaded it, a moral force braced up, stimulated by stern humanitarian resolves.

But we would let the simple review of the past speak for itself, and in this opening of the New Year, would once more invite the co-operation of our readers in carrying on this enterprise, now hoary with years, but vigorous with the added strength of success—a success not measured by talents of silver and gold as garnered in the banker's chest, but measured by the silver and gold of the thousand grateful hearts that everywhere offer honest tributes of thankfulness for

the hope, the encouragement, the reform, the salvation they have received through its instrumentality.

THE POLITICAL ISSUE.

THE crisis has passed. The Democrat has won a victory at the polls. A revolution in our political affairs has been accomplished, and that too without the disorder and bloodshed that some predicted as inevitable, should the old party, so long victorious, be found this time on the losing side. The struggle of parties and factions was hard and bitter on the platform and in the newspapers, but the election that was the culmination and final crisis of the struggle of months passed off in a manner little differently from other elections. The excitement fed by the closeness of the vote did not assume a threatening character.

We think that the country is safe. The election of Mr. Cleveland will not jeopardize our national institutions, or impair the operation of those fundamental principles that belong to us distinctively as a Republic. As citizens of a nation in which the voice of the majority is deemed the will of the whole, we should endeavor to co-operate as a whole to sustain the elected Chief Officer to carry into practical operation the laws of the land, and to maintain an administration that shall benefit, not a section or a party, but the whole people. The fact that the great mass of the American public after so exciting a political canvass, and after a result that transfers the government practically to hands that are of a totally different stamp in principle from those that for twenty-four years have held the reins, calmly accept the change, promises in itself most happily for our future.

The moral support of the nation, as a

whole, would insure us good government whether the President be Republican or Democratic.

As a people we do not realize how much the performance of a President is dependent upon our attitude toward him.

THE CRISIS IN GREAT BRITAIN.

ACROSS the sea, the other great English-speaking nation is passing through an important civil crisis or revolution. The voice of the masses there is loud in demand of rights too long withheld, and wisdom counsels concession. The extension of the franchise will be a blow at the aristocratic and oligarchical element that has so long held sway in affairs of the first importance to every industrious Englishman. The reform—for reform it is—has been coming as sagacious economists know for many years, and with every expression of dissatisfaction by the people, lord and tory knew that it came nearer the inevitable termination. What is done now by Parliament and Ministry will perhaps soothe the turbulent waters of popular feeling for a time longer; but it must be a measure that involves important advantages to the industrial population, otherwise it will not be effective. The new Franchise Bill is regarded as a great step forward toward an equalizing of the rights of all classes of the English people, and signalizes the power of a movement that is likely to go on until the men, whose only claim to authority as legislators is that of noble descent, or the wearing of a title, will be no longer accepted. Democracy and Aristocracy must ever be antagonistic. One must yield, and in the progress of human affairs it is the second that shows the declining tendency.

NOT ALL A FLY.

A LITTLE story floats into our sanctum through the columns of an exchange. It has probably been cast about from one newspaper to another, its statement being accepted apparently as true. Two young married people, living in a well-known city of central New York, quarrelled over a fly. The husband picked up the insect, that had unfortunately fallen into his coffee, and become wet and forlorn, and tossed it playfully across the table to his wife. This made the lady angry. She picked up the insect and threw it back. A sort of game of dipterick shuttle-cock resulted; and finally the young wife rushed from the table, seized her bonnet, and left the house soon after, returning to her parents. The separation, it is said, became irreconcilable; and all on account of a little fly.

It can not be that the journalist who gives currency to such a report believes that a division between two hearts, that had been so closely associated for two years, was entirely owing to a little tiff occasioned by a fly. It were much more reasonable to infer, that these young people had been living unhappily for some time previously; very likely their union was a marriage of caprice, or a marriage in haste, for which a few months of the intimate association of married life sufficed to reveal its hollowness. They were evidently unsuited to each other and the crisis would have been reached inevitably, and was only advanced a little by the fly episode.

There are a great many stories circulated that have just as barren a pretext as this alleged by the reporter for the serious and unhappy results that enter-

tain the reading public. We know that there are a great many silly people in the world, who on slight occasions go "off on a tangent," and commit offences against order and decency; but the real occasion of their conduct lies much behind the apparent trifle that is offered as the cause; it can be found usually in the unregulated character, in the lack of patience and discipline that is theirs, and in the unfortunate environment that conduces to mental disturbance. Such persons are as unfit for good society as they are for marriage; their selfish propensities through excessive irritability render them unpleasant companions everywhere; they need severe and protracted training for the reduction of the selfish organs and the development of the moral and religious sentiments. In a fairly ordered marriage the parties are far from likely to strive against each other because of some foolish occurrence like that of a wet fly.

HOW TO EDUCATE.—Youth is the season ordered by nature for the training of mind and character. Then strong propensities, so easily converted into instruments of vice, may be regulated and counteracted by providing channels for their proper exercise, by giving high and pure objects for their co-operation. Thus the feelings and passions of youth and manhood can obtain their highest gratification, and be contributory to the best moral culture. If a youth be imbued with a love of pursuits that employ the intellect, and is furnished with refined pleasures, he is more likely to become a good man, a useful, honorable citizen, than if subjected to the strictest moral discipline, and kept in unsuspecting ignorance of the vice and wickedness of life. A proper knowledge of the nature of evil is the best armament against becoming subject to it.

D.

Our Mentorial Bureau.

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE contributions unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal matters will be considered by the Editor if this is done.

TO PREPARE OAT-MEAL.—If a copy of THE PHRENOLOGICAL JOURNAL of 1882 is accessible, you will find in it several recipes for the preparation of oat-meal in different forms. The March number for 1882 contains this: "Oat-meal mush. Two tea-cups of coarse oat-meal; stir the meal into two quarts of cold water, and cook in a double boiler for three or four hours; stir occasionally."

If you use a double boiler, the oat-meal is cooked by hot water and steam; the process is a slow but thorough one, and the oat-meal is not likely to be over-done. After it is cooked, it should be poured into bowls, or dishes, and not used till the next day, when it will be found of a jelly-like consistency, and is really most agreeable food. In the Hygeian Home Cook Book you will find a variety of recipes bearing on this subject.

FLORIDA FOR HEALTH.—In a letter from Mr. A. S. Matlack, a student in phrenology, we have some notes upon Florida, its climate and healthfulness. Mr. M. is of the opinion that people who are troubled with catarrhal disorders, will find much relief in that State. He himself, having experienced no little improvement, is willing to

share the salubrious influences of the region with others who may be sick or invalided.

Similar statements have been made in these columns by correspondents who have lived in Florida and in other Gulf States, and we doubt not that for many people of delicate constitution and morbid susceptibilities it would be well for them to get below the frost line, where genial breezes play. Thousands of people who are comparatively well during the warm seasons of the year are more or less sick during the winter; the incoming of Jack Frost being accompanied with glandular derangements that continue as long as the cold weather lasts.

FULL UNDER-LIP.—S. W. wishes to know the meaning of a peculiar double fullness of the under-lip, in other words, a bi-lobed condition of the lip, it being very full or puffy on each side of the middle line. We have not met with an interpretation of this peculiarity in any of the books, aside from the general meaning, given to fullness of that nether member of the mouth; perhaps observers who have discovered the relation of the peculiarity to disposition, can furnish some points.

CHARACTER AND HEAD DEVELOPMENT.—W. H. E.—If you will read the books on Phrenology, and you should certainly find the works of writers like Spurzheim and Combe in public libraries worthy of the name, you will obtain the required information. In the little space allowed us here, it can be said only, that brain development does affect its exterior coverings, and just as the exercise of a muscle will change the outside of the member in which the muscle is situated, so exercise of a brain region will modify the configuration of that part of the head in which it lies. Men who use their intellect for the most part, generally note a growth and enlargement of the anterior lobes of the brain; gentlemen given to those forms of combativeness that are found in the gymnasiums, and in the schools for teaching the manly art of self-defence, in the course of time exhibit a decided expansion of the head in the middle basilar region. We have never met a blacksmith, or butcher, or an expressman of long experience, who did not show a characteristic prominence in the region of the ear.

NUTRITIVE PROPORTIONS IN FOOD.—

Question: Would you kindly tell me the proportion of heat, muscle, flesh and brain supporters, contained in wheat, oats, maize, rice, tapioca, sago, arrow-root, beef, mutton, etc.

H. B. M.

Answer : According to Letheby, in his work on food, the proportion is as follows :

<i>Nitrogenous Matter.</i>		<i>Carbon.</i>
Wheat	10. 8	75.50
Oat-meal	12. 6	77.80
Corn-meal	11. 1	85.35
Rice	6. 3	81.25
Arrow-root	0. 0	82.00
Lean beef	19. 3	9.00
Lean mutton	18. 3	12.25
White fish	18. 1	7.25
Eggs	14. 0	26.25
New milk	4. 1	14.95
Common bread	8. 1	55.00
Pease	23.00	62.65
Beans	24.00	40.00

Authorities differ very considerably in their analysis; more recent investigations showing a higher proportion of some of these elements in Nitrogen, especially the cereals.

BLINDNESS AND COLOR.—H. M. W.—

The ease with which blind people are able to discern colors, is due to their educated sensitiveness. You know when a sense is lost, the remaining senses, if much exercised—and they naturally are more exercised than before the loss of a sense—become more apprehensive, more delicate. The blind are compelled to exercise to the utmost the sense of touch, that being the medium by which they are enabled to communicate with physical objects, so as to learn their qualities, relations of hardness, softness, smoothness, and so on, for themselves. Practice develops susceptibility. Take, for instance, one of those gentlemen who are deemed to be very useful in the provision market, a tea taster. Long experience renders his taste organ exceedingly sensitive to the difference in flavors of teas, and it is said that one will discriminate easily among a hundred varieties, where an ordinary person, having no experience of that kind, scarcely can tell one sort from another.

To a blind person, different colors have different feelings, their sense is educated to discriminate between these different feelings. So, too, blind people have finely educated ears, and can detect sounds, movements, utterly beyond the reach of the seeing. We have known of blind persons who could go anywhere in a large city alone, after having resided in the place some time; they could not be lost. The possibilities of sense-education appear to be infinite.

OBSERVATION OF CHARACTER.—E. D. MCC.—Capability to read character well is dependent upon one's organization. You by the study of books and practice may improve yourself in this respect; and, if you are well endowed with the faculties of perception, may become an expert. Our "Student's Set" is adapted to your purposes. Or you may commence with the first book on the list and go through it. As a foundation to the efficient study of Phrenology, you should know something of the principles of Physiology, Anatomy, and Hygiene.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

THE PURPOSE OF LIFE—SELF-DEVELOPMENT.—

In the contemplation of existence, the idea of special purpose is constantly impressed upon the mind. Our Creator has shown special design in endowing us with mental and physical qualities. He gave perception, to take cognizance of our surroundings; reason to direct our actions; force and executiveness to utilize our opportunities; passion to thrill our very being into activity and stimulate our powers into service; and moral sentiments and tastes to elevate, refine, and soften our powers, preventing them from becoming too coarse and selfish in their aims. In enumerating these we do not imply that all have been included in our considerations, for we scarcely yet realize what the full extent of our powers of being are, but we only offer them as leading traits in our nature, and their combined actions certainly constitute the leading features of our character.

Undeniably our Creator had special design in bestowing upon us the variety of qualities and powers which we possess, and it is becoming in us to ascertain how to direct our faculties, to secure our greatest advancement.

Inharmonious development is in a great measure one's own fault, either through the thoughtless and improper gratification of the stronger faculties, or the lack of properly understanding how to train them, and not exercising a determined energy in attacking that monster, *habit*, which really is one of the greatest obstacles we have to encounter in the battle for self-reformation and self-perfection. Habits of error are for the most part formed in early life, when we are unaware of the importance of a correct code of habit; but does that excuse us in any measure for continuing in evil ways? 'Tis well enough for children to respect the opinions of parents as being correct (and this thought should prompt parents to be correct and wise), but in maturity we should seek *truth*, and discriminate between the ways of our forefathers and what is right, correcting in ourselves the errors which they have inculcated, while profiting by their example, so far as they consist with virtue and wisdom. Science is unfolding many secrets of human nature to the student, which have been as hid treasure for many ages, and she invites all to come and learn of her—to quaff from the ever-flowing fountain of knowledge, which is free to all who will but kneel and drink.

We are all more or less selfish, and our very selfishness should prompt us to seek the surest way of benefiting ourselves, that way being evidently through knowing how to train our own natures.

As we improve our own condition, we elevate our

influence, and so aid humanity in the grand march of improvement.

Our aims should be consistent with our general welfare, and agreeable to our tastes. They should be such as shall not conflict with our advancement and improvement, and so be in conformity with the design of our Creator's.

The law of variety is evident everywhere, especially in regard to man with his wonderful powers, the various combinations of which confer upon him such a great diversity of capabilities and tastes. Some find gratification in wielding the implements of agricultural industry; some enjoy the direction of the ponderous wheels of the manufactory; others find pleasure in guiding the bark of commerce; some are delighted with the fine arts, while others take real pleasure in efforts for social reform; again others revel in the enjoyment of domestic relationship, and find their true field of usefulness in moulding the character and work of those who shall represent them in the coming years; while others still, devote their efforts to literary pursuits.

Can you not decide which of all the various branches of pursuit is most inviting to your tastes, which would be most conducive to your happiness? Do you not realize in what direction your natural qualifications would lead? Considering the importance of having a proper pursuit, as well as proper aims, one should seek to know more of his nature, and here science comes in to direct and to aid. With the growth of society there is ever a growing need for such aid, and the age promises to meet the demand; for there are some who are devoting their lives to the study of human being, preparing themselves to counsel and help the world to a true knowledge of self and the true aims of life. Great minds have discovered and disseminated the truths of human mentality, and the science they founded must engage the attention of many competent to teach it effectively in public and private.

PERSONAL.

LORD DUFFERIN has made a splendid exit from Constantinople. Just before he left, a deputation of the British colony presented an address at Therapia, congratulating him on his appointment as Viceroy, and expressing sincere regret at his departure. The general attendance at Therapia to say good-bye was exceptionally large, and included all the ambassadors and ministers. Next he will be Premier.

ABRAHAM MARSHALL, who preached the first Baptist sermon in Augusta, Ga., was tied up and whipped in the Episcopal churchyard for his offence. In that city there are now 9,000 Baptists, two-thirds of whom are colored, and seventeen churches. There were five Baptist churches in the State one hundred years ago with 420 members. Now there are 2,500 churches with 225,000 members, of whom

130,000 are white. The Episcopal Church is more liberal to-day; 'tis the other church now that is the more given to "exemplary" discipline.

THE Duke of Parma has a daughter whose name is Marie Immaculée Louise Françoise Praxède Annonciade Thérèse Pie Anne Ferdinande Antoinette Joséphine Lucie Appolonie Philomène Clotilde Emerantiane Marthe Julie. She is a direct descendant of Louis XIV., besides. Oh my!

THE death of Mr. Fawcett, the English Postmaster-General, is no inconsiderable loss to his country. He was a man of thoroughly practical intellect, as was shown by his successful management of the Post-Office, and by his extensions of its usefulness, though in directions somewhat questionable. That a blind man, not born such, but as the result of an accident while out shooting, should have made himself a power in public life, was due in part to his excellent wife, who read for him and accompanied him in his favorite lines of study. But his own indomitable spirit did its share.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

WE must tell some men a great deal to teach them a little.

To be occupied with good is the best defence against the inroads of evil.—*Arnot*.

MANKIND are too apt to judge of things solely by events, and to connect wisdom with good fortune, and folly with disaster.

OF all the riches that we hug, of all the pleasures we enjoy, we can carry no more out of this world than out of a dream.—*Bonner*.

BANISH sorrow, banish grief,
Murmur not when fortune flies;
Sorrow ne'er will bring relief;
Joy from weeping ne'er will rise.

ALWAYS driven toward new shores, or carried hence without hope of return, shall we never, on the ocean of age, cast anchor for even a day!—*Lamar-tine*.

IF your boy manifests a desire to go out West and exterminate Indians, urge him to start at once. He will return home in a day or two, and thank you with tears in his eyes for the privilege of sawing a half cord of wood before breakfast.

"No one was ever born religious. No one was ever born knowing how to play the organ, or to fiddle. No one was ever born speaking Latin or speaking at all. We are born with capabilities and they have to be developed in religion as in everything else."

HAPPINESS sits on your front door-step, you need not even go round the corner to look for it. It can stand a rude blast and a rough fall, and is war-

wanted to keep in the hottest climates. Treasure it, preserve it, *pickle* it.—*Jean Paul Richter.*

RELATIONSHIP.—There is nothing in this world so venerable as the character of a true parent, nothing so intimate and endearing as the relation of husband and wife, nothing so tender as that of children, nothing so lovely as those of brothers and sisters. The little circle is made one by a single interest and by a singular union of affections.—*Dwight.*

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

"WHAT did you say your friend is, Tommy?"
"A taxidermist." "What's that?" "Why, he's a sort of animal upholsterer."

STUDENT (translating): "And—er—then—he—er—went—er—and—er." **Professor**: "Don't laugh, gentlemen; to err is human." (More laughter.)

"YOUR manner is very shocking," said a lady to the tramp. "Ah," replied the tramp, "you noticed it, did you? That's my personal magnetism."

A **PROMINENT** New York lawyer in a stump speech before the election characterized Mr. Cleveland as "the stupid, witless creature of an accident drawn from obscurity by party disaffection." We wonder if he thinks so now.

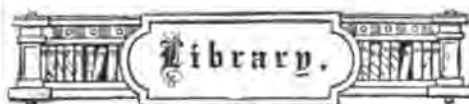
"I UNDERSTAND you've gone into farming," said a dentist to his victim. "How large a farm have you?" "Well, I've had four achers for the past week," was the painful response.

"WHAT kind of dogs are these, Mr. Briggs?" inquired a customer, pointing to a group of crockery canines. "Terrier cotta," replied the genial china man, his face beaming like the full moon.

WHEN **Mrs. Pinaphor** read that "Foo-Chow had fallen," she said that this might be good news to those who like the stuff, but she wouldn't buy the mixture if it were to fall to three cents a quart. Doubtless the good woman was thinking of chow-chow.

A-DOWN the sloping country lane The wheelman wheeled him on his wheel, with speed of a wild hurricane, As spun the pedals like a reel. Crouched in the corner of the fence, The ambushed foe lay low in wait, Ready to suddenly spring thence, And hurl the victim to his fate. The wheelman came—"Boo-hoo! oo-hoo!" The old hog jumped into the way; Full ninety feet the wheelman flew, And wheeled his wheel no more that day.

"THE girl with soft gray eyes and rippling brown hair, who walked all over your poor fluttering heart at the Charity ball," says the Burlington *Hawkeye*, "has just finished a crazy quilt, containing 1,064 pieces of hat linings put together with 21,390 stitches. And her poor old father fastens on his suspenders with a long nail, a piece of twine, a sharp stick and one regularly ordained button."



In this department we give short reviews of such New Books as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

THE MENTOR. A Little Book for the Guidance of such Men and Boys as would Appear to Advantage in the Society of Persons of the Better Sort. By Alfred Ayres, author of the "Orthoepist," etc. 18mo, cloth. Price \$1. Funk & Wagnalls, New York.

The purpose of this new volume of Mr. Ayres is well told in the brief statement following its title, and it is compactly filled with counsel and suggestions on demeanor in everyday life. The author does not believe that wealth is a passport sufficient for the boor who would enter good society, but that moral worth and education are the primary requisites, while wealth greatly helps the man to secure success who possesses them. As we glance through the pages we find sensible advice on dress, how to eat, conduct in public, how to act while talking with others, modes of address, treatment of ladies, the proprieties of social intercourse, personal habits, smoking and drinking, etc., etc. We add a paragraph or two that will best show how Mr. Ayres treats the by-no-means easy topics that come within the purview of his book. In "Rules for Introduction" he says:

"If you meet an acquaintance in the street when you are walking with a friend, do not introduce them; nor should you ever introduce people in public places, unless you have good reason to believe that the introduction will be agreeable—nay more, is desired by both parties. The universal introducer is a very unpleasant person to associate with. In introducing persons, it is the lower that is introduced to the higher, and, as a rule, the younger to the older, the gentleman to the lady."

Another paragraph may be said to echo a characteristic of the author himself, that appears in his books generally—an intolerance of everything rude, puerile or vulgar:

"Another disagreeable habit is that of going about singing, humming, or whistling. The man that habitually does either of these, either in the street—no matter what hour—in the halls of hotels, as he goes up and down stairs, or in his own apartments, when there is any one within hearing, has the manners of a boor, and deserves the calaboose for disorderly conduct."

There is a vigor and definiteness in the style of Mr. Ayres that one enjoys, and although he strikes

at some pet mannerism occasionally we can not but feel that we are a sinner in that particular, and it would be well to mend our ways according to his counsel.

A YOUNG GIRL'S WOOING. By Edward P. Roe, author of "Barriers Burned Away," etc. 12mo, pp. 482, cloth. Price \$1.50. New York: Dodd, Mead & Co.

When a man is successful in two pursuits like authorship and fruit-raising, it is largely because he has engaged in things for which he has a facultative adaptation. These two pursuits are certainly "near to Nature's heart," but the heart of human nature will not welcome the worker unless he shows fitness. In Mr. Roe's new book he indicates the old vein of character painting, the same clear impression of the play of tender feeling. He gives us a sketch of feminine life, with its rivalries, jealousies, and emulation, intensified by passion. The motive of a girl wooing the man strikes one as an odd conceit, but is well sustained throughout, and the suggestions of life among business men are true and admonitory. We have little doubt that the book will find a good market.

THE MARY JANE PAPERS. A Book for Girls. By A. G. Plympton. 16mo, cloth. Price \$1. New York: White, Stokes & Allen.

This is a supposed story of her own odd doings by a little girl, and in the main it is a vivid picture of the life of a capricious, would-like-to-have-her-own-way girl. Such girls are met with every day. The book is a welcome change from the wretched over-strained fun and immorality of the "bad boy" sort of thing. There is instruction in it, and while abounding in humor, the lesson of every amusing incident is not so much out of sight that a child of average perception can not catch some glimpse of its meaning. The paper and presswork are unexceptional.

THE GOOD THINGS OF LIFE. Small quarto, gilt. Price \$2. New York: White, Stokes & Allen.

A collection of cartoons and designs illustrating incidents and characteristics of life, social—high and low, commercial, professional, etc., etc., making up a book that furnishes very pleasant material for a leisure hour. The hits at personal peculiarities are for the most part very bright, and suggest to him that turns the leaves many a man or woman with whom he has come in contact; and if one will admit it, he may here and there chance on a bit of fun that comes not far from photographing something that lies on his own conscience, or should. The "Merited Rebuke," "Deceivers Ever," "Inductive Reasoning," the Supper scene, the Mayflower loaded with "heirlooms," are excellent hints at certain sensations common enough in our modern society. The funny side is contagiously rendered in such cartoons, but the lesson or moral effect is dexterously shown in the crisp drawing.

JOHN WYCLIFFE, Patriot and Reformer. A Biography. By John Laird Wilson. Published in Funk & Wagnalls' New York Standard Library. Paper, 25 cents.

This is a popular life of the great reformer, to whom the Christian world is so largely indebted, and issued in commemoration of the 500th anniversary of his death, December 31st, 1384. Wycliffe's life was one eminently fit to be held up by the side of Martin Luther's, both for his heroic devotion to the cause of truth, and for the far-reaching results of his heroism upon the generations that followed. His early work in forwarding the Reformation was of hardly less importance in Great Britain than Luther's in Germany. The biography is brief but well prepared, showing the merit of conscientious research.

SONGS AND LYRICS. By George Ambrose Dennison. New York: G. P. Putnam's Sons.

We confess we were disappointed in this book. Experience has taught us to expect very little from a poet who introduces writings to us unannounced, but in this little collection of thirty-six pieces there are some gems, originality, and much promise. We give an example:

AN OFFERING.

No gift of precious gems I bear,
Nor gold, nor aught that wealth commands,
But things that prove themselves more rare,
A loyal heart and willing hands.

Relentless Time, whose hand decrees,
Condemns all riches to decay,
Shall purify and strengthen these
To serve you till your latest day

PUBLICATIONS RECEIVED.

Two beautiful Calendars, which, apart from their useful qualities, possess artistic merit, are the Longfellow and Whittier Calendars for the coming year, published by Houghton, Mifflin & Co., Boston. The chief feature of the design of the first named is a good medallion portrait of Longfellow upon the front of a sculptured stone, upon which the Genius of Poetry is just placing a laurel wreath. The subdued coloring of this Calendar harmonizes with the taste of the day.

Two graceful figures—one, Maud Muller in the hayfield, the other, Mabel Martin on a snowy hillside—decorate the Whittier Calendar; which, in common with the other Calendar, contains a portrait of the author from whom its selections are taken. The coloring is bright, owing to the profuse use of gold in the decoration. These Calendars are sold at one dollar each.

WHITE, MORRIS & STOKES, of New York, have published a series of fringed holiday books, termed the "Flower-Song Series," the designs by Susie B. Skelding—the selections in verse being from popular authors. We have in

FROM MOOR AND GLEN, designs of autumn leaves, golden daisies, flower-de-luce, pond lilies, and primroses.

PANSIES AND ORCHIDS, designs of pansies, snow-drops, heather, and wild rose, orchids, nasturtiums, and geraniums.

A BUNCH OF ROSES contains designs of pink roses, tulips, white roses, heliotrope, mignonette, and passion-flowers.

ROSES AND FORGET-ME-NOTS have illustrations of moss-roses, forget-me-nots, pink and white clover blossoms, yellow roses, and heliotrope, daisies, and buttercups.

All of the above are drawn and colored with great care and fidelity to nature, and form a series of charming books acceptable to the refined taste. Price, \$1.50 each.

THE KINDERGARTEN CHILDREN. By Caroline Hansell, is a large, well-made book, the pictures of which will please the little ones, and the pleasant rhymes so simply constructed will put good ideas into little minds, and help, like the real kindergarten, to awaken the germinating intellect. We can recommend this book as far better than the customary nursery jingles for our baby girls and boys. Price, \$1.50. White, Stokes & Allen.

LE PROGRES MEDICAL, for Nov. 8th, contains detailed information specially for students attending the Paris medical schools, and other prominent schools of medicine and surgery in France and Germany, besides interesting notes on medical instruction in other parts of the civilized world. Americans contemplating a course of study in medicine abroad, will find it to their advantage to consult this number of a well-conducted publication.

THE GEORGE MACDONALD CALENDAR, for 1885, has selections from that well-known writer on the slips appropriate for each day of the year, with a handsome portrait and illuminated border. Price, 50 cents. White, Stokes & Allen, New York.

A YANKEE SCHOOL-TEACHER IN VIRGINIA; A tale of the Old Dominion in the transition state. By Lydia Wood Baldwin, is a series of sketches drawn from the author's personal experience for the most part. She has evidently endeavored to portray the relations of the negro with conscientious fidelity, the nature of her vocation enabling her to enter rather closely into his life. She has noted habits, and beliefs, and mannerisms that could not be obtained by the ordinary looker-on. It is interesting to read the notes of a school-teacher's life among the freedmen, especially of one whose motive is philanthropical. The volume belongs to the Standard Library of Funk & Wagnalls, New York. Price, 25 cents.

HOW TO LIVE A CENTURY AND GROW OLD GRACEFULLY. By J. M. Peebles, M.D., author of "Travels Around the World," etc. Price, 50 cents.

A practical book, based upon the observations of a life-time. The author presents the vital importance of air, food, clothing, drink, sunshine, and sleep in such an earnest and pithy manner, as to impress the reader. Although well on in years, he has not outlived the impression of his early studies in medicine, as he seems to think that some drug preparations are efficacious in certain functional disorders; but in the main is inclined to dissuade the taking of the compounds of the pharmacutists. Perhaps he looks upon the administration of drugs as a sort of penalty to be endured by a sick man, because of his carelessness or indiscretion in becoming sick. M. L. Holbrook & Co., New York.

THE enterprising city at the other end of the great bridge has risen to the dignity of a magazine, which is styled the *Brooklyn Magazine*. It appears to be growing; late numbers furnish an excellent literary menu. The December number contains several articles by prominent writers.

CHRISTIAN THOUGHT. A popular monthly organ of the school of Christian Philosophy, still shows an activity very assuring to the orthodox. The recent excellent work done by the association at its Summer schools is represented in the excellent reading that is found upon its pages.

HARPER'S MAGAZINE, for December, comes up to its full height in illustration, and forms a decidedly brilliant holiday number. It contains upward of seventy illustrations from the pencils of leading artists. The reading-matter is taking.

THE CENTURY continues its discussion of Campaigns in the Civil War; gives some striking sketches of Dublin City and its scenery. A hygienic article sets forth the importance of proper house-drainage. The illustrations are unexceptionally pleasing.

THE SANITARIAN comes to our desk well filled with matter that should inspire zeal among the better instructed of the community, in behalf of cleanliness in our homes and surroundings. The topics treated by the *Sanitarian* are always of practical utility.

THE ECLECTIC MAGAZINE OF FOREIGN LITERATURE, published by E. R. Pelton, New York, displays a trained judgment in selecting from foreign publications such scientific and literary papers as best indicate the advanced thinking of Europe.

THE NORTH AMERICAN REVIEW, for December, has papers on Labor and Capital in Relation to Law; Railway Management; The British House of Lords; The Palace of the Kings of Tiryns; and other topics.

THE CINCINNATI MEDICAL NEWS comes to us with its well-arranged and very full notes of recent medical developments. This is one of the most enterprising representatives of progressive medicine in the West.

THE AMERICAN INSTITUTE OF PHRENOLOGY.

THE origin of this organized mode of disseminating the theory and practice of Phrenological science was a natural product of circumstances. For thirty years classes in Phrenology had been taught, and not a few persons had gone from such instruction to promulgate the science successfully; others had taken a lesson or two, in order that they might have it to say they had received instruction, and thus obtain a passport to the confidence of the public; and not a few were travelling and lecturing on Phrenology, whose work, for lack of proper instruction, was not a credit to the subject, or to those who were able to do it justice. The leading friends of Phrenology, deprecating the lack of knowledge on the part of some who were lecturing, resolved to establish a Normal Institute, so that the public could be supplied with lecturers and examiners who had enjoyed opportunities for thorough tuition in the principles and practice of Phrenological science, and on the 20th of April, 1866, pursuant to a petition to that effect, the Legislature of the State of New York passed an Act as follows:

CHARTER.

An Act to incorporate "THE AMERICAN INSTITUTE OF PHRENOLOGY," Passed April 20, 1866.

The people of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. AMOS DEAN, Esq., HORACE GREELEY, SAMUEL OSGOOD, D.D., A. OAKLEY HALL, RUSSELL T. TRALL, M.D., HENRY DEXTER, SAMUEL R. WELLS, EDWARD P. FOWLER, M.D., NELSON SIZER, LESTER A. ROBERTS, and their associates, are hereby constituted a body corporate by the name of "THE AMERICAN INSTITUTE OF PHRENOLOGY," for the purpose of promoting instruction in all departments of learning connected therewith, and for collecting and preserving Crania, Casts, Busts, and other representations of the different Races, Tribes, and Families of men.

Section 2. The said corporation may hold real estate and personal estate to the amount of one hundred thousand dollars, and the funds and properties thereof shall not be used for any other purposes than those declared in the first section of this Act.

Section 3. The said HENRY DEXTER, SAMUEL R. WELLS, EDWARD P. FOWLER, M.D., NELSON SIZER, and LESTER A. ROBERTS are hereby appointed Trustees of said incorporation, with power to fill vacancies in the Board. No less than three Trustees shall constitute a quorum for the transaction of business.

Section 4. It shall be lawful for the Board of Trustees to appoint Lecturers, and such other instructors as they may deem necessary and advisable, subject to removal, when found expedient and necessary, by a vote of two-thirds of the members constituting said Board; but no such appointment shall be made until the applicant shall have passed a satisfactory personal examination before the Board.

Section 5. The Society shall keep for free public exhibition, at all proper times, such collection of Skulls, Busts, Casts, Paintings, and other things connected therewith, as they may obtain. They shall give, by a competent person or persons, a course of not less than six free lectures in each and every year, and shall have annually a class for instruction in Practical Phrenology, to which shall be admitted gratuitously at least one student from each Public School in the City of New York.

Section 6. The corporation shall possess the powers and be subject to the provisions of Chapter 18, of part 1, of the Revised Statutes, so far as applicable.

Section 7. This Act shall take effect immediately.

Under this charter, beginning with 1866, a class has been instructed every year; and on two occasions, 1876 and 1877, a summer class was taught, each student, on graduating, receiving a diploma; and there have been graduated about three hundred students, including lawyers, clergymen, physicians, and teachers, as well as those who follow commercial business.

The Institute instruction covers the general principles of Phrenology, embracing the Temperaments; Cerebral Cranial development; the relation of Phrenology to Metaphysics and Physiology; the Study of the Face; Anatomy and Physiology, and particularly the adaptation of Phrenology to the Choice of Occupation; Marriage; the Treatment of and Management of Children, as well as of criminals, the feeble-minded, and the insane.

Lectures are given in the course by eight or more different teachers, most of whom are specialists in their departments.

The large collection of busts, skulls, and portraits, constituting the Cabinet of the American Institute, is a means of instruction to classes, and also a source of information to the public, as it is kept on free exhibition.

The following is an abstract of the address made by Mr. George Morris, one of the students, at the close of the term of 1884:

WORTHY INSTRUCTORS AND FELLOW-STUDENTS: We have many reasons for being happy in these closing exercises. Our teachers know that their labors have not been in vain; thousands of men and women have testified, by word and by letter, that a Phrenological examination and chart, a public lecture, or the reading of some of Fowler & Wells' publications, has enabled them to live more in accordance with the laws of their being.

My classmates, for the past six weeks we have been at the Fountain-head of Phrenological Science. On going forth from this Institute it will not be boasting for us to say, we have been with the Masters of Practical Mental Philosophy, and learned of them. . . .

Our diplomas will be recognized, and the well-known signatures they bear respected, wherever the English language is spoken.

Phrenology has done much for me,—morally, mentally, socially, physically, and financially. It gave me the first introduction that I ever had to myself. I was by nature made to be a practical phrenologist, but my parents did not know it, and when the first phrenologist I met told me so, I could hardly believe him. "Yes," he said; "so sure as you start, so sure you will be successful." I took courage, bought some books from him, and began studying, although my friends thought I was wasting both time and money; but they changed their minds years ago. I had the misfortune to travel and lecture before coming to this school. That time was not very pleasantly or profitably spent. The people appreciated my work, and paid me for it according to its quality.

In the summer of 1878, I was lecturing in the mining towns on the shore of Lake Superior. From there I started for New York City, and arrived here four days before the class for that year met. Before giving my name or business to any one in the city, I went direct to the Phrenological Rooms for examination. Professor Sizer measured my head with a tape, and my body with his practiced eye, then gave me a fifteen-minutes lecture on

the nature of my physical and mental weaknesses, and told me how to overcome them. He said: "With proper culture of body, as well as brain, you can be a good teacher, lecturer, phrenologist, or physician."

When I gave him my name he added: "I need not have told you all that." I took my chart, and at once paid my tuition fee. The following six weeks were the happiest of my life up to that time.

At the close of the lectures my head was full of scientific facts, and my trunk overflowing with phrenological specimens. I stayed four weeks after all the other students had left—to sort over, straighten out, and condense my mental acquisitions—then started for the West, and was agreeably surprised by the large and intelligent audiences that greeted me in almost every town I visited. The fact of my having a diploma from this Institute, at once raised me fifty per cent. in the estimation of the best people of every place where I lectured. . . . This long day of prosperity seems almost too good to be reality; it has grown clearer and brighter every hour; the last six weeks especially, that cover my second course, have been a continual mental feast for me.

The best minds of Europe and America have been working for hundreds of years, and through difficulties which we shall never be able fully to appreciate. The result of their labors centres here, and are dealt out to us without measure by teachers whose only regret is that we can not carry away more. With the names of Gall, Spurzheim, Combe, Caldwell, and the Faculty of this Institute as authority, and the laws of God revealed in the human organism as our theme, we can make the world better for our having lived in it.

My dear friends, as long as memory lasts, I shall look back with pleasure to the happy hours we have spent here together; and every year I shall look for your names in the "Field Notes" of the *Institute Extra*.

To our respected Teachers I tender my warmest thanks, and may the blessing of the Great Teacher of all, rest upon you forever.

In this department of the JOURNAL, matter pertaining to the annual classes will be from month to month given, and those of our friends who are interested in the science of human nature, may aid the cause by presenting the subject to such persons as might desire to become members, and take a course of instruction.

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SIR MOSES MONTEFIORE.

THREE CENTENARIANS.

SIR MOSES MONTEFIORE.—REV. OLIVER S. TAYLOR, M.D.—DR. CHRISTOPHER C. GRAHAM.

IF we are to believe the newspapers there must be a large number of people in the United States who are one hundred years or more old, for nearly every day there is mention of some man or woman who has celebrated, or is about to celebrate, a hundredth birthday. An English observer, who has taken much

pains to collect statistics bearing on longevity, concludes that of one million persons the last survivor dies at one hundred and eight years. Applying his results to our American population we should have some hundreds of persons among us one hundred or more years of age. A writer in the *Philadelphia Press* claims that there are living in New England alone upward of thirty persons who are over one hundred years of age, and gives the names, dates of birth, and residence of twelve.

About thirteen years ago we heard of a very aged man living in Ohio, and requested a correspondent, who then resided in a town neighboring the village where the old man lived, to inquire into the facts concerning his age and habits. In a short time we received a detailed account of him that satisfied us that the great age (one hundred and eight years) imputed to him was well attested. According to Dr. Farr, the English observer, he was the last of a million that had started in the race of life.

It is interesting to nearly all persons to read about the very aged; they link us with a past that to those who have but gone beyond the confines of a young manhood or young womanhood seems to possess many fascinations. When we meet with a veteran whose white hair and brow bear the marks of ninety winters, it is pleasant to hear him recount, from the records of memory, experiences of seventy or eighty years ago, when our nation was young and its career fraught with political and popular asperities. We think that a well-preserved, refined, intelligent old man or woman is unsurpassable by anything on earth for beauty and nobility, and wherever such a one lives, he or she generally receives the homage of the community.

At this time we present a trio of centenarians as a study worthy of the reader's interest. They are well-authenticated cases, one being personally known to us, and the others of sufficient reputation to disarm skepticism.

SIR MOSES MONTEFIORE needs no intro-

duction to the reader, at least so far as name and distinction go. His philanthropy has made him known far and wide. On the 24th of October last his birthday was made an occasion of much festivity in different parts of Europe and America. Christians joined with Jews in paying honor to a man who has, for more than forty years, shown himself an earnest friend of humanitarian endeavor at home and abroad. He was born at Leghorn, Italy, in a family that is one of the oldest in that country; his father's branch of it, however, had been known in London financial circles for a hundred years. In London, therefore, young Moses was brought up and educated, and after leaving school was taken into the banking-house of his relatives.

In 1812 he married Judith, daughter of Mr. L. B. Cohen and sister-in-law of Nathan Meyer Rothschild, the founder of the London branch of that house. Judith Montefiore, who lived happily with her husband for nearly 50 years, was a lady of fine mental endowments, and she wrote an interesting account of one of her philanthropic journeys with her husband, published in 1844, under the title, "Notes of a Private Journal of a visit to Egypt and Palestine." After her death in 1862, Sir Moses determined to embalm her memory by "redoubling his benevolence toward the living." This he has done by his annual gift in her name to Bell Lane Jews' Free School for Girls and in countless other ways. The Convalescent Home at South Norwood was built by the English Jews in memory of Lady Montefiore. Sir Moses also endowed the Jewish college at Ramsgate in her name.

It is a fact worthy of note that a few days after the accession of Victoria to the throne, Mr. Montefiore was elected sheriff of London, the first Jew who had ever been chosen for that office. Few men of great wealth have a record for so many and varied deeds of benevolence as Sir Moses Montefiore.

In 1842, in a time of epidemic, he established a dispensary in Jerusalem,

paying the entire expenses and sustaining the institution until a regular hospital could be built. In 1846, when the Czar's ukase removed thousands of Hebrew families from Poland to Russia, Sir Moses and Lady Judith went to St. Petersburg and by personal intercession induced Nicholas to abandon the ukase. He then visited his own people in Russia and Western Poland, scattering profuse largesses in every town. On his return to England, at the instance of Sir Robert Peel Queen Victoria created Sir Moses a Baronet. In 1854, when the famine broke out in Palestine, he collected £20,000, went again to the East and obtained from the Sultan of Turkey a firman permitting him to hold real estate in Jerusalem, to establish poorhouses, and to devise means for the promotion of industries and agriculture. He made six successive visits to Constantinople, each time securing from the Sultan some concession for the relief of his suffering people.

In 1863, with the assistance of the British Government, Louis Napoleon and Isabella of Spain, he secured from the Sultan of Morocco a firman guaranteeing to the persecuted Jews the same protection accorded to the Christians.

His last visit—the seventh—to Palestine was in 1866, in his 82d year, when the country was suffering from drought and the people from cholera. He expended vast sums for the relief of the sufferers and secured greatly improved facilities for supplying the city of Jerusalem with water.

But not only for his own race has he shown a generous sympathy, but the poor and suffering generally in England and on the Continent have known his prompt and ready hand.

Sir Moses lives at East Cliff Lodge, a short distance from Ramsgate, where the Duchess of Kent, mother of Queen Victoria, once resided. After climbing several stone steps one crosses a large field, in which there is a windmill to grind the wheat raised on the place into flour, which is then made into bread to

be given to the poor people, who come daily for their allowance to Sir Moses' lodge-keeper. No one goes away hungry or empty-handed. The house is in Gothic style, with lawns sloping to the edge of the cliff, and with a subterranean passage in the chalk leading down to the beach, which local legends assert to be the work of smugglers.

Sir Moses is to-day in reasonably good health, though somewhat weakened by almost the only severe sickness of his life, from which he recovered last spring. His mental powers are in excellent condition and he daily devotes some time to business affairs. His own confidence in his physical powers and endurance is amusingly illustrated in the round-going paragraph about his lately renewing the expired engagement of his private secretary "for three years more."

OLIVER SWAINE TAYLOR.

Of a very different stamp temperamentally is the second of our Centenarians. We suppose that at fifty years of age he, as compared with Sir Moses Montefiore, would have been judged far less likely to live thirty or forty years longer. As shown in the portrait the quality of Dr. Taylor is fine and the organization delicate and sensitive, yet tenacious and elastic. From a description of him made by Prof. Sizer about nine years ago, we quote :

"The quality is very fine, besides being compact and strong. It is not the fineness that is exhibited in mere softness. Steel may be fine, and yet be very dense and solid. This solidity, combined with fineness, belongs to persons who are enduring, elastic, efficient, clear in thought and accurate in motion, capable of accomplishing a great deal of work easily, and of holding on to life and retaining the faculties with clearness and vigor to old age. As our subject is ninety-one years of age, it will be seen that his form of body and features have retained their shapeliness and expression remarkably well. We have a cast of the head, and

as his hair was very thin and laid down closely, we get the exact size and form of the head. By close and accurate measurement it is twenty-three and three-quarters inches in circumference, measured around just above the brow. This is a very large head, and with such fine quality the subject ought to be noted not only for clearness and vigor of thought, for refinement and elevation of sentiment, but, also, for great energy of character and strong moral feeling. Observe the length of the head from the opening of the ear forward to the brow, and then the capacious expansion of the upper part of the forehead. Length of the head from the ear forward is an indication of intellectual scope and vigor, and the width and height of the forehead show comprehensiveness of thought, and the tendency to be logical and thorough in all investigations. In this broad, long, and high top-head are indicated pre-eminent moral sentiments, and this, joined with his capacious intellect, lays the foundation for an influence that is rarely exerted by any individual in an equal degree of strength. One may be great in intellect, another in morals, another in executive power, another in social force, but here these several elements seem to be amply developed and harmoniously co-ordinated; hence he was armed on all sides with all the forces that dignify and adorn human nature. The cast of the head shows great fullness in the back-head, indicating uncommon love of friends, and the power to win the affections of people, especially of children. He always made his mark on the young, and taught them to look up to him as a friend with filial and fraternal affection.

"He is a man of great cautiousness, always taking into account all the difficulties and dangers, but executing that which belongs to his position with courage, fortitude, and strength. His Self-esteem is amply developed, showing self-reliance, power of holding himself in an attitude of dignity and influence, capable of governing and controlling the minds

of others, and with his large Firmness, taking a strong and positive attitude in everything which interests him and demands his support.

"His Conscientiousness is well developed, indicating justice as a supreme law of his mind. The middle and front part of the top-head, where Veneration and Benevolence are located, is large, showing strength of the devotional feeling, and strong sympathies with those who are in need. The broad and high region of the crown not only indicates dignity and power of governing others, but the tendency to exert an exalting influence upon the young, awakening in them a spirit of aspiration, a desire to rise and be something worthy of respect.

"The cast of the head indicates more Destructiveness and Combateness than the portrait would seem to indicate. The head is wide between the ears, measuring over six and a half inches by the callipers and eight and a quarter inches from front to rear. This, however, is not too wide for the other developments of the head, though strong enough to give executive-ness and even severity when circumstances demand.* He would have made a very fine magistrate; he would have tempered justice with mercy, and, with his comprehensive moral and intellectual powers, would have found out the facts of each case, and what justice really was in relation to it, and then he would have applied the law with fearlessness and a conscientious regard to all concerned. He would be able as a statesman, and comprehensive and exact as a teacher. His forehead now is less retreating than it probably was forty years ago, the upper part having increased in size with his years. A man organized with such a constitution as his, would be likely to have an increase of brain until after the fiftieth year.

"It will be noticed that the upper part of the forehead is broad and square, showing large Mirthfulness, a keen sense of the witty. He has, also, rather large Ideality; the temple is expanded as we go backward toward the hair, and with

his large Language, indicated by that fullness under the eye, he would be likely to write eloquent prose or poetry. There is a tendency to polish and adorn whatever he does and says. His correct habits,

ages of the four longest-lived average ninety-three years. His early life was divided between farm-work and attending the district school. His thirst for knowledge was intense, and he employed



his mental activity, and his excellent constitution have combined to make his old age fresh, green, and fruitful of thought, sentiment, and enjoyment."

Oliver Swaine Taylor was born in New Ipswich, N. H., on December 17, 1784. He was the eighth of nine children. The

all his leisure moments in reading and study. He entered Dartmouth College in 1805. Among his classmates were Prof. James Hadley, M.D. (father of the distinguished professors), Dr. Putnam, and Hon. Levi Woodbury. After graduating in 1809, he taught in the academy of his

native town, having among his pupils Jonas Chickering, afterward of piano fame, afterward John Wheeler, President of the University of Vermont, and Amos Kendall, late Postmaster-General of the United States.

He studied medicine, graduating at Dartmouth in 1813, and practiced several years is Dover, N. H., and Belchertown, Mass.; but finding that teaching was more congenial with his tastes than the practice of medicine, he devoted the most of his mature life to that employment for over forty years in Boston and Hadley, Mass., in Homer, Auburn, Prattsburg, and Henrietta, N. Y., in Indiana, Michigan, Ohio, and South Carolina. Among his pupils there have been two United States Senators, four members of the House of Representatives, four Judges of State Supreme Courts, seven presidents of colleges, eleven professors, eight missionaries to foreign lands, about eighty ministers of the Gospel, besides many in these and other important positions, and thousands in the various walks of useful life of whom he has not been able to keep an exact record. Besides teaching he has been for many years a minister in the Presbyterian Church, but without compensation and without a designated pastoral charge.

In his habits he has always been remarkably temperate—not only in never using tobacco or ardent spirits, but in *eating*; believing that as many shorten their lives by excessive indulgence in food as in strong drink. Consequently, he has always made it a rule of his life to leave the table with nearly as good an appetite as he had on coming to it. He has been accustomed to retire and rise early, and was in the habit of walking until very lately from one to three or four miles daily—being able to make a mile in eighteen minutes when ninety-eight. He has walked twenty miles in one day since he was eighty-four.

His memory, even of recent events and books, is wonderful, and having been all his life a diligent reader and student, he is almost a walking encyclopedia. Un-

like most aged people, he lives as much in the present as in the past, taking a lively interest in passing occurrences. He has a son, Dr. Charles Taylor, who is a prominent minister of the Methodist Church, now about sixty-five years of age.

The autograph set under Dr. Taylor's portrait is engraved from the signature to a letter sent by this venerable man to Mrs. C. F. Wells on the 3d of January last.

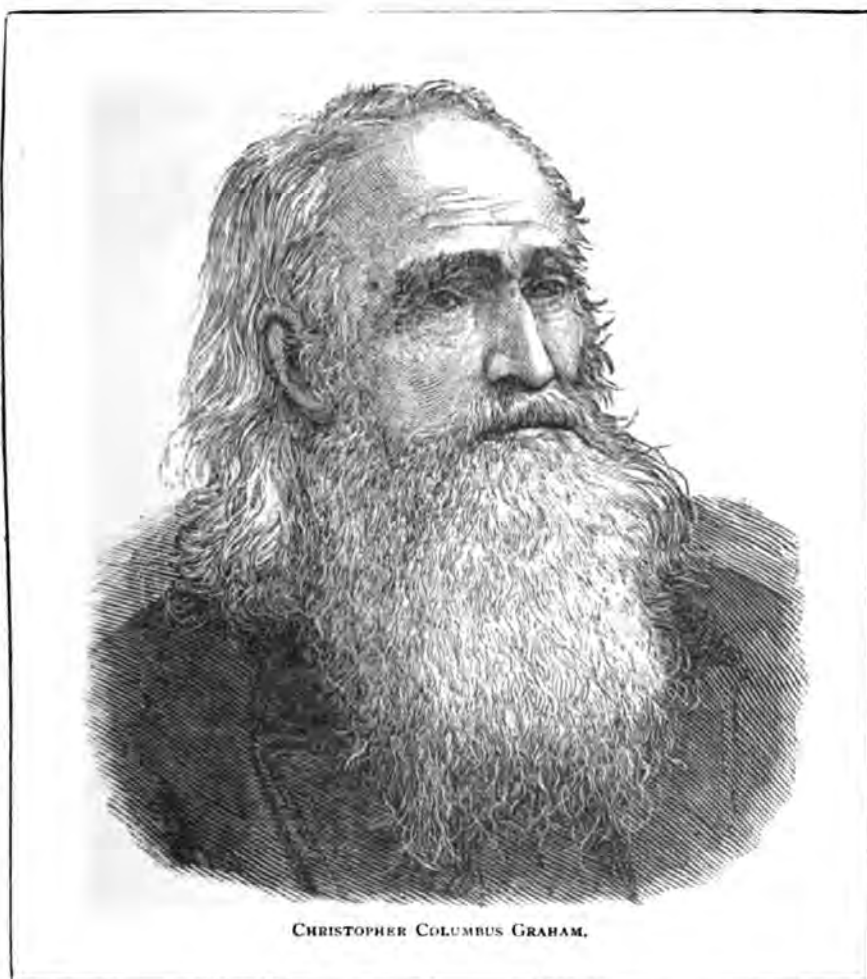
CHRISTOPHER COLUMBUS GRAHAM, the third of our small group of centenarians, is a well-known citizen of Louisville, Ky., where he has lived many years. His hundredth birthday was celebrated in October last, when his fellow-citizens honored him by a public banquet, his health and vigor permitting him to take part in the exercises. In a report of the affair, the *Courier-Journal* thus sketches the gentleman:

"Our citizens have shown their good taste, and good heart as well, in thus publicly recognizing the centennial anniversary of Dr. Graham. In thus honoring their oldest citizen, they honor themselves and their pioneer ancestry. Dr. Graham is a connecting link in the golden chain that binds the present generation to the founders of our city and our State. He is older than the Commonwealth of Kentucky, and older than the Government of the United States. None of our citizens born in the year 1784, except him, now remain among us. And it is not his age alone that distinguishes him from other men. Through his long length of years runs a moral that demands our admiration and invites our imitation. The fine constitution he inherited from his parents was never abused by dissipation or excesses of any kind, and hence he is among us to-day not borne down by the weight of a hundred years. Having been successful as a hunter, as an artisan, as a soldier, as a physician, as a landlord, as an author, as a scientist, and as a public-spirited and progressive citizen, he has much to be proud of when he glances at the hundredth mile-stone and looks back upon

the ninety-and-nine he has passed in the journey of life."

As we consider the features of these three veterans who have so far exceeded the limit of the Psalmist in the voyage of life, we must note the marked differences in their temperaments. The venerable Hebrew well displays the vigor and te-

excesses. The store of vital force that was theirs in youth was not drained or dissipated by irregularity or over-exertion, but rather added to and conserved as the years passed by. We occasionally hear some old man mentioned as given to habits that are declared pernicious in their effects upon mind and body, but we have



CHRISTOPHER COLUMBUS GRAHAM.

nacity for which his race is peculiarly distinguished, while we do not see in the Americans much more than a fair endowment of constitutional robustness, such as any well-born American receives from his parents. Their lives have been exceptional, however, in the regard of self-regulation; they have lived carefully, temperately, and deliberately—avoiding

yet to meet the centenarian who was a debauchee in early life. Hence the lesson is an admirable one that these three patriarchs read us—that length of days comes of a calm, industrious, useful life—and that even the great span of a hundred years will not render a man necessarily incapable of doing good service to the world.

EDITOR.

ORGANIC CEREBRATION.—No. 8.

THE PERCEPTIVE ORGANS.

THE organs of Perception are located above the eyes, and occupy in the brain the convolutions of the base and anterior part of the frontal lobe, and constitute about one-third of the depth of the forehead, beginning at the arch of the eye. These bring us into relation with the external world, and enable us to recognize the conditions and qualities and peculiarities of matter.

and distinct from other things which we can see, feel, conceive, or imagine.

Those in whom this quality is strongly marked, are quick to notice everything that is presented to the eye; and it goes farther, and enables us to recognize that which we touch or sounds that we hear. The rattling strokes of a drum are distinct noises, and each is an individuality.



PERCEPTIVE ORGANS LARGE.—SIR JOHN A. MACDONALD.

INDIVIDUALITY.

This organ takes cognizance of things as things, without any regard to their form, density, magnitude, or color. If one takes up a handful of pebbles and sand, each grain of sand and each pebble is an individual thing apart from all other things. It has been said that Individuality recognizes the "thingness of things," the quality of being something, no matter what, whether a grape, or leaf, a twig, an insect, an ox; it is a something separate

There are those who seem desirous to see a great many things, and do not stop long to study the nature and quality of things they observe. For instance, if there are many pictures on a wall, they are to such persons so many individualities, whether portraits or flowers or animals or landscapes or insects; and we have seen persons go from one end of a room to another, thus filled with pictures, and apparently not study any one, except to see that it was not the one they had just before seen.

In travelling, a person with large Individuality desires to sit by the window, and will thus sit all day to see rocks and



FORM, SIZE, ETC., LARGE.—HARRIET HOSMER.

stones and trees and cattle and the same things repeated. To a person of artistic taste, the scenes that are thus devoured by the mere observer are regarded as well for their beauty. Occasionally an artistic person will see a vista, a natural picture, that would look well on canvas; he sees combinations of beauty, but a mere observer might think it uninteresting. A child will pick up chips and bits of cloth and buttons and pebbles and have a basketful of those (to him) precious things, without doing more than to pass them over and look at each one without any apparent study of its uses or qualities; he would call the collection "A mess of things."

This faculty co-operates with others in calling attention to that which may be beautiful or valuable or useful. An uncut diamond and a bit of quartz in a heap of sand might look very much alike, and Individuality would see the two as things without regard to their relative or real value; but if other faculties of this group were to study the qualities belonging to the observed articles, new and beautiful recognitions of quality might be seen.

FORM.

Form is located between the eyeballs, and, when it is large, pushes them asun-

der; in anatomical parlance, it is in a convolution of brain, located on each side of the "crista galli," on the plate of the ethmoid bone, directly back of the nose, and the width between the eyes is the indication of its development. Everything has Form, and that is the second quality which we recognize. First, that the thing exists; this comes from the faculty of Individuality. Form next considers it, and it is of *some* shape. No two grains of sand will be found of the same shape; no two leaves on a spray are of such shape as to be identical; hence the faculty of Form recognizes the difference.

This faculty remembers countenances. It aids in drawing, copying, sketching, shaping things by the eye. Persons who are cutters of clothing or boots, or who are skilled in ornamental decoration, need this faculty. Form can be wrought out by rule; we can strike a circle with a compass; we can make a square, triangle, oblong, or a cylinder with instruments; but whatever the form, this faculty judges it, and aids in the production of it, especially if it is done without instruments. The man who takes a piece of chalk at the blackboard and tries to draw a circle, will see that he has more or less facility. Some would draw a circle almost equal to instruments. Let a man try to make a square or triangle without measuring,



COLOR LARGE.—GEO. INNESS.

and he will see his facility or lack of it. In penmanship, as in other kinds of drawing, Form is useful.

SIZE.

The next organ out toward the external angle of the eyebrow is the organ of Size, which enables the observer to measure magnitude and distance. Two articles may be of the same form, yet of very different size. In sportsmen's shot we have a birdshot and a buckshot, and grades running all the way through. The form of each satisfies the faculty of Form, but the faculty of Size is required to detect the difference between the larger and the smaller to the lowest grade.

WEIGHT.

The next organ is Weight, which is located above the inner part of the eyeball, across the ridge of the brow, rising somewhat above it. This enables us to recognize the law of gravitation, as it acts upon objects which we lift, or as it acts upon our own persons. The design of the faculty seems to be primarily to aid us to keep our own balance, and in perceiving and obeying the law of gravitation. Those in whom it is best developed walk with less surging, with more grace, and a better balance; they dance with more ease, they work at anything with more harmony and a better adjustment of force than those in whom the organ is less developed. In the process of intoxication, the faculty of Weight seems to be chiefly disturbed. Men sometimes see double, it is said; that is, doubtless, a disturbance of the organ of Individuality. Men who are expert in handling a rifle, or who can play billiards with skill, or balance on horseback, or on the trapeze or the tight or slack rope, must be prominent in this faculty. Blondin, who crossed the Niagara river on a rope, had the organ very large, and it was noticeable in his photograph.

COLOR.

Color is located on the brow almost directly above the eyeball, or of the outer half of the eyeball, and gives an upward and forward arching of the brows. Those in whom it is large and active experience

great pleasure in studying colors, and are adapted to become colorists as painters or dyers, and know when the right shade is attained. Persons who are in variety stores, and those who are engaged in millinery or in the manufacture or sale of dress goods, should have the organ large. The world of beauty, as evinced through the myriad shades of color, is rich in its manifestations of enjoyment to those who have the organ large.

In our large public parks the landscape gardeners have studied and arranged the mere color (green) in the foliage of the trees in such a way that a man can stand at one end of a drive and have twenty-five or thirty shades of green under the eye at once. There will be trees, the dark shade of whose green borders on the black, as seen contrasted with the very light green of another tree; so all imaginable shades of green are thus represented, and in driving for miles hardly two shades of green can be seen alike at a given sweep of the eye. Then the realm of flowers and fruits and shells and the plumage of birds opens a world of enjoyment to the one who is well endowed with Color.

ORDER.

Order is the next organ in the range, and almost explains itself; its very name tells what it is for, and those who have it well-developed will feel and appreciate it without remark.

There is as much difference in people in respect to order as in respect to color. Some people are satisfied to have everything mixed; all they want to know is that the article is in the drawer or bag or basket, and they will mine for it; another one will have all things fixed—a place for each thing, and expect to find it there.

A venerable gentleman of Philadelphia whom we knew, named Townsend Sharpless, was a merchant, but he had a tool shop where implements were kept, and he arranged them according to his idea of propriety, had them hung on the walls so as to occupy all the space, and then he

employed a painter to paint the form of each tool as its shadow would be cast on the wall when it was hung in its proper place—then, no matter who took down a tool, he would always know by the picture of it where to hang it when returned.

Those in whom this is well developed can find their books in the library, their dishes in the pantry, their things in the drawer, and if called suddenly in the night-time, will go to any drawer or pantry, and with very little trouble lay their hand on the article required. They have a systematic way of laying off their clothes at night; always do it in the same manner, and put them in the same places. In short, everything they do is systemized, and people learn what their custom and rule is, and do not need to violate it, to the annoyance of the master or mistress or friends. We know persons who, if another came to their desk in their absence and took a pen, an eraser, a paper-knife, or a bottle of gum for a minute's use and purposely tried to put it back the same as it was found, would know on returning that it was not put just where and how it was kept.

If the faculty of Order were abrogated in a whole community, as it seems sometimes to be in one person, it would make a great disturbance; and when we think of the wonderful order that is kept in nature, especially in the motions of the planetary world, it would seem that "order is Heaven's first law" indeed.

CALCULATION.

Calculation relates to numbers or to numerical calculation—it is the multiplication of individualities. A handful of sand is recognized by Individuality as being a congregation of units, and Calculation undertakes the process of numerating the units and finding out the number; discerns that two are more than one, and three more than two, and so on to the end; it is an element, of course, in accounts, and the basis of the great science of mathematics.

Some people are counting constantly. We have just received a letter, in which

a lady is decribed as having a mania—at least, a persistent habit of counting things; but she counts five, and then five more, and asks how she can get rid of the tendency. There are others besides her who have a passion for numeration. We knew a lady who counted the stitches of a whole evening's knitting; she could not knit without counting the stitches, or felt lost if she did not. Others count the steps from one place to another.



ORDER AND CALCULATION LARGE.—RICHELIEU.

One man would say it is four hundred or eight hundred steps from the house of A. to that of B.; another counts the steps that enter a house, or that go from one story to another, and knows every flight of stairs in the house in respect to its numbers, and also the numbers pertaining to the stairs of neighbors' houses. Another will count his inspirations of breath in walking or riding from one place to another place. Numbering the times that we step or breathe seems to cut the distance up or shorten it.

NELSON SIZER.

"WHAT shall I do to be forever known?"

Thy duty ever.

This did full many who yet sleep unknown.

Oh, never, never!

Think'st thou perchance that they remain unknown

Whom thou know'st not?

By angel trumps in heaven their praise is blown;
Divine their lot.

—Schiller.

THE CHRISTIAN RELIGION.—III.

ITS HISTORY AND DIVISIONS.

THE ROMAN CATHOLIC CHURCH.

LET us look for a moment at the condition of Christianity at the beginning of the fifth century, when its supremacy as a religion was acknowledged by the Roman Emperor and the Roman Catholic Church was established, and compare it with what it was when the doctrines held by various Jewish sects had all been put aside, and no belief but that in the Lord Jesus Christ was demanded of those desirous of becoming His followers. At this time we find it spread over the whole Roman Empire, and much changed from its original simplicity. Compromises of all kinds had been made. We have seen how the Platonic doctrine of the *Logos* was accepted by leaders among the Christians, and became one of the chief points of their theology. So in like manner came from Egypt the doctrine of the Trinity, so warmly and successfully supported and promulgated by Athanasius, and the worship of the Virgin Mary in place of that of Isis. From Persia came the Magian idea of the two principles—one good, the other evil—that are at constant war; from Greece numerous parts of her Mythology, and from Rome the introduction of Pagan rites and ceremonies; so that, at the time of which we write, the Christian Church, as we have said, had come to differ much from its original status. To go no further back than the time when Tertullian wrote his “Apology or defence of the Christians against the accusations of the Gentiles,” about the year 200, we find much less variation from the original Church than is afterward seen. Tertullian accepted the doctrine of the Deity of Jesus, and of a literal hell, to the eternal flames of which the wicked were consigned; the existence of Satan and his host of devils, who had power over all mundane things; but as to many prominent points of belief that were afterward entertained, he is

silent, and the inference is they had not then been accepted by Christians.

The amalgamation of Christianity and Paganism may be accounted for from the fact that many of the leaders of the Church were too desirous of extending its nominal membership, even at the cost of sacrificing some of its principles, while the government desired, for its own peace and tranquillity, to harmonize the differences between Christianity and Paganism, so far as possible, without particular regard to the merits of either. It has been said, in excuse for some of the Christian leaders, that possibly they admitted heresies with the full knowledge of their errors, believing that the truths of their religion would finally surmount and overcome all errors of whatever nature, and that in the end pure religion, and undefiled, would be established throughout the world.

But whatever the reason, the result is apparent. The beginning of the fifth century found the Church full of forms, ceremonies, and beliefs, many of which are traceable directly to Paganism, while others had their genesis in the imagination of their introducers. The original basis of Christianity had been departed from, and error was rife.

It is at this time that we begin the history of the Roman Catholic Church. We find its centres of authority vested in the Bishop of Rome, who, toward the end of the fifth century, took the title of Pope, to whose decisions all other ecclesiastics were compelled to submit. The lesser clergy, exalted in their own opinions by the position of their superiors, demanded rights and privileges formerly given to other ancient priests of all religions. As the power of the State was diminished by the encroachment of neighboring tribes of barbarians, that of the Church, relieved of the weight of political authority, rose, while at the same time its moral and spiritual standard fell, and

strictness of discipline was relaxed. The Scriptures ceased to be the only rule of faith, and the writings of the "fathers," so called, were referred to as authority; and as these writings were the records of those who had been educated in various schools of philosophy and held various beliefs, it is no wonder that many doctrines of which the early Christians had never heard, became engrafted on the creed of the Church.

This state of affairs prevailed for centuries; and while the world was undergoing important changes, Christianity, hampered as it was, made constant growth. Popes had been subordinate in temporal power to Emperors, but they became the governors of Europe; and although often steeped in ignorance and even vice, such was the power they had over the masses that none dared to protest against their edicts.

But notwithstanding the vices of the clergy, they were persistent and indefatigable in spreading their doctrines and sending missionaries all over the then known world, who carried with them the seed of truth, although more or less affected with error. They invaded India and China in the east, and Gaul and Britain in the west, and wherever they went left results of their labors.

In the seventh century arose in Arabia a new and powerful adversary. Mahomet proclaimed that he was sent to overthrow error, and to assert and maintain the doctrines taught in the Scriptures that there was but one God. Of this new religion we will only say, that from that time to the present it has proved an obstacle in the way of Christianity, in magnitude second to none.

The eighth century witnessed the rise of Charlemagne, who used the name of religion to aid him in his ambitious designs. By his influence he enlarged the dominions of the Church and increased the power of the priesthood. The same era is noted for the great wealth that was bestowed upon the Church and its officers. This only served, as possession of riches usually does, to awaken desire for

more; and many were the devices adopted to increase them, all tending to lower the state of morality.

In the ninth century we find the power of the Pope immensely increased. Up to this time he had been elected by the clergy and people at Rome, and the approbation of the Emperor was necessary to confirm it, but now the Emperor was not consulted. Contrariwise, Emperor Charles the Bold, in 875, relinquished all right of jurisdiction over Rome and its territory, and thereafter the Roman Pontiff was an active, if not sometimes the supreme, power in the appointment of temporal princes.

At this time, also, there was a marked change in ecclesiastical power, that of the bishops and other clergy, and of councils being diminished and that of the Pope increased. It was in this century that fierce discussions arose relative to transubstantiation and predestination, and the difficulties between the Roman Pontiff and him of Constantinople were renewed, to cease only with the severance of the Eastern and Western Churches. The worship of Saints was extended, and the Pagan customs of trial of accused persons by fire, water, single combat, etc., were admitted.

The tenth century found the world shrouded in ignorance and darkness. The Christian Church everywhere had become so pervaded with error, its priesthood or clergy so given to vice and selfish indulgences, and its professed believers and adherents so far astray from the simple teaching of Christ and His disciples, that the light seems to have almost gone out. Image-worship was rife among both Greeks and Latins, and superstition in all its forms was rampant. So weak had the power of the Pope become that he lost influence over the temporal princes, and it was not until the beginning of the eleventh century that this power was regained. Then Hildebrand, afterward Pope Gregory VII., a man of lofty character, and above everything low, gross, and sensual, determined to raise the Church from the degradation to which it had sunk.

His love of power was as great as his hatred of vice; and although he was not entirely successful in his contests with temporal authorities, he laid the foundations on which his successors built.

In the eleventh century the holy wars, or crusades, were waged with the ostensible purpose of wresting the Holy Land from the dominion of the Mahometans—wars that served to derange society, decimate and impoverish nearly the whole of Europe, and render lawless the hordes that in the name of religion committed robberies, murders, and other crimes with impunity.

In the meantime the wealth of churches and monasteries was augmented, and the power and greatness of the Pontiff greatly advanced. This century is also noted for the secession from the See of Rome of the Eastern Churches, comprising what was afterward known as the Greek Church, of which we shall speak under that head.

From this time to the Reformation the history of the Roman Catholic Church is but little more than a record of its contests with the temporal authority; and since that time, notwithstanding its immense wealth and the multitude of its adherents, it has gradually lost its power. With the revival of letters, and the disposition of men of thought to act for themselves, its antagonists have risen on every side, the result of which has been to compel it to make many reforms within itself.

POINTS OF BELIEF.

A condensation of the doctrines of the Roman Catholics is contained in what is commonly known as the Creed of Pius V., in connection with certain rulings since his time, notably by Pius IX. It will be observed that as the decisions of a Pope, or of an Ecumenical Council, are held to be infallible, no change of them can ever be made without destroying the foundation on which the whole Church structure rests; and however faulty the premises on which they are based are proved to be, they can not be reconsidered. This accounts in a great measure

for the want of progress in this Church, and its conflict with the more recently discovered truths of both science and philosophy.

We have only space to note the leading points of belief. It would be interesting could we fix the times of, and the reasons for, their adoption; but the definite histories of some are lost, others were of gradual growth, and of many, if not most, we find the germ in other religions.

The Scriptures are received as the authoritative word of God, but their meaning is to be taken as construed by the Church, and the reading of them by the masses is not approved. The writings of the fathers, with the statements and doctrines therein contained, are also believed to be authoritative, and are received as such. The doctrine of the Trinity, as declared by the councils, is firmly held.

Original sin, committed by Adam and Eve, resulted in the estrangement of the whole human family from God, and making it prone to evil and easily overcome by temptation. Christ was sent, and made to take a human form and nature, that He might suffer and die as an atonement for this original sin, of which all are guilty, but from the effects of which all may, by virtue of this atonement and vicarious suffering, be saved. The benefit of this atonement is secured in the case of infants by baptism, but adults must repent and believe in its efficacy.

Personal sins are divided into mortal and venial, or greater and lesser, and are of both commission and omission. The desire to do evil is as sinful as the evil act. Punishments for sin may be eternal in a literal hell of fire, or temporary in purgatory. This purgatory is a place, state, or condition where souls designed for everlasting happiness are detained for a time to be purified or purged from imperfections that are inherent, and temporarily remain even after sin has been forgiven. The punishment in purgatory may be lessened and shortened by the influence of the prayers of the clergy and the sacrifice of the mass. Forgiveness of sin is promised to those who truly repent. Confes-

sion is required as a proof of repentance. Sorrow for sin may be contrition, a perfect sorrow, or contrition that arises mainly from a dread of consequences, and needs penance before pardon can be made. Forgiveness of sin belongs to God only, but Christ as God-man forgave sin, and authorized the apostles to do so, and through them comes the authority to bishops and priests. Sin is forgiven the dying penitent for whom the prayer of faith is offered, and to whom extreme unction is administered and hopefully received.

Penance was, in the first centuries, required of all who sinned, and is regarded by Protestants as only disciplinary, but by Catholics it is looked upon as expiation on the part of the penitent after forgiveness. The penance may be relaxed and the performance of good works imposed instead, and in lieu of such performance, money for charitable objects, or for the church, may be paid. Such relaxation is known as *indulgence*, and may be granted, in case of minor offences, by the bishop, by whom a portion only of the penitential work is relaxed and partial indulgence is granted; but only the Pope can remit the punishment of purgatory. Roman Catholics deny that indulgences, as promises of remission of sins that may thereafter be committed, are now given.

True worship is paid and prayers offered to God only, but inferior worship is given to Mary as "mother of God," and angels are honored as God's creatures in whom His perfections are reflected. Saints, and especially martyrs, are venerated for their virtues, and invocations to them and to Mary are made for their intercession. The cross, images, and relics are not worshipped, but used to awaken remembrances. The Pope is believed to be the successor of St. Peter, and vicar of Jesus Christ, from whom comes his authority, with power to transmit it to bishops, priests, and other clergy, whereby they are empowered to receive confessions, impose penance, declare the forgiveness of sins, and grant indulgences.

The decisions of the Pope on all ques-

tions of faith and morals are believed to be infallible.

Seven sacraments are held as necessary to salvation, although not all for every one, viz.: Baptism, Confirmation, the Eucharist, Holy Orders, Penance, Extreme Unction, and Matrimony. These sacraments are claimed to be rites instituted by Christ as a means of grace through which may be received the advantages of His sufferings and death if we desire them with a right mind.

Baptism. The administration of Baptism in the Christian Church has undergone much change. As now used by the Roman Catholics it may be classed as infant baptism, by means of which children of immature age become members of the body of Christ, and cleansed from the effects of original sin; and baptism of adults, which is administered only after repentance, confession, and absolution. Holy water, that is, water that has been blessed by a bishop or priest, is preferred for baptismal purposes, but other is used in emergencies. Although baptism is usually administered by the clergy, laymen are permitted to do it in cases of necessity. Baptism is considered essential to salvation.

Confirmation is administered to such as have been baptized, after a sufficient lapse of time. The ceremony consists in the laying on of hands by a bishop, accompanied by prayer, or invocation of the Holy Spirit for power and strength to resist temptation and to lead a holy life. At Confirmation, those who have been baptized in infancy release their sponsors from responsibility and take upon themselves the vows and obligations made in their behalf. Confirmation is required before partaking of the Lord's Supper.

The Eucharist is the chief sacrament, and must be received only by those whose hearts are cleansed from sin. This is the service known in other denominations as Communion, or Lord's Supper, and is believed to have had its origin at the last supper of which Jesus partook with His disciples.

The Roman Catholics believe that in

some miraculous way the bread used is changed into the veritable body of Christ, and the wine into His blood. The administration of this sacrament is known as mass, and is celebrated with great pomp and ceremony, and is held to be a sacrifice in which Christ is the victim as He was on the cross, the partakers being sanctified through His atoning merits.

Holy Orders is a sacrament by which consecration is supposed to be conferred on those set apart for religious services.

Of *Penance* we have spoken above.

Extreme Unction. Unction, or the anointing of the body with oil, finds place in the religious ceremonies of many nations. The sacrament known by the Catholic Church as Extreme Unction is administered only to those believed to be near death. The oil used must have been blessed by a bishop, and is applied in the form of a cross to the eyes, the nose, the mouth, the hands, and the feet, an appropriate prayer being recited at each application. This sacrament is supposed to impart strength both physical and spiritual to meet the last hour. To receive its full benefits, the recipient should have, after contrition, repentance, penance, and remission, been absolved from sin, but its administration is held to remit indirectly all sins not before remitted. The Council of Trent declared this sacrament to have been instituted by Christ, and quote as authority for such declaration, James v. 14, 15.

Matrimony. The union of the sexes in marriage is among the oldest institutions of society, but before the eleventh century it was considered as a civil contract only. In 1085, Hildebrand, Pope Gregory VII., declared it to be a sacrament of the Church, and notwithstanding the universality of civil law to the contrary, no marriage is now recognized by the Roman Catholic Church that is not solemnized by its clergy.

The rites and ceremonies of the Church are various and imposing. Many have been taken from the customs of Egypt and Oriental nations, to which have been made such additions from time to time

as the ingenuity of the priesthood has invented to meet various cases. Such or like ceremonies have always been used for the purpose of conveying instruction by images, actions, signs, and emblems, to the unreflecting multitude, who with difficulty receive abstract truth, and who are often taught more readily and effectually through the eye than through the ear, by means that have been fittingly termed the object-lessons of religion.

Fast days, feast days, and holy days are numerous, and must be observed by all, who otherwise pay the penalty for omission.

Forms of worship are varied and adapted to different understandings; some make direct prayer to God, others repeat what has been written for them. The devotee who counts her beads, those who make the sign of the cross at certain times, in short, all who obey the requirements of the Church in whatever way, so they give expression to religious feelings, join in worship, and none may omit at least the semblance of it.

As regards civil government, the Roman Catholic Church, at the present time, takes no active part and makes no effort to recover the control in temporal affairs it once had. Her instructions to her children are, in the main, to support the law and order that obtains in the countries where they reside, but the welfare of the Church must be their constant end and aim. As a system of government, so far as concerns itself, this Church has no parallel. It is complete in organization and powerful in its executive functions, although, in some cases, for what doubtless appear good reasons, the same rules are not applied in all sections; as, for instance, that regarding the marriage of the clergy, which, while prohibited generally, is allowed in the Eastern countries. These are, however, exceptions; as we have said, in completeness of organization and perfection of executive function, it stands foremost. Whatever it undertakes to do it does thoroughly, and everywhere in the world sets an example that other governments would do well to follow, in that

it fills all places with those best fitted for them by natural organization, education, and training.

If in this brief sketch I shall have incited any to further research, my end will have been accomplished. The field is a wide one, and time can be worse spent than in becoming fully acquainted with the doctrines, faiths, beliefs, and cere-

monies of a Church to which so large a proportion of our fellow-citizens give their adherence.

In a subsequent article I shall consider the Greek Church, its separation from the Roman, and the principal points of difference between them; after which the Anglican, or English Church, so called, will receive attention. L. A. ROBERTS.

FACE-TYPES AND IMPRESSIONS.

AN English writer in the *Journal of Science* thus speculates upon common opinion regarding the relations of facial physiognomy in classes and individuals:

"Some say the national face does not change; its apparent differences being the result of fashion—costume, hat, hair, etc. For my part, it seems that the history of each age is painted on the faces of its people. Parents would seem generally to anticipate (or form) in fancy the realities of their offspring—probably unknowingly. I have on several occasions been struck by odd faces here and there which belonged to a past age. Some will, of course, smile at this. Once, *e.g.*, at a sham parliament in a Cheshire town, I saw an exact reproduction of the face (as generally represented) of the Georgian epoch of English history. The high cheeks, the ruddy skin, particularly the wide, low forehead with its distinctive depression (almost) in the middle of the forehead where the head curves downward, the broad face, the peculiar 'look,' etc.

"The face of Charles I. suggests his artistic taste, his theological thoughtfulness (so general then), and a proud indifference to vulgar rowdyism. He was to his age what 'Farmer George' was to his, and the Prince of Wales is to his—types thereof; the men thereof bearing one of its varied educations, but the same generally under each disguise.

"It would be a long subject to discuss the features of the different ages in English history and speculate upon them, and

perhaps foreign to this journal. It is this feeling we have, this recognition of a fact that hurts our fancies to see an ugly artist, a handsome slave, and sometimes to wonder at the beautiful eyes some of our domestic animals possess. We find an innate pleasure in gazing on a handsome face.

"The above causes no doubt have lent a diversity to the face of woman, which reacts on the man. The favorite type is 'married up' in excess of others and effectually impressed on the race. To this we may trace probably the widely diverged races of men—the Mongol, the Negro, the European, etc. The transmission of the family likeness, paternally and maternally, is interesting to reflect on. . . . It is remarkable that the eldest child seems very often to retain the strongest family likeness. But the strong likeness of brothers and sisters is an argument against it. Perhaps this is largely owing to their catching each other's expressions of countenance, and this again explaining why the 'younger end' often differ so decidedly from their elders—lack of association. This same thing applies to nations. Hence the force of the child's remark, 'All Frenchmen seem to grin alike'—a national contortion.

"One would like to have seen the face of the Persians, who made it part of their education to 'speak the truth.' Was the Spartan stern in aspect who lived for his country's good? Was Deborah a Jewess in her look? Can we not read Byron's poetry in his face, and the heaviness of pondering judgments in Hallam's? Do you doubt,

as you look at Nero's face, that he could fiddle while Rome burnt? And so on.

A man's mind shines out of his countenance; the face in repose or unanimated is the generality of that individual's mind.

And so we turn to look on the faces around us to-day. Are not the majority mere livers—mere nonentities? These will not remain in history, but they will form the nation's destiny!"

VEGETABLE TISSUES.

TEXTILE FABRIC FIBRE.

IN the early history of the human race, the first feeble utterances of civilization were unrecorded and unnoted. Man probably sought to improve his physical condition long before a chronicler had arisen to tell of his efforts. It is exceedingly difficult to travel back to the beginning of the olden commonwealths.



LINUM—FLAX.

There are no finger-boards to point us to the *where* and *when* the arts and their varied outgrowing industries began. Striving hands had become accustomed to failures long before the first successes were attained. The wants of the race increased in a corresponding ratio with the increasing numbers. It is certain that the *bast* fibres of plants were separated from their integuments, and the rude distaff and ruder loom spun them into thread and wrought woven fabrics long before a historian arose to fix a date or to record the work.

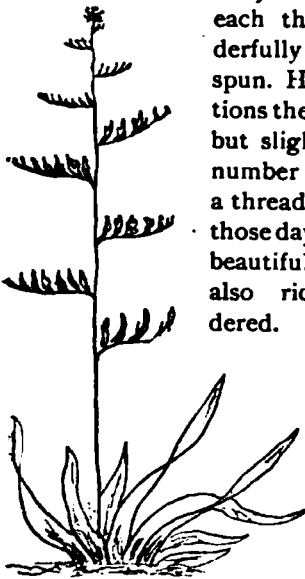
The nations of the stone and bronze ages possessed a rude method of spinning and weaving, and they used the same plant fibres which furnish material for the woven fabrics of the present time. The white bolls of the cotton flecked the plains

from India to the Mediterranean, and the blue flax fields, the palm, and the aloe flourished, giving to man their varied products of floral beauty, of fruit and of fibre, when, as yet, no scribe had written or bard had sung. It is only by comparison that even an approximate estimate of the period in which flax tissues were first fashioned into cloth fabrics can be made. The bronze age certainly antedates the Christian era by a thousand years, and linen cloth is among the relics of that early period. In favoring conditions the flax fibre is almost indestructible.

The order Linnaceæ includes about one hundred and fifty known species, all of which possess strong *bast* fibres. The *bast* fibres differ from the woody tissues in being more flexible, of greater length, and susceptible of more extreme attenuation; hence their adaptability to processes of separation and manipulation into the various textile fabrics. *Linum usitatissimum*, or the common flax, has a long and fine fibre, with fine needle-like ends. Having been in use from prehistoric times, its native country is not known. Probably it existed in different portions of the earth adapted to its growth and preservation. While its cheerful beauties attracted the wandering nomad, the tough and unyielding stem revealed to him the strong and pliant tissues contained therein. The changing seasons called for lighter clothing during the summer-time than the furry robes the skins of beasts provided, and man taught himself to utilize plant fibres even in the ages when iron and its multitudinous uses yet lay hidden in its native and unwrought ores.

In Genesis we read that Pharaoh clothed Joseph in a fine linen garment, such as kings wore. According to Pliny

about 550 B.C. King Amasis sent to the shrine of Minerva, at Lindus, a linen corselet composed of three hundred and sixty-five strands to each thread, so wonderfully fine was it spun. Herodotus mentions the same corselet, but slightly varies the number of strands in a thread. The linen of those days was not only beautifully dyed, but also richly embroidered.



NEW ZEALAND FLAX.

The olden Egyptians perfectly understood the art of sending through all time the labors of their captives and slaves. The men reared pyramids and quarried out catacombs, and the women wrought fabrics from the flax fibres to infold the inmates of those tombs, interweaving the humble flax plant with that grand old past. No Egyptian lady is ever pictured on the monuments of the Nile as twirling the distaff, or seated at her loom, as was the custom of the Greeks. Spinning and weaving were the labors of slaves only.

Buried in the marginal beds of the Swiss lakes is the history of a people, the title-page of which has not yet been deciphered, yet linen cloth was the first relic found that pointed to the industries of that people. In the history of our own land, flax figures as an early product of colonial days. It was cultivated in Massachusetts as early as 1629-30, and a decade later, Connecticut, famed for its local legislation, ordered every family in the colony to sow a patch of flax, in order to preserve the seed.

COTTON.

Equal in value, and perhaps coeval in use with the bast fibres of the flax, are the

capsular tissues of a member of the mallows family, for here, nestled in the seed-vessels of the *Gossypium herbaceum*, a handsome plant of the order *Malvaceæ*, we find the substance known as *cotton*. This vegetable product is native in India and other eastern countries. The word *cotton* is derived from the Arabic, *Kotan*, and the plant was once produced plentifully on the plains of Asia Minor. The Chinese have used cotton through all historic time, but in a manner essentially Chinese, and with but little perceptible advancement. The cultivation of cotton in upper Egypt certainly extends back to the time of Pliny, and even then the priests wore garments of cotton material. The closest microscopic examinations have proven that the mummy coverings are of linen, and as cotton is not represented on the old sculptures of the Nile countries, these facts indicate that the manufacture of cotton followed, instead of being coeval with that of linen, in the land of the Pharaohs. Cotton is also an olden product of the western world. The ancient Aztecs spun and wove cotton, imparting to their fabrics beautiful metallic tints of a peculiar brilliancy, by the use of mordants, now unknown. The art of

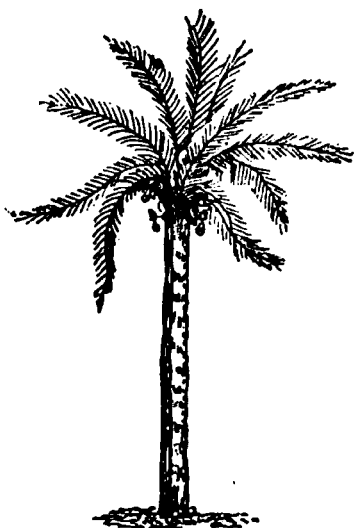


GOSSYPIMUM—COTTON.

compounding these dyes was lost with the people.

In the area of the United States cotton

has been grown only since the settlement of the country by the Europeans, or less than four hundred years, and at the present time the cotton product is claimed to equal that of any cultivated plant in the land. Cotton fibres consist of one-celled simple hairs, greatly elongated, which are formed in countless numbers on the seed coats. When dried, these hairs become bent and twisted, which peculiarly facilitates their manufacture. It is unknown what tribe or people first sought in the soft white covering of the cotton seed's material to supply the need of clothing. From the Ganges to the Nile, and thence



COCOA-NUT PALM.

to the Pillars of Hercules, the cotton fields waved in beauty from the earliest historic times. It is very probable the uses of the cotton boll were known to the antediluvian race.

The family of which this plant is the most distinguished potentate has many other members of more than a local celebrity. A remote relative, a species of *Hibiscus*, was prized for its bast fibres by the aboriginal nations of the Western Continent; and the *Abutilon*, or American jute, produces another and much-used plant tissue. The last named is one of the best bast fibres of the Middle States. All the members of the mallows family yield strong, pliant fibres.

The cotton plant possesses a valuable fibre of the stalk as well as the capsular coverings of the seed. The last named is the most available, and the one can not be used without the sacrifice of the other, owing to the fact that the respective fibres are perfected at different periods in the growth of the plant.

The Leguminous family, of which the garden vegetables pease and beans are well-known examples, has many members possessing fine fibre, and one variety was celebrated in the religious rites of orientalism. The Olunn hemp, the Sana of the East, was the material of which cords used in sacrificial rites were always made. The fibres were macerated for a long time to loosen the integuments, after which they were cleansed and combed with the fingers before being bundled for market.

The *Asclepiads*, or silk-weeds, are famed fibre plants. A species, the Indian *Yercum*, affords the strongest known material for tiger-nets. The natives prepare the tissues with their hands and teeth, and it is known as the Hindoo Muddah. Nearly allied to this is the bow-string creeper, which inhabits the barren hills of India. Its name signifies its use among the mountain dwellers. It is also made into fish nets, and these are not injured by remaining in the water.

Each separate zone furnishes some plants for man to use for twisted and textile fabrics, as well as for their fruit and floral products; and it is a curious study to trace out the means by which the untutored nations arrived at a knowledge of their uses. The Swedish fishermen twist the fibres of the Linden tree into nets and seines, and the Maloo creeper of the Himalayas is formed into bridges to cross the rapid mountain streams. South America abounds in climbers of prodigious toughness and flexibility, and the natives use them for cords and cables, and the northern Indians make lines and baskets of plant tissues.

Jute, long used by the East Indians for gunny-sacks and mats, and recently by the western nations for upholstery goods, is the product of an East India annual,

the *Corchorus capsularis*. The word *jute* signifies "*entangled*," from the appearance of the fibre. The Bengalese call the native cloth, *megila*. This plant is cultivated in Egypt and Syria as a pot-herb, known as the Jew's mallows. India alone produces over sixty varieties of jute. These fibres are like cotton and flax, suitable for manufacturing all grades of spun and woven fabrics, from the finest tissues to coarse mats and baskets.

Many varieties of plant fibres are only used to a limited extent by the natives of the countries where they grow, and this is especially true of the tissue-products of slow-growing trees, and the extraction of the fibre is a vital question concerning their economic uses. Some important tissues, as those of the manilla hemp, are entirely hand-prepared, and therefore could not be successfully cultivated in lands where labor is held at more than a nominal price. Machinery has not yet perfectly succeeded in separating the bast fibres of exogenous plants. The ramie and jute fibres are still divided from their integuments by laborious hand processes in the lands of their nativity, and there the labor is generally performed by women. Endogenous, or inside-growers, are more easily prepared than those formed by outside layers, and therefore more fibre of these is prepared by hand in the lands which produce them.

THE PALM.

In gathering up the varied properties of plants, whether of beauty or utility, the Palm family must never be overlooked. There is nothing needful for the peoples who dwell in the land of the

palm, either for the necessities or pleasures of life, that the palmaceæ refuse to supply. Besides their useful and delicious fruits, they all hold within their integuments valuable fibre, which is made use of to a greater or less degree, varying with the needs of the natives and their skill in preparing the tissues. When the Dutch possessed Ceylon, one item of the product of a single cocoanut palm forest was three million pounds of coir rope annually from the fibres alone.

But it is impossible to even name the textile fibre plants spread out everywhere for the use of man. Low down in the vegetable ranks, among the sedges and rushes, we still find pith and fibre yielding their humble offerings for the human race. The Egyptian fellah twists his ropes and weaves his mats from the lowly products of the Nile banks; and the English peasant ekes out the day with a farthing rush-light, the pith of this river weed being used for the wicks of the cheapest candles.

Wherever man has made his abode the beneficent Creator has placed a grade of vegetation suited to his needs, and but little art or knowledge is required to utilize their product. Civilization amplifies nature's bounties, and develops new productions which the untutored savage never dreamed of. By what arts the old world (prehistoric) fashioned the delicate fabrics they are known to have produced, we can not even conjecture.

The contents of the ancient tombs present to us visible proofs that the earliest nations attained to great eminence in the art of making textile fabrics, but the processes are lost in the æons of the past.

ANNIE E. COLE.

THE FAIREST PLACE.

FROM THE PERSIAN.

TELL me, gentle traveller, thou,
Who hast wandered far and wide,
Seen the sweetest roses blow
And the brightest rivers glide;
Say, of all thy eyes have seen,
Which the fairest land has been?

Lady, shall I tell thee where
Nature seems most blest and fair
Far above all climes beside?
'Tis where those we love abide,
And that little spot is blessed
Which the loved one's foot has pressed.

AMERICAN GIRLS

AS SEEN BY AN ENGLISH WOMAN.

WHEN Oscar Wilde returned from the United States he gave London the benefit of "his impressions," in a lecture delivered at Prince's Hall, in which he described the American girl as "the most fascinating little despot in the world; an oasis of picturesque unreasonableness in a dreadful desert of common sense."

Doubtless many maidens sat at the feet of the apostle of the sunflower, and yet subjected him to delightful tyrannies while pleading for "a smile of sad perfection" from the "purple-eyed poet." The other day I read a description of the American girl, which called her "champagne—glittering, foamy, bubbly, sweet, dry, tart, in a word, fizzy! She has not the dreamy, magical, murmury loveliness of the Italian, but there is a cosmopolitan combination which makes her a most attractive coquette, a sort of social catechism—full of answer and question."

There are, however, "girls and girls" in America as elsewhere, and perhaps more rarities than even England's representative æsthetic ever dreamt of can be found there. There are girls after the type of Miss Alcott's Joes and Dolly Wards, Bret Harte's Miggles and M'liss, and Mr. James' Daisy Miller. Indeed, I feel more and more bewildered as I try to think which should be taken as strictly typical—save the one

"So frankly free
So tender and so good to see,
Because she is so sweet."

In that connection my mind reverts to a bevy of fair girls in St. Louis, fresh from that characteristic American institution, "a young lady's lunch," from which parents and guardians had been rigidly excluded. Twenty maidens—none of them "love-sick," like Messrs. Gilbert and Sullivan's damsels, if I could judge by their buoyant spirits and ringing laughter—who, unfettered by the restraining presence of any one whose age ex-

ceeded their number, had enjoyed a real "elegant time," before they joined the pleasant circle bidden to welcome me at Mrs. Pulsifer's. Visions then arise of girl graduates engrossed in struggles for academic honors, with definite plans of "a future career" well mapped up-already; others flit before me who appeared only to live for dress and pleasure; whose chief anxiety was the preservation of delicate complexions by manifold artifices; whose meat and drink was the poisonous flattery always within the reach of the frivolous and the vain; whose most intellectual exercise was the discussion of dress trimmings, with equally idle *blasé* female friends, and whose most serious pursuits were flirtations accompanied by a thousand petty jealousies, mercenary matrimonial ambitions, and dime-novel reading. Then there are the girls who know everything, and talk on all subjects with equal volubility and incorrectness. I saw too the languid specimen, with pallid face and phantom delicacy of outline, who can not "walk a block" or pass a day without the aid of a rocking-chair, and a softly-cushioned sofa, supplemented by an afternoon's repose in her own chamber. There is the strait-laced New England girl, and the wild but good-hearted Western product, endowed with a healthy frame and muscles which beat time to the music of nature, but full of wayward fancies, and given to the use of strange words and phrases. Her existence is one never-ending round of sensational and mental shocks, which keep her in a nervous quiver, and allow no time for any quality save that of energy to develop itself symmetrically. But it did not seem to me that American young ladies are by any means fashioned after the same pattern as certain novelists would have Europeans imagine; nor can they be simply summed up as independent, self-reliant, intelligent, frank, bright, gener-

ous, or impulsive beings, who can go anywhere or do anything.

An American girl is happily not yet hampered by the arbitrary red-tape regulation which weighs down the souls of some of her less fortunate European sisters. Pleasant social intercourse with other girls' brothers is not fenced in with French or even English rigorous restrictions. She may receive an "afternoon call" from a gentleman without having gone through, or even thought of, the formality of a definite engagement to marry him. He asks at the door for her—not for her mother or chaperon—and she proceeds to the drawing-room for a *tête-à-tête* in the most natural matter-of-fact way possible. In some circles she still goes out driving or sleighing, or even to the theatre, with the young men of her acquaintance, without getting herself "talked about," or becoming the scandal of the neighborhood as she would for similar freedoms in Great Britain.

But the well-bred American girl does not act in the outrageous fashion, or enjoy the wild liberty painted in highly-colored pictures of life across the Atlantic. Gradually European etiquette has obtained a hold in the Great Republic, and in good society the girls of to-day do not go about with even the freedom they exhibited during my first visit ten years ago.

But I had a curious illustration of how such restrictions are sometimes regarded. A frank, manly specimen of a New England College man, who was home for a week's vacation, asked his mother, in my presence, for the loan of her brougham, if a certain young lady accompanied him on the following night to the theatre. "I shall not take her," he added with stern dignity, "if she has these new-fangled English notions of needing a chaperon." His mother afterward explained to me, that he still regarded the necessity of a chaperon as casting a direct suspicion on his behavior, and resented it accordingly.

Although greater liberty than English girls possess is still accorded in certain

American circles in the case of bachelor friends, a girl is not allowed by the unwritten law of society to go out alone with any married gentleman. While staying at the New York Hotel I was much amused at finding a girl, who had gone to the theatre a few nights previously with a young man to whom she had only been introduced the day before, show considerable surprise, mixed with a little righteous indignation, when an Englishman she knew very well asked her to accompany him to Wallack's in the place of his wife, who had "seen the play and did not care to go." To be escorted by a married man would be considered incorrect in New York, while the very reverse holds good with us in London; a married friend of the family, under such circumstances, might be admissible, but no English girl could go to a play alone with a bachelor, without affording food for unpleasant gossip, and outraging conventional propriety.

Certainly, outside the fast set in the cities, I believe there is no country which holds woman's honor more sacred than America. A girl's reputation is neither a matter to be talked about, nor guarded day by day by watchful mothers and chaperons. The happy medium course, in this as in most things, is what is required, and this perhaps neither country has as yet achieved. Prudish barriers lead to much misunderstanding in the one case, and in the other there is a freedom which can easily be distorted into license.

It seemed to me that American girls were more sprightly and far cleverer than boys of their own age, and many of them managed to take the lead without being pert, fast, or unfeminine; while wandering where their fancy took them in a manner which would make every separate hair on the head of the conventional English mother stand on end, they evinced a dignity and self-respect which surrounded them with a protection far more valuable than any which could be extended by parents and guardians.

I wonder what American girls would think of the woes just confided to me by

a young English friend I chanced to meet the other day. She is supposed to have "outraged propriety," because a young gentleman who is paying great attention to her, used to meet her in her walks and sometimes accompany her to her brother's door. She is considered old enough to keep his house, but the right of choosing her own friends is denied her, and accordingly she is forbidden to walk abroad under pain of being dismissed from her honorary position of house-keeper to a brother about the same age as herself! This is of course an exceptional case, almost approaching the French system of surveillance, which is as utterly wrong from beginning to end as any idea that ever took possession of a sagacious people. The continental idealization of angelic virtue does not compare with the English or American girl for either firmness of purpose or high principle. Nature revenges herself in morbid and unhealthy growths.

The rich American woman has undoubtedly "a good time," and I am prepared to maintain that, on the whole, America is a paradise for married women. I do not mean "that wives are pampered, or husbands put upon," far less that there are no such things as unhappy marriages and tyrannical husbands in the United States, but generally speaking a

chivalrous courtesy accords a wife far greater liberty of action than can be found in middle-class English families, and I do not think that American husbands have had any cause to regret it. Ladies who live in magnificent houses of course find their household cares reduced to a minimum, and they have absolute command over their own time, society, and amusements, while life in hotels deprives a wife of all domestic burdens, and sometimes acts in anything but a beneficial way; for instance, as there is no "family breakfast" to be arranged, the husband unheeded will forage for himself as he goes past the breakfast-room on his way to his office. I have sometimes seen several members of one family having meals at different times throughout the day—a great convenience for special occasions, but somewhat destructive of the family gathering we prize so much in England. "Going into housekeeping" is the strange phrase which continually meets one's ear in an American hotel, when a growing family or increasing banking balance suggests the establishment of a home. Young married couples generally begin their career in hotels, where they can obtain all they require on moderate terms, and escape that terrible "servant question."—*Emily Faithfull's "Three Visits to America."*

NATURE'S NOBLEMAN.

Room for a nobleman to pass !
In costly robes ? in trappings gay ?
A fop tricked out before the glass ?
No ; clad in sober gray,
A nobleman in *heart* is he,
With *mind* for his nobility.

His crest, a soul in virtue strong ;
His arms, a heart with candor bright,
Which gold bribes not to what is wrong,
Nor blinds to what is right ;
The patent of his courtly race—
Behold it in his open face !

He cringes not on those above,
Nor tramples on the worm below ;
Misfortunes can not cool his love,
Or flattery make it grow ;
Staunch to his friends in woe or weal
As is the magnet to the steel.

He envies not the deepest sage ;
He scoffs not at the meanest wight ;
And all the war that he doth wage
Is in the cause of right ;
For broad estate and waving land
He has the poor man's willing hand.

He is not rich, and yet, indeed,
Has wealth ; nor poor, has stock, though small :
Nor rich, he gives so much to need ;
Not poor, for on him fall
Such blessings from relieved distress,
To crown his path with happiness.

Room for a lord, ye truckling crew,
Who round earth's great ones fawn and whine :
Fall back ! and gaze on something new ;

A lord, at least, in *mind*—
That bravest work in Nature's plan,
An upright, independent man !

GEORGE ASPINWALL.

VINOTT,

OR PHRENOLOGICAL CULTURE.

THIS is no imaginary tale. Vinott is a real person, and tells his own story. The writer has known him from a boy. He is of German-Irish-English extraction. He came of a royal line of ancestors somewhat degenerated. Over forty years ago he came into life. His parents were poor, and his being was first cast among the rugged hills and picturesque scenery of the Keystone State. Father and mother were piously inclined, and gave something of that cast to the mind of the son. He knew want in his youth. His physical frame, strong from his hardy ancestors, was developed by a primitive life among the hills, with pure air, pure water, and simple, healthful diet, and the accustomed labor of the farm. His opportunities for early mental training were meagre indeed. The public school in its incipient state was his only chance. And teachers who could read and write and cipher to the "Rule of Three" were his preceptors. He read the New Testament, "The English Reader," and "Butler's Geography" all through, in school, but never recited a lesson in any of them. Some verses he committed as "Sunday tasks." He ciphered through three Arithmetics, and studied over the "Ter Parts of Speech" in Kirkham's Grammar. Besides some religious reading this was the sum of his knowledge at eighteen when he entered the teacher's profession.

His natural developments were not the best. He was of very sensitive nature, and became angry quite easily and violently. In these states he was almost reckless, till the impulse of the moment had passed. His head was long from the front backward; the anterior and posterior lobes of the brain were sharp and protuberant. The head was wide between the ears laterally. The top-head was not well developed. Veneration was low, Firmness high, Caution large, Combateness and Alimentiveness well developed.

Acquisitiveness was full, and the perceptive showed themselves in the protruding eyebrows. Conscientiousness was low, and reverence was not fully developed. He was disposed to be sceptical; while he would not bully an inferior, he took pride in breaking away from authority, and of showing his contempt of superiors on the slightest occasion.

Thus it will be readily seen that he had the elements of a bad man. His desire for gain, low conscience, sharp perception, and large secretiveness would all combine to make him a money-getter by artful and unscrupulous means. His want of reverence, with Firmness, and Combateness large, would make him quarrelsome, disagreeable, overbearing, and defiant to law and order. His low Self-esteem, his sensitiveness, his Caution and Secretiveness, and quick perceptions would lead him to work in the dark, and accomplish his purposes without much bluster and show, and all the more certainly for his quiet work. He would move slowly, cover up his tracks, and when sure of his game seize it with a certain impulse and the fury of desperation. When necessary, his certain conviction, his Firmness, his Combateness would make him astonishingly bold. He would appear to many a different man. His Alimentiveness and Amativeness would naturally lead him to excesses in eating, drinking, and lust. But he had large Approbativeness, and this with his other stronger developments, such as Caution and Secretiveness, would lead him to hide the badness of his character, and keep up a show of fairness and credit for the good-will and approval it might bring him. He would be anxious to be on the popular side, and would so ordinarily manage it. When this were not the case, you might not be able to tell on which side he really was. He could be adroitly non-committal, and yet keep up a show for both sides.

In early life Vinott had his attention called to Phrenology. It attracted him at once. He studied its general principles, and himself in the light it showed. He was examined and had a chart of his character given him. Through these he became acquainted with himself. He learned to know his own strength, his own weakness, and his own danger. His mortification was deep. He became chagrined that he had been so badly born, but he believed that the contour of his brain might be changed, that the stronger faculties of his mind might be held in abeyance, the strength and size of the weaker increased and enlarged. And believing this he went to work to produce the desired results.

The battle was long and severe. Many times he tripped and fell, but he rose up and went at it again; and he won, nobly won. And now he is a marked man with a destiny before him. The last examiner said of him, "He has a good moral head." His passions are all subject to his will, and his will is subject to the higher faculties, and these faculties are all subject to the higher laws, so far as he knows, of anthropology or human nature. His weaknesses have become to him towers of strength. Strange as this may seem, it is still true. The strange and mystic power which in surprise to himself he was able to exercise over women has *never* been abused to unhoiy purposes, either in single or wedded life. It has developed into a noble and generous manhood, has begotten in him a sympathy for weakness, that suggests and induces helpfulness and protection, instead of descending to self-indulgence at the sacrifice of virtue and happiness. His Approbativeness has led him to seek most ardently the approval of the slightest voicings of conscience, the true friendship and association of the good, and above all the approbation of God. His strong Acquisitiveness has overcome a tendency to indolence, and has made him provident. His Combativeness makes him bold in attacking error, and his Firmness is a rock on the

storm-beaten shore. It enables him to stand in the consciousness of right amid a wreck around him. His Mirthfulness, instead of degenerating into ridicule of things sacred, as it might easily have done with such an organization, helps him to overcome a tendency to despondency manifested at times; it makes him full of pleasantries entertaining to his friends, and fills him, when aroused, with sarcasm dreaded by his enemies. His Alimentiveness, which seriously threatened him with confirmed dyspepsia, liver complaint, and gout, enables him, under the restraints to which he has subjected himself, to eat his food with thankfulness, and compels the housekeeper to say, "Oh, he is not choice about his diet," and with proper rest and sleep, and a good physical frame, he can appropriate food enough to enable him, under pressure, and for a time, to do the labor of two men. His Secretiveness, his Caution, his perception, while they worry his antagonists and make narrow-minded people suspicious of him, make him a trusted counsellor and the confidant of noble-hearted people. Rascals shun him as they do the open snare. He mostly wins his way slowly to the confidence of the people, and where he is best known there he is most trusted and loved by the better classes. He often makes friends as if by magic, often by a long and slow process. A true and trusted friend he rarely if ever loses. He is slow to turn away from one he esteems as a friend. He will bear with many failings, follies, and inconsistencies, but if a man once loses his confidence, it is almost a miracle if that man ever regains his place in Vinott's affections. He may treat the man kindly; he will do so, for he is a gentleman; he will never do the man a personal injury, for this, he says, would be unchristian, unjust, and unmanly, but he will be wary of the man. He can make no apology or excuse for deliberate treachery. Only in one way can he restore himself to the confidence of Vinott: that is, by bringing satisfactory evidence that he has undergone a thorough renovation of nature,

that he is a new man. Vinott's theory is that the same man, with the same developments and dispositions, under the same or like circumstances will do the same things. Hence the same man is not to be trusted the second time, if he has proved a wilful recreant once.

Vinott's head has changed; so his friends say, and it is true. The anterior lobe is fully one-third larger than the posterior. The lateral measurement of his head in the region of Cautiousness is greater than at the base by the ears. Conscientiousness and Self-esteem are manifestly strengthened. He has made the faculties at the base of the brain the wheel-horses to pull the heavy load of life, while the powers in the front and top of the head are the aristocrats to rule the realm. He has ceased, in the light of Phrenology, to be a mystery to himself, though to the untaught he is yet a riddle unsolved. He carries with him the gaiety and cheerfulness and vivacity of youth, with the sedateness, sobriety, and experience of age; and it is no wonder, for these treasures lie hidden in the deep recesses of the human mind. They have been cultivated in turn and together, so

that at will or when the prompting comes, they spring forth in vigorous form. The better powers of his mind are intensified by use; they are trained to prompt action by frequent exercise; the baser passions are weakened, or at least made subordinate by careful, systematic, and persistent restraint.

Vinott is an ardent admirer of Phrenology. It can not well be otherwise. He embraces the new science with a full soul. He is conscious of its merits. There can be no mistake about the matter. It has done more for him than all other philosophy. Where other systems failed, it led him on and up. In it he found help from human nature, and from Divine nature. The knowledge this science has imparted to him is of priceless value. How these wonderful results have been secured may be a question of interest. The methods Vinott adopted, the discouragements he met and overcame, the brightness and the darkness that alternated and often commingled in his pathway, form a tale of no ordinary character that may be told in some future number.

IVAN VON ZESTONE.

POETS AND POETRY.

WE shall, probably, never get a perfectly satisfactory definition of poetry from the poets themselves. As well might we demand of the singing birds an analysis of song, or ask the stars to explain the cause of their scintillations. The birds would sing again, the stars continue to scintillate, and the poets ask poetry itself to explain itself. For example, a distinguished poet once said: "Poetry is thought and passion crystallized into speech." Which is explaining poetry by poetry. What is the witching, wonderful, beautiful thing we call poetry, in and of itself, pure and simple? Emerson says: "Comparison, suggestion, symbolism." This is tolerably fair for a poet and philosopher. But compare a pig with a hippopotamus, will that make poet-

ry? Plainly something more than comparison is needed to constitute poetry. Some comparisons are poetical and some the very reverse. But poetry is something that is always such. Byron came directly to the point when he requested that some one should explain why a ship in a high wind was a more poetical object than a hog in a high wind. Whoever can do that can explain the difference between prose and poetry. Everybody *knows* the difference, but not everybody can clearly analyze it. "Suggestion":—it may be poetically employed or prosaically so. It is not enough. It is an element; but it is not the whole thing. I suggest by my meagre looks that I am starved. There is no poetry in that. Pudding is the highest reach of such a

suggestion. Being fed, if I am dumb I may point with grateful looks to heaven and suggest the reward of beneficence there. As I have been fed with earthly food by my benefactor here, so may he be fed with heavenly food above. There would be an element of poetry in that suggestion. Therefore suggestion may be poetry or it may be prose. "Symbolism":—this is but a kind of comparison and open to the same objection, as a complete definition of poetry. Every business sign is a symbol. "Catchum & Skinum, Wholesale and Retail Grocers," painted in black letters on a white board, and hung outside of a building, is a symbol, but there is no poetry about it. The American flag with its stars and stripes floating from the topmast of a sea ship is another symbol with something of beauty in it, and in this symbol there is poetry. Whether suggestion, comparison, or symbolism mean anything poetical or not, depends on the association of ideas. A symbol, it is true, is an object associated with an idea; but it is the *kind* of idea associated with the object that determines its character. It is the *supersensuousness* of the suggestion made by a symbol that constitutes it poetry. The idea suggested must be *above* the object that suggests it. An object that suggests something on a par with itself, simply, may be symbolical of the idea it suggests without being in the slightest degree poetical. A hog in a high wind is not a poetical object; yet is capable of suggestion, susceptible to comparison, and when dressed and suspended from a hook at the entrance to a butcher's stall, becomes a symbol. Still it would be impossible to conjure anything poetical out of all he suggests, or is comparable to, or symbolizes. A ship in a high wind *is* a poetical object; perhaps more so than almost any other. The idea suggested agrees with its situation and its structure. It is tempest-tossed and it points upward. Instinctively the mind seizes on the objective features—wind, wave, struggling ship, the fathomless depth below, the infinite height above—and builds the figure

of a brave, strong soul, buffeted and storm-beaten on the ocean of life, the infinite past behind him, the infinite future before him, the surging depths below, the serene heights above; and the mystery of poetry-making is accomplished.

Symbolism, properly qualified, is the principal element of poetry. It needs the glow of ideality and the grace of spirituality, nevertheless, properly to qualify and bring it up to the height of imagination. Closely scanned, nineteenth of the strictly and purely poetical passages in any poem will be found to consist of a comparison clothed in elegant phrase. Take, for instance, the famous "Elegy" of Gray. Tried by the test of symbolism, out of the thirty-two stanzas of that poem only a single quartette of verse is left to distinguish it from the clearest prose. The famous and much-quoted lines:

" Full many a gem of purest ray serene
The dark, unfathomed caves of ocean bear;
Full many a flower is born to blush unseen,
And waste its sweetness on the desert air,"

are all that can strictly be called poetry in this production. One little spark of poetic fire alone is all that illumines the prosaic dreariness of one of the most popular "poems" extant to-day in the English tongue. Take, for comparison, the following stanza:

" Let not ambition mock their useful toil,
Their homely joys, and destiny obscure;
Nor grandeur hear, with a disdainful smile,
The short and simple annals of the poor."

This is not poetry; it is prose, of the plainest description, and with the exception of the stanza first quoted, it is as much and as good poetry as the piece contains. Judged by his most successful effort, the Elegy, Gray is scarcely to be considered a poet at all, but a master of the art of verse-making—a sound reasoner and moralizer in classical rhyme. The Elegy is simply an essay, in chaste and polished phrase, with nothing distinctive of any good English essay save the soothing alliterative power of numbers harmoniously joined. Of imagination,—the kind that sees in material things types

and shadows of immaterial things,—it is totally destitute. Of that quality of the genuine poet which, like chemistry, puts facts into a crucible and separates the fine gold from the dross, and brings out the hidden beauty of the rough ore, there is not a trace. In short, as a form it is conspicuous chiefly for the absence of poetry.

In the "Night Thoughts" of Young, another English mind, we find a nearly perfect antithesis to the poetry of Gray. His genius gilds all common things and makes glorious the hardest truths; as the sun turns a rough old rock to a mound of gold, and sets its steely points to sparkling like diamonds, Young is one of the few poets who have overcome the objection to poetry as a representative of exact thought—not in science, as that would be impossible, but in philosophy. As a philosophical dissertation on religious truths the "Night Thoughts" can scarcely be surpassed for vigor of statement, for clearness of analysis, or for general impressiveness of argument; while the reasoning of the philosopher is illuminated, rather than obscured, by the imagination of the poet. Never before were poetry and philosophy so harmoniously wedded as in the verse of this poet-priest. His treatment is nature's own; as the sturdiest tree is wreathed and festooned with the tenderest vines, so the sternest truths are relieved, without impairing their strength, by graceful fancies and delicate tendrils of sentiment. This poet had learned of the master that God, the All-Beautiful, never made a thing of beauty in nature, nor intended it in art, independent of use. The smallest flower that blows, unseen of man, in the depth of the untrodden wilderness, had its use in that economy which weighs the atom as carefully as the universe. This was a poet whose conception of art was that of an instrument in the hand of the artist, to be used for the accomplishment of a purpose above all art, and not in itself the goal of the artist's ambition.

This is not equally true of Milton. He had enough of spirituality and of the de-

votional element to make choice of high themes. But it matters not how lofty the poet's profession of purpose, or how sincere he may be in his profession, the effect his actual work produces will correspond to the cause; his influence will rise no higher than its source. If it emanate from the understanding, it will go to the understanding; if from the spirit, to the spirit; if from the imagination, to the imagination it will appeal. This is an infallible test. Milton's poetry appeals to the spiritual imagination, yet enlightens not the understanding. The impression left on the reader is chiefly that of admiration of the author's genius, rather than a sense of quickened spiritual insight. The imagination tires of the redundancy of imagery. The sense of sublimity is overwrought. The "Paradise Lost" is popularly praised, as a splendid display of spiritual pyrotechnics should be. The red, green, and golden lights of the sky-rushing rocket dazzle and delight the eye, as the flash, whiz, and roar captivate the ear, and it is splendid, but we tire of the display and come away weary. The poetry of Milton leaves no conviction of the verities of spiritual things, deepened and strengthened; it rather remands them to the realm of imagination, as fitter subjects for dramatic representation than for "human nature's daily food." With Young, in the lightest skirmishes of fancy, the same seriousness and closeness of purpose is maintained as in the most prosaic passages of his pen. With Milton, the poet's office appears to be the parading of second-hand thoughts in ritualistic pomp and splendor. His praise is that the banners are real silk, and the plumes and tassels genuine gold. There is nothing second-hand or cheap in the make-up of his processional programme; the materials are all first-class and the *tout ensemble* is gorgeous. That is all, except the lesson of sobriety in topical illustration and of sustained dignity in the treatment of his chosen theme, there is to account for the fame of one of the three or four poets who are by common consent accorded the title of *great*.

It is strange, on the face of it, that the name of Jesus of Nazareth is never named in the list of the world's great poets. But when it is remembered that it is as much the volume as the substance of a poet's writings or sayings that constitutes him a poet in the world's esteem, the strangeness disappears. Had Bryant never written anything but "*Thanatopsis*," he could have been spoken of as one who might have become a poet had he persevered. Had enough of the poetry of the Teacher been recorded and saved to fill a volume of the size of the *Iliad*, He might, by this time, have been thought worthy, as a poet, to rank with Homer; perhaps divided the honors with Milton and Shakespeare. As it is, they are called great poets, while He, a greater and truer poet than any of them all, is not thought of as such. The circumstance is not flattering to the poets, that what He used as a mere adjunctive aid to Truth, gives them their highest distinction. Yet down on the plane, even of simple decorative art, the great Teacher was more than the peer of any poet, living or dead. His poem of "*The Sower*"—probably impromptu—is one of the best proportioned and best sustained poems ever written or spoken. The conversation with the woman at the well of Jacob can not be surpassed in the whole range of imaginative literature for the beauty and life-likeness of the final illustration. What a wealth of illustrative capacity, and what a clearness of poetic insight and readiness of application, are shown by the quickness with which He drew from the seemingly barren circumstance of a woman drawing water from a well, a figure of eternal life: "But whomsoever shall drink of the water that I shall give him, shall never thirst again, and it shall be in him *a well of water, springing up into everlasting life*." If this is not poetry of the highest order, if the whole conception is not exquisitely poetical, there is no such thing in the world. Yet this is no more than a fair average sample of this PRINCE of poets' utterances. No man ever made more constant use of the im-

aginative element of the mind in his method of teaching, and it is safe to assert no poet possessed so luxuriant an imagination, so thoroughly chastened and subordinated to the understanding. With many poets, if not with the most, imagination is the head-light. With Him, understanding was the head-light, imagination a side-light, and spirituality the top-light. Even in that land of the sun, the sensuousness of nature never caught and led captive His severe and upright judgment. Doubtless a lily was as fragrant to Him, its form as fine and its hue as fair, as to any man. But this was a poet who worshipped not beauty. Behind the lily bloomed an immortal flower, of which the earthly plant was but the fading and temporal image. It is this supersensuousness, the sight of the soul, that distinguishes the real poet from the mere musical drummer. Until that interior illumination is experienced, that changes the relations of things, that changes that which was substance into shadow, and that which was shadow into substance, there is no such thing possible as a poet. There is but a harper on forms—a cunning harper, it may be, and a skilful singer of changes; but a harper on wire and wood, and nothing more. The cunningest harper wears the crown.

Here is a specimen of the fine stuff that passes for poetry, as currently as any skilfully executed counterfeit can do. It is a very fine specimen; the conception is delicate, and the execution skilful:

"Filled with balm the gale sighs on,
Though the flowers are sunk in death;
So, when pleasure's dream is gone,
Its memory lives in music's breath."

So are the colors on a soap-bubble beautiful; but they are not painted on a ground substantial enough to give them any permanent interest or value. Of such subtle catches and winding bouts of melody as this is the most of what is called poetry made up. There is the robe, but the Queen is not in it. "Yonder lies the queen on the ground; I see her majesty's robe," cried a courtier to the king. "First see if *she* is in it; if

not, it is no more the queen than it is the king," replied his majesty. It is no more poetry than it is prose, simply on account of a surplusage of ornament. That victorious reasoner in rhyme, Alexander Pope, said: "Language is the dress of thought, and still appears more decent as more suitable." Put a plain dress on Truth and she is simply plain Truth. Put her in poetry, and you have an added power; her strength is supplemented by beauty, and the effect heightened. This is the only worthy and fit purpose of poetry—to make truth outwardly beautiful as intrinsically excellent. Like a harlot covered with precious stones is the spectacle of genius blowing bubbles of fancy with no worthier purpose than to make the world admire. Compare the grandeur of purpose of Isaiah, his exclusive devotion to great and high themes, his burning zeal and fiery energy of treatment, with the lightness of purpose, topic, and treatment, characteristic, for the most part, of modern poets. Then to be a poet was to be a priest of righteousness, a leader and guide unto right ways of living. Now the casual utterance of a gilded conceit makes a poet.

It matters not that the world is filled with wrongs unrighted, and covered with darkness unlighted; there are moonbeams and rainbows enough, nightingales and katydids in abundance to furnish themes for us. Nevertheless, we have among us poets who are priests of Nature and priests of God. On the shoulders of the gentle Quaker poet of New England the mantle of Isaiah might have fallen, if it has not. It is, at least, as though he had touched the hem of the prophet's robe and caught a spark of that divine fire of which his soul was a living flame. There is the same characteristic and intense hatred of oppression and wrong, the same prophetic feeling of good to come, and love of what is good and true in the present time. Yet it seems strange that the genius of Whittier never found fuller scope and sweep, in depicting the miseries and denouncing the iniquities of African slavery. How

the old Isaiah would have flamed; how his soul would have kindled with inspired wrath; and how his voice would have rang in annunciations of the divine vengeance upon the oppressor, or melted into pathos as he pictured the miseries of the oppressed. In the "Randolph of Roanoke"—one of the truest and most characteristic poems written by Whittier—the prophetic spirit and poetic fire of the old Hebrew bard reappear as in no other instance of modern verse. Had rhyme been in vogue, the poet of the Scriptures might have written the following from the above-named poem without impairing his reputation in the least:

"As from the grave where Henry sleeps, from Vernon's weeping willow,
And from the grassy pall that hides the sage of Monticello,
So, from the leaf-strewn burial-stone of Randolph's lowly dwelling,
Virginia, o'er thy land of slaves a warning voice is swelling.
And hark! from thy deserted fields are sadder warnings spoken.
From quenched hearths where thine exiled sons their household gods have broken.
The curse is on thee! wolves for men, and briars for corn sheaves giving,
O, more than all thy dead renown were now one hero living."

And no finer poetry of more striking prophetic tone ever came from the lyre of any ancient bard than this, from the same:

"Yet none beheld with clearer eye the plague-spot
o'er her spreading,
Or heard more sure the steps of doom along her future treading.
For her, as for himself, he spake when his gaunt frame upbracing
He traced with dying hand, 'Remorse': and perished in the tracing."

While we have one such poet with us as the writer of "Randolph," it is not so much matter who makes the laws. There is still salt enough in the earth to save it. Quite the equal in moral earnestness of the gentle Quaker was the English woman, Mrs. Browning, the beautiful-souled poet and large-hearted humanitarian. Still it is to be regretted that such subjects as "May's Love," "Amy's Cruelty," and "Lady Geraldine's Courtship" should have so largely monopolized the talent of

the most distinguished woman-poet of modern times. That it could be so while "Men turned wolves by famine" and "Women leering through the gas" thronged the streets of her favorite London, shows how little is to be hoped for from the poets in matters of practical moment. In the "Song for the Ragged Schools of London," Mrs. Browning does indeed rise to the full height of her commission. It is the poet's plea for poor, out-cast children, "scurf and mildew of the city." And no person ever held to more positive and entire consecration of the glorious gift of genius to the service of humanity than did she. This "Song" alone ranks her among the benefactors of human-kind. Her sympathy breaks the confines of country, and bursts the bands of English pride. She is in Rome and is

thinking, as she hears England praised, of the poor at home :

"Let others shout,
Other poets praise my land, here
I am sitting sadly out,
Praying, God forgive her grandeur."

No thought could be finer than that Nature in her grand forms feels for the miseries that the covenant of grace has not yet consoled :

"And the mountains, in disdain,
Gather back their lights of opal
From the dumb despondent plain
Heaped with jaw-bones of a people."

This is putting poetry to its highest use. This is imitation of Him who, when He came to rebuild a ruined world, found one thing beautiful left shining in its rubbish, and taking it from the dust, set it in the lamp of Truth, and it became the light of the world. H. S.

THE INVISIBLE MUSICIAN.

TWO years ago while visiting some friends in the village of "Thistledown," Pa., I was told the following story, and here relate it as nearly word for word as it was given me, as my memory will permit. The names only are substitutions.

"Thistledown has just had a sensation," said my hostess, Mrs. Dorée, "a veritable ghost story. Shall I tell you about it?"

Certainly, but I warn you not to impose too much upon my credulity, for I am not superstitious.

"Oh, I know you are a sad skeptic in such matters. However, this is a true story, an actual occurrence. Did you notice the occupants of the pew directly in front of mine this morning?"

Yes. A gentleman—a sweet little girl, and a young woman who appeared to be a nursery-maid. The man wore a light, tweed suit, has tawny hair and mustache, and the most cynical face I ever saw.

"The same. His name is Cornelius Butterfield. He is a native of London, England, and the little girl is his only child. Pansy he calls her. He came

here five years ago, and entered into partnership with McLeod & Co. His wife, report said, was the daughter of an English nobleman. She was a fair, blue-eyed, delicate-looking lady. Her age was apparently about twenty years. She was highly educated, an accomplished musician, and the most romantic, sensitive being I ever knew. Her maid accompanied her, but, after a few weeks, went back to England.

"The Butterfields moved into a new, uncomfortable-looking house up-town, where the young wife, who had never dressed herself alone, or arranged her golden hair, without the aid of her maid, was obliged to do her own housework and sewing. Of course this was very distasteful to one who had been tenderly reared in a luxurious London home. The lady could not help being homesick and unhappy. It is said that she made many mistakes in the culinary department—that her husband was very harsh if not cruelly impatient with his young, inexperienced wife. Poor thing! He even denied her many of the necessities, as well as all of the luxuries of life. I was told.

"Mrs. Butterfield had a highly cultivated voice. She could play on the piano with taste and expression, but her husband refused to get her an instrument. She would plead with him for a piano, with tears in her eyes, and declare that she should be less homesick if she could amuse herself by playing on it when her work was done; but he did not gratify her wish in this respect. It is said that her friends sent frequent sums of money to her. If they did, he must have kept them, for the piano never came to cheer her. Report says that he used to beat her, but I am not sure that this was true; although I have heard him scold her for boiling the coffee too long, or cooking the steak too much or too little.

"When I found how she could play, I invited her to come here whenever she had time to practice. She was very thankful, I can assure you; and would come in and sing for hours at a time. I must say again, that I still think Alice Butterfield's touch and voice were both the sweetest and purest I have ever heard. Her selections were new to most of us. Indeed, no one in Thistledown could play any of her pieces—for her music was a higher class than ours. I wish you could have heard her.

"But, how homesick and *distrail* she was before her baby was born! Her playing only seemed to revive old memories and associations; for her cheeks were usually wet with tears when she left my piano; yet, one could not question her. I did not see her alive after her little girl was born, although I called frequently. The doctor or her husband was always on guard, and would answer: 'She is raving with fever. You can not see her to-day,' or 'She is sleeping and ought not to be disturbed.' One day when I went to the foot of the stairs to inquire about her, she cried out: 'Let Mrs. Dorée come up! I must and *will* see her!' But the doctor hurried down and told me that his patient did not know what she was saying; that my presence might excite her too much. I

went away, fearing I knew not what. She died that night; and when I again saw her she was in her coffin. Her husband was present. He had never left her since the commencement of her illness, the nurse said, not even to take his meals. 'He only wanted me to take care of the baby, and bring things up-stairs when they were needed,' she added. 'He was the real nurse, and the doctor was always in the house. He ordered me to keep the baby out of the sick-room, and keep people out of the house, as his wife could not be disturbed with visitors. So, nobody except himself and the doctor went into her room, but I could hear the poor thing raving and crying all day long for a piano, or money to go home to London, to her mother.'

"Mr. Butterfield and the physician prepared the dead woman for the grave. She was dressed in her beautiful wedding robe, a figured white satin trimmed with rich lace. A Queen Elizabeth *ruche* was placed high about her neck, while her breast and throat were covered with white roses. Her face seemed to rise out of a thick mass of white flowers and lace. They buried her very quickly, I think,—the second morning after she died. The funeral was private also; only a few being present, including the clergyman. We wondered why the corpse was so profusely decorated with flowers, as she was not a bride. Her dead face was beautiful. It seemed to glorify the poorly furnished apartment, yet Mr. Butterfield, I remember, did not once raise his head from his hands, or take one farewell look at his dead wife. After a short prayer, they placed her remains in a hearse and drove directly to the cemetery.

"Mr. Butterfield's apparently undue haste in burying his wife, as well as the privacy attending her sickness and funeral obsequies, caused no little stir in Thistledown. There was talk of unfair play on the part of both her husband and the attending physician, and a coroner's inquest was spoken of. Then, the story leaked out that in her delirium, Alice Butterfield had attempted suicide by cut-

ting her throat so badly as subsequently to cause her death. Dr. Webb had hoped to save his patient until the very last, he said, by keeping her quiet, and allowing no one to see her until the wound had healed. 'That is why I excluded everybody except her husband from her room,' he confessed, 'but she died from her own hand.' Mr. Butterfield's apparent penuriousness ceased after his wife's death. He rented a larger house, furnished it handsomely, and purchased a grand Steinway piano. He employed a cook and nursery-maid, then sent for his sister to preside over his establishment. She came at once.

"Miss Butterfield was no longer young, but she talked and dressed like a lady who had been accustomed to good society. She played some accompaniments for church music and songs, but lacked Alice's nice touch for the piano and knowledge of instrumental music, as well as her innate delicacy and fine culture. Still we rather liked her, and tried to make the young English lady feel at home, although her reserve of manner repelled our well-meant overtures of friendship.

"About a fortnight after Elizabeth Butterfield's arrival, both she and her brother were startled in the dead of the night by hearing some one playing on the new piano. The style of the nocturnal musician was not only brilliant, but was unmistakably like that of the late Mrs. Butterfield. Instrumental music of a high order—portions of celebrated operas, nocturnes, and classical compositions which are rarely heard in an inland town like Thistledown. The sweet notes trembled all through the house, thrillingly clear and wonderfully pure. Brother and sister rushed down-stairs, and stared at each other in alarm. 'I thought it was you, Elizabeth,' said Mr. Butterfield. 'And I thought it was you, brother, but wondered how you had learned to play so well since you left England. But how did the musician get in? I have the key to the parlor in my pocket, up-stairs.' Her brother tried the

parlor door. It was locked, as his sister had said. 'It is very strange,' he whispered, in an awe-struck manner. 'Run and bring the key. We will solve this mystery at once.'

"When they opened the door, they found that the instrument was being played by invisible fingers, for the music still continued, although the music-stool was empty, and they were the only visible occupants of the room. They listened in alarm—looked at each other, with terror-stricken faces, until the music ceased. Then Mr. Butterfield asked:

"'Can you play any of those pieces?'

"'No, Cornelius. I never learned any difficult instrumental compositions, you know. I only play accompaniments,' was the answer. They looked in and under the piano, in every room in the house; examined the windows and out-buildings—but no one was to be found. They even took off the lid of the piano, to see if a mouse could have set it to playing, and looked everywhere, and searched everywhere in vain for the performer. The next night it was the same; and so on, for several nights in succession. Neighbors were called in and declared that the parlor was haunted. The servants also heard the music and left the house in fear. Still, the grand new Steinway awoke them nightly with its dulcet tones. The keys could be seen moving up and down, while march and opera followed each other in quick succession—now swelling like martial music, grand and glorious; again, dying away to a whisper; then rising like a storm or battle.

"The first intimation we had of their parlor being haunted, was when its owner asked Mr. Dorée if his piano ever got out of order, and played of its own accord? When answered in the negative, he told us why he had asked the question. He acknowledged that he was greatly puzzled, but said he could give no solution to the mystery. He remarked that, 'The keys were certainly played upon by invisible fingers. The strangest part of the affair is, that neither my sis-

ter nor myself are able to play this class of music, which we recognize as the work of the best authors—the old masters. The servants are not able to tell one note from another, either; while our neighbors are unable to whistle a single bar of it, let alone *playing* it. Besides this, there is not another instrument within two or three blocks of us. My sister thought some one had hidden a music-box in the piano, but we have taken it all apart, had it tuned anew, and searched every closet and place in the whole house; but found nothing. It plays Beethoven's Sonata, and Weber's last waltz, beautifully, besides some pieces which I have only heard my late wife play on her father's grand piano.'

"'Well,' I said, 'it is clear that the house is haunted. It would hardly be safe for you, if you were living in the witch-burning age.' He laughed rather nervously, and said 'good-night.'

"He told my husband's partner the same story. All the servants and neighbors declared that his dead wife had come back to punish him for not buying her a piano, while the more malicious gossips of the town declared that there must have been foul play in the matter of the late Mrs. Butterfield's death. There was talk of lynching the widower, of disinterring his poor wife's remains, and everybody was for avenging her wrongs, when he suddenly closed his house, sold his effects, including the haunted instrument, and sent his sister back to England."

Well, does the piano still entertain its new owner?

"Oh, no. That is the oddest part of the whole story. The lady who now owns it, has never been disturbed with its nocturnal music. The ghost has stopped playing. No invisible spirit now touches the keys. Both herself and daughters play very badly. If poor Alice did return, she did so to punish her husband, alone. He is still boarding at the hotel up-town. Some people are yet suspicious of his neglect, of possible *foul play* in his

wife's last sickness, but Dr. Webb is a Christian gentleman, one whose veracity has never been doubted, and his testimony ought to be believed. He affirms that the lady was delirious and destroyed her own life; that the husband came to him in great distress of mind, and begged him to save his wife, if possible. Of course Mr. Butterfield or any other man would not half commit a deed of that kind and stand the chance of being exposed and brought to trial, if not the gallows."

No—that certainly is in his favor. If he alone had heard the music, we might have accounted for it on the score of a haunted conscience; but as others heard it, one does not know what to think of it.

Little Pansy is now four years old. She is still under the care of her *bonne* girl, who took care of her while her mother was on her death-bed. I subsequently heard the same version of the piano story from the townspeople, and have given it to the reader unmodified in any particular. But who was the musician?

E. M. BUCKINGHAM.

WISDOM IN COMMON AFFAIRS.—Get quit of the absurd idea that Heaven will interfere to correct great errors, while allowing its laws to take their own course in punishing small ones. If food is carelessly prepared, no one expects Providence to make it palatable; neither, if, through years of folly, you misguide your own life, need you expect Divine interference to bring around everything at last for the best. I tell you positively, the world is not so constituted. The consequences of great mistakes are just as sure as those of small ones; and the happiness of your whole life, and of all the lives over which you have power, depends as literally upon your common sense and discretion as does the excellence and order of a day.

RUSKIN.



FOOD, INTELLECT, AND MORALS.

THAT the character of the food we eat bears a very close relation to the quality of tissues made from it, is a fact which has been frequently stated in these chapters; it seems indeed to be fairly well understood, that in order to develop strong, firmly-knit muscles, the food eaten must not only be simple, but sparing. But that the dietetic habits of a people have anything to do with their intellectual and moral powers, is a very *important* fact which we seem continually to lose sight of. It can not be denied, however, that the history of the human race, from the earliest to the latest times, furnishes the best of evidence on this point; and the relation holds, not merely with respect to individuals, but to nations. Following out the history of the latter, we find them in the zenith of their power at a time when for successive generations the habits of the people, dietetic and otherwise, had been simple and healthful. On the other hand, the decline and downfall of these nations came not until after they had *departed* from their plain and frugal ways.

And were we to trace the career of individuals eminent for learning or power, we should find a like correspondence to exist; men as well as nations reach the acme of their strength, intellectually and morally, before their minds are clouded, and their bodies plethoric by full feeding and other voluptuous habits. Those who are born in the lap of luxury rarely

attain to any considerable prominence, either as thinkers or workers. It is also well known that the greatest philosophers, and the most profound scholars, both in ancient and modern times, have been men of temperate and abstemious habits.

In the light of history, therefore, there is but one conclusion to be drawn in the matter: viz., that in order to make the best use of our minds, or to develop them to their greatest capacity, the food we eat must be proper in quality and moderate in quantity. Indeed, how could it be otherwise, when we consider that the brain, which is the organ of the mind, is constantly supplied with blood for its special growth and nourishment, and that this blood is *made out of* the things eaten? If, therefore, the quality of the food is bad, or if any substance deleterious to the vital organism is taken with it, the brain will immediately suffer; and when this organ is not in its normal condition, how can we expect it to do good work? In other words, bad food, or too much of it, makes bad blood; bad blood causes a disordered brain; and a disordered brain can not do first-class thinking.

The ill effects of stimulants in food are manifold; they send an increased quantity of blood to the base of the brain, causing congestion of the cerebellum. This congestion creates excitement or preternatural action of the animal propensities, inducing in the individual a desire to

fight, commit murder, and do all sorts of immoral or unlawful things. But the evil does not stop here; the habitual taking of stimulating substances, even in limited quantity, causes an increased *growth* of those organs that are located in the base of the brain; and this, with the greater activity that necessarily follows, leads to intense passionai emotions and excesses of every description. So that murder, theft, and all manner of evil doings, are the legitimate results of the introduction into a community of *stimulating foods and drinks*.

"But," says one, "why speak of these things in a cook-book? The temperance hall is the place to discourse upon the evils of alcohol." To this query there are two answers: In the first place, it is a lamentable fact that King Alcohol does not confine himself to the highways in society. He appears in private circles, takes a seat at the domestic hearth, and makes himself welcome at table. His fingers have "touched" the delicate puddings, the rich pastries, or other fine desserts: he comes with the wines, the pale sherries, and brandies that are used in preparing these dishes. He is in the houses of the rich and the hovels of the poor; he goes to the gay feasts and he comes home to the midnight embers burning low on the hearth-stone. He makes his way to the churches and appears at the sacramental board, and the reformed inebriate is reminded, at one and the same time, both of the love of Christ and of former debauches!

But this is not the whole of the matter. When King Alcohol comes to our firesides and sits down at our tables, he is met by a multitude of his own "blood relations"—some near of kin, some more distant. And the peculiarity of this numerous household is, that if you entertain a single *one* of them, that individual never stops till he *brings all the others with him*.

Figures aside, however, the plain facts are these: If one is in the habit of using tobacco, tea and coffee can not be dispensed with; and if either of these bev-

erages forms part of the morning repast, a "good, rich beefsteak" is the next thing in order. Moreover, if steak and other meats come to the table, salt and pepper are expected to come also, and the other contents of the castor usually gain an easy admittance. Then are introduced the spicy pickles, pungent sauces, and other condiments that set the blood on fire and inflame the passions.

Verily, the wives and mothers of this country are themselves responsible for much of the ruin wrought in their own households. Had their tables been plain and simple, these things had not been. Is it any wonder that crime and bloodshed stalk rampant through the land? that licentiousness lurks in the by-paths? that women take to morphine or the mad-house and men blow their brains out? that homicides multiply with amazing rapidity and theft and other crimes are frequent in high places? These outrages on common decency and the whole community are not committed by the plain, temperate members of society, who sit down three times a day to unstimulating food, go to their work regularly in the daytime, and retire to rest at nightfall. Could the private histories of the lawless ones be written, we should find the "little foxes" that spoil the tender vines.

Rev. J. F. Clymer, whose admirable little work on "Food and Morals" has already been alluded to in this book, gives a forcible illustration of the effect which diet has on character, even in childhood.

"A father, by prayer and precept and flogging, had done his best to reform his boy, whose staple diet was meat and sausage and pie and cake at his meals, with lunch between. The family physician said to the father: 'If you will put a leech back of each of your boy's ears once a week for a month, you will do more to reform him than your preaching and pounding will do in a year.' The father asked for the philosophy of this prescription. 'Why,' said the doctor, 'your boy has bad blood, and too much of it; he *must* behave badly or he would burst.' 'Then,' said his father, 'I'

change his diet from beef and pie to hominy and milk." In three months thereafter a better boy of his age could not be found in the neighborhood. The acrid, biting, evil blood had not become food for leeches, but it had done its wicked work and passed away; and a cooler, blander, purer, safer blood had been supplied from sweeter, gentler food sources."

The trouble in this country is that the fathers and mothers do not begin right; they demoralize their children from the very start, by giving them at table and elsewhere their own way in everything. In fact, the child orders and the mother serves. The women in the old country set us a good example in this respect. In England and Scotland no mother would think of seating her little child at the table with grown people, and giving it any and everything that was before it. She places it at the child's table in the nursery, and gives it plain bread and milk, or mush and milk. Not so in America; here the mother asks her little one what it will

have, instead of giving it what she thinks it needs. Truly, we are a fast people; and unless we change our habits we shall run a fearful career, brilliant but brief, dashing but dissolute, and ending at last in imbecility or infamy.

The physicians of the hygienic school claim to have demonstrated TWO FACTS: First, that intemperance (unless inherited) rarely if ever *begins* until there has been the habitual use of condiments and the lighter stimulants, either in the food or drink. Second, that when the habit of taking strong drink is established, the safest, surest way to reform, is at once to abandon *all stimulus in the dietary* at the same time that the drinking is discontinued. Many inebriates have been reclaimed in this way, and in a comparatively short space of time; nor is there in these cases the slightest desire to resume the drinking habit, so long as the other stimulants are not indulged in. In other words, by living *correctly*, you conquer the evil habit.—From "*Health in the Household*."

THE KAIL-BROSE OF AULD SCOTLAND.

WHEN our ancient forefathers agreed wi' the laird
For a wee piece o' grund, to be a kail-yard,
It was to the brose that they paid their regard;
O! the kail-brose o' auld Scotland,
And O! the auld Scottish kail-brose.

When Fergus, the first of our kings, I suppose,
At the head of his nobles had vanquish'd our foes,
Just before they began they'd been feasting on
brose;
O! the kail-brose, etc.

Our sodgers were drest in their kilts and short hose,
Wi' their bonnets an' belts, which their dress did
compose,
And a bag of oatmeal on their backs to be brose;
O! the kail-brose, etc.

At our annual elections for ballies or mayor,
Nae kick-shaws, or puddings, or tarts, were seen
there;

But a cog o' gude brose was the favorite fare:
O! the kail-brose, etc.

But when we remember the English, our foes,
Our ancestors beat them wi' very few blows;
John Bull oft cried, O! let us rin—they've got
brose!
O! the kail-brose, etc.

But, now that the thistle is joined to the rose,
And the English nae langer are counted our foes,
We've lost a great deal of our relish for brose;
O! the kail-brose, etc.

Yet each true-hearted Scotsman, by nature jocose,
Likes always to feast on a cogue o' guid brose:
And, thanks be to heaven, we've plenty of those:
O! the kail-brose of auld Scotland,
And O! the auld Scottish kail-brose!

WM. BROWN.

HIS COLLEAGUE'S PRESCRIPTION; OR, A CHANGE OF AIR.



HE doctor sat in
his easy-chair,
his case-book on his
knee,
In deepest thought,
because he felt in a
great quandary.
For months he daily
calls had made on
Mr. Jonas Plint,
And remedies protean
given, prescriptions
without stint.

He'd cleansed his stomach with *drastics* strong,
then thrown in soothing lotions,
He'd stirred his liver with *cholagogues*, and ordered
tonic potions;
He'd put on plasters thick and thin, and blisters
where was swelling,
And smiled to view the half-cooked skin with
glairy ichor welling.
Now it was *colchicum*, he said, the very thing to
reach it;
Next week 'twas *podophyllin* that the druggist
must "exhibit."
And following that came *belladon*, and other
toxics, too,
With numbing *salicyllics* gumm'd in capsules, not
a few.
But all in vain the treatment, though quite *se-
cundum art*.
Poor Plint was in condition far worse than at the
start.
And now this able doctor the case reviewing sat,
And in no joyful humor, for the question came too
pat,
"What shall I do for Plinty, he's plainly giving out?
He's stood the treatment bravely, but it's failed
without a doubt.
I've ransacked Wood and Copland, Simpson and
old Metcalfe,
Consulted several brother Pills as 't chanced in his
behalf.
And should he die upon my hands—It must not be
—Oh, dear!
Yet, if he lives more than a month, I'll think it
rather queer.
Could he be moved I'd send him off to Florence or
Mentone,
Or straight to Colorado, where the climate's dry,
all own;
But that's past contemplation, his weakness is too
great;
I should have counselled it before; but now it is
too late.
What shall I do? What can be done?" Thus
murmured Dr. Swell,
And pondered on with gloomy looks, till rang his
office bell.

Now Plint a merchant was, and rich, his circle
blue—high-toned.

And when he first was taken sick for Swell he tele-
phoned.

A very easy case it seemed, quite after Swell's own
taste.

"You have, my friend, *oedema*, sure, but I no
words shall waste.

Six weeks or so 'twill run its course, and then we'll
have you well."

"So long," said Plint, "must I lie here?" "In-
deed you must," said Swell.

The six weeks passed; three months and more;
his friends became surprised,

Questioned the doctor, shook their heads and
gloomy things surmised.

The office boy brought in a card on which one
plain could see,

In neat engraving, this queer name, "Elijah Wink,
M.D."

"Admit him straight!" the doctor cried, and soon
was ushered in

A tall, wide-shouldered gentleman with pleasing
voice and mien.

"Your pardon, sir," he gently said; "but having
learned your name

While on my passage from Breslau, no sooner in I
came."

"You were referred to me? By whom, indeed?"
quoth Swell.

"One Richardson." "Ah, yes, sir. Yes, I know
him very well."

"In short, sir, I am looking round a settlement to
make,

And think that in this city large there would be
little stake

Against my finding practice soon; be plain with
me, will you?

With Dr. Bock, and famed Hitzig, Billroth, and
Virchow, too,

I've plodded through a weary course and won de-
grees a few.

Affections of the nervous class, and glandular com-
plaints,

I've made a specialty, forsooth, including morbid
taints."

While saying this he spread before the doctor's puz-
zled eyes,

A document in Latin couched, with seals of mam-
moth size.

"You're welcome, sir, and in good time, as I am
about to go

Away from town—am quite worn out—shall stay a
month or so,

Some cases which I do not care to leave in neighbor
Pudgely's charge,

You might attend (I'll give him Plint's), a list not
over large.

I'll take you round to-morrow morn, and give you introductions.

Of course you'll need merely a word of definite instructions."

"Agreed," said Wink. "I must admit your offer's very fair;

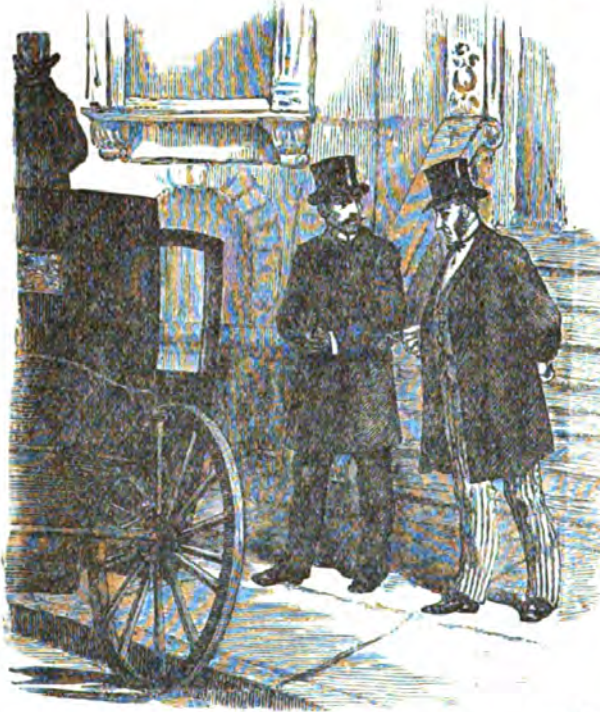
But I must have their free consent, else not attempt their care."

"I'll make that right," cried Swell. "Whate'er I say they'll do.

And for your service while I'm gone, I'll give half fees to you."

The compact closed; and Doctor Wink spent most of the next day

In going round with Doctor Swell in his two-horse coupé.



"IN GOING ROUND WITH DOCTOR SWELL IN HIS TWO-HORSE COUPÉ."

On Plint they called, and Wink was shown the patient weak and pale;

And there repeated Swell again his brief and likely tale.

Out in the street—"A sorry case," said Doctor Wink, with care.

"No doubt of it," quoth Dr. Swell, "a malady quite rare."

And much it worried me at first; but when you come to look

Into his habits, life and so, you'll read him like a book."

"Perhaps I shall," Wink slyly said. "At any rate, you may

Leave Plint to me, though it would seem the best for him to pray."

Away to Florida sped Doctor Swell, to Plint sped Doctor Wink.

"There's not a minute to be lost. I tell you what I think—

You must be carried instantly full forty miles from here.

The medicine that I prescribe is simply pure, fresh air.

You've lain too long within this room; 'tis stuffy, dark, and close;

Your blood seems all demoralized, witness your puffy toes.

Stay here, good sir, and in ten days a funeral there'll be."

Aghast Plint's wife and sister stand. "Do you speak seriously?"

"I do with certain emphasis; the case is much too clear."

"The doctor's right," murmured poor Plint. "For days I've been in fear.

Tonics and bitters, drops and slops I've swallowed to disgust,

And this new-comer talks so well I give him my full trust."

So Plint was borne in carriage soft far from that dusty town,

And in a quiet cottage placed before the sun went down.

Bright was the scene that met the gaze through windows large and free,

Forest and hill and meadow wide stretched far as eye could see.

On a broad hearth the hemlock knots glowed merrily and warm,

The sick man smiled and murmured low, "How long that house I've borne."

Next day came Wink. "I see," he says, "the first effect is good.

Keep down that sash, and pile the bars with thick and seasoned wood;

And twenty times a minute fill your lungs with oxygen,

Nature supplies it nicely here, with four parts nitrogen."

"But don't you think," asked Mrs. Plint, "he needs a steady tonic?

A quinine pill, or beef and wine, or something, if botanic?"

"Oh, yes, a tonic he must have to stimulate his liver;

I'll order up a patent chair that he may view yon river.

And let him sip occasionally some hydrogen protoxide,

And now and then some mellow fruit, a pear or orange sapid.

Soon as he feels an appetite substantial food he'll need.

I'll tell you then what it should be with all convenient speed.
 We must go slow, my friends, at first; do only as I say.
 There is no better road to health than nature's simple way."
 Three weeks rolled by, and Plint walked out to view the country round.
 His step was slow, but every day he gained a solid pound.
 Another week, he came to town to look about his store,
 And friends flocked in to see his face; they numbered full a score.

"Expect me back some time next week. Too long perhaps, I've stayed."
 Returned to town, and cane in hand, the first he chanced to meet
 Was Plint with cheerful face and step proceeding down the street.
 "Why, Plint, my stars, how well you look!"
 "And you too, Dr. Swell."
 "Ah, yes; a little change of air my system fits quite well."
 "It's just the same with mine, I found, when 'twas almost too late.
 But Dr. Wink"—Hem, hem, coughed Swell,
 "On that we'll not dilate.



"BRIGHT WAS THE SCENE THAT MET THE GAZE THROUGH WINDOWS LARGE AND FREE."

A common tone of great surprise marked every greeting said,
 And some were blunt enough to joke, "We thought you good as dead."
 "Had I remained in town," laughed Plint, "your thought would have come true;
 But now you see what Dr. Wink and his new whims can do."
 An anxious letter Wink received from Jacksonville ere long;
 To which he answered, "Dr. Swell, I think Plint's getting strong."
 Amazed was Swell this news to hear, and quick rejoinder made.

Yet tell me what the treatment was, if I to ask may dare."
 "'Twas nothing wonderful, good sir, but chiefly fresh, pure air."
 A hasty round the doctor made his patients all to see,
 And found improvement general e'en with the "chronicky."
 And to his question as to what his colleague had advised,
 Replies were given that left for him nothing to be surmised.
 "You've turned the heads of half the town," to Dr. Wink he said.

"Expect to starve by such a course; too soon they're out of bed.

"Tis plain we can not well agree. You don't follow the school.

A man must live. By *teaching* them you only play the fool."

"Why, Doctor Swell, what have I done? There's Plint and all the rest :

They're doing well, as you can see. I've done my level best."

"By Galen old, young man, you have. They'll need no more my care

Since you prescribed it: every case your *gratis* pure fresh air."

H. S. D.



CHINESE DOCTORING.

A GOOD many things are told of Chinese physicians that excite our ridicule because of their absurdity, yet there are features in Chinese medication that are deserving of respect, and perhaps of imitation by Christian doctors. According to a writer in *Nature*, it is claimed that a skilful Chinese physician can cure such diseases as imbecility, fits, cholera, etc. Very extraordinary cures are attributed to treatment by acupuncture. This is first performed in the hollow of the elbow of each arm. If the puncture draws blood it is thought that there is no danger, but if no blood appears the case is regarded as very grave. But before abandoning the sufferer, puncture of the abdomen is tried. Seizing a handful of flesh, the operator drives the needle through it; and then draws it backward and forward a few times. If the patient manifests any sense of pain, or if any blood is drawn, a poultice of eggs and buckwheat-flour is applied over the puncture, and recovery is regarded as almost certain; but if no pain is felt and

no blood flows the case is declared hopeless, and the sufferer is usually left to die. The case is quoted of a young Chinaman educated abroad, who was attacked with cholera; his extremities became cold, and cramp set in, in a somewhat alarming manner. The barber-surgeon who was called in commenced by running a needle into the pit of the patient's stomach, a jet of very dark blood following; he then punctured the calf, the two breasts, and the forehead of the sufferer, freeing a certain quantity of blood each prick. The relief was said to be instantaneous, and in two days recovery was complete. The Chinese explanation of this treatment is that, when the blood is in the poisoned condition which induces the choleraic symptoms, it becomes thick and accumulates in certain portions of the body. A clever surgeon knows exactly how to put his finger on the particular spots, and by skilfully "opening the mouth of the heart," as the operation is called, sets free the poisoned fluid which causes all the mischief.

NORMAL MATERNITY.

I AM staying at present in a little village among hills of the western slope of the Alleghany range, in Southwestern Pennsylvania. Not long since two women gave birth to children, one mother, to a son; and the other, the next day, to twin daughters. The mothers live next door to each other. My present home is in the family of the little son. Only a picket fence separates us from the premises of the other family; so that I write from observation and personal knowledge.

Both women were about the house at their usual various and arduous duties down to and through the very day of the night on which their children were born. In the case of the son, I know there was scarcely warning enough given to fetch a midwife in time from a place but an eighth of a mile away. And I heard that the twin case was similar. No doctor was called to either house, or consulted. From prudence both women kept their beds about a week. Some mothers, I am told, leave their beds as early as two days after. All their duties are then resumed. I give these cases as samples of ordinary maternity in this village and vicinity. The son-mother has had six children before, and the twin-mother, five.

In my judgment this exemption from the pains of labor, from which good, fashionable city ladies pray so sincerely to be delivered, but never are, is due to two causes, namely: 1. The freedom of their bodies from corsets and all constrictives. 2. Their multifarious labors, and largely outdoor lives. The first will be understood by all without any comment. The second may bear a little elucidation. These women have little knowledge of the laws or conditions of health. What they do, they do by the force of circumstances. The community consists of Pennsylvania Germans (with a few imported exceptions), and with them a wife is not intended either as a parlor ornament or a luxury for which the husband should devote all his earnings; but an

equal partner in the labors and cares for their own and their children's subsistence. The men are almost all manual laborers. They can turn their hand to anything with a pick, shovel, or axe. Coal-digging is most remunerative when they can get steady employment. When they can not all find employment in the coal-pits, they will work for the neighboring farmers, or on the railroad, or at the saw-mills; and when all wages' labor fails them they will do some waiting job about their houses, which they may own, and have partly built with their own hands—house and lot together costing from two to four hundred dollars—or some of the heaviest work about their gardens. They are hard-working men; but when they come home after a hard day's work for wages, they feel that their share is done, and that the wife and such of the children as are available, and yet not strong enough to work out for wages, shall attend to all the home requirements. Here comes in the astonishing amount and variety of the wife's labors. Universally there is a garden, and generally a good-sized one, to be sown, cultivated, weeded, and harvested; usually a cow to be milked and the milk to be churned; two pigs and a number of chickens to be cared for, the kindling-wood to be got ready, and the fire to be made very early in the morning. The wife's indoor duties include mending and making for herself and children; mending, and often making, for the husband; and clothes-washing for all. These women will even cultivate flowers in garden and pot, notwithstanding their numerous other labors.

The children are early trained to assist their mothers; but after deducting all they do, an enormous quantity and variety of work is left on the mother's shoulders, a very considerable part of which is prosecuted probably three-quarters of the whole year, either in the open air absolutely, or where the open air can reach them.

JEAN-JEAN.

EVILS OF MOUTH BREATHING.

MANY people sleep with the mouth open, and thus make this organ perform a duty which should be transacted by the nose. There are many objections to this, and Dr. Wagner clearly points them out. The air in passing through the channels of the nose, for instance, is raised to the temperature of the body before it reaches the larynx. Thus breathing, no matter how low the temperature may be, the sense of cold is never felt below the border of the soft palate. But when one breathes through the mouth on a cold day the sensation proceeds as far as the larynx, and an irritating cough may be caused. Then, again, in nose breathing the air is moistened by the natural secretions which cover the turbinated bones in a condition of health, and the short, bristly hairs at the openings of the nostrils act as a filter to arrest impurities and reduce the likelihood of laryngeal, bronchial, or pulmonary disease. Infants, athletes, savages, and animals breathe through the nose—the ordinary civilized man employs the mouth to an unnecessary and often to a very injurious extent.

The causes of mouth breathing are myriad. Complete or partial closure of the passages, polypus, congenital bony closure, enlarged tonsils, protruding teeth, adhesion of the soft palate to the posterior wall of the pharynx—all these are sufficient causes of mouth breathing. The indications are not so subtle as not to be readily recognized. Retracted lips, open mouth, receding gums, protruding teeth, shrunken alae, decreased size of the nostrils' orifices, wrinkles at the eyes' outer angles, and lines extending from the alae to the mouth angles, are the predominant signs. The effects of mouth breathing upon the pharynx are often most deplorable. The mucous membrane becomes much irritated. A chronic engorgement of the blood-vessels may take place, until permanent dilatation of the vessels is produced, and so on until the disease known as clergyman's sore

throat is produced. The writer devotes a part of his space to showing the bad results of sleeping with the mouth open, and suggests an appropriate remedy. If all snorers were to adopt it one of the most disagreeable noises of the night would be silenced, for people who breathe through their nose habitually while sleeping rarely snore, and when they do it is because of some abnormal condition of the mucous membrane that interrupts the flow of air.

HOW TO REMOVE SCARS.—Scars on the face are always unsightly, and may occasion pain or inconvenience on account of their propensity to contract as they become older. The pressure on the nerves of the neighboring tissues by their constriction is sometimes an occasion of severe pain. Dr. Wark, of New York, asserts that scars may be removed or much altered by manipulation, which he directs to be made as follows: Place the ends of two or three fingers on a scar, if it be a small one, and on the margin, if it be large, and vibrate the surface on the tissues beneath. The surface itself is not to be subjected to any friction; all the motion must be between the integument and the deeper parts. The location of the vibratile motion should be changed every ten or fifteen seconds until the whole scar has been treated, if it be of moderate size. If the scar be the result of a large scald or burn, the margins only should be treated at first; the advances toward the centre should be deferred until the nutrition of the margins has been decidedly improved. Only a little treatment should be applied to any one spot at the same time, but the vibrations should be repeated as many as twenty times a day, but never with sufficient frequency or severity to cause pain. If the scar becomes irritable, suspend treatment until it subsides. In the course of two or three weeks of faithful treatment, the sur-

faces of the scars of moderate size become more movable, and will begin to form wrinkles like true skin when pressed from side to side. All these changes are

due to improved nutrition, consequent on better blood circulation—the development of new sets of blood-vessels in the cicatricial tissue.

NOTES IN SCIENCE AND AGRICULTURE.

More about the Red-Sky—(VAPOR THEORY).—The subject of the red-sky shortly after sunset and just before sunrise, notwithstanding so much has been written upon it the past year, still grows in interest. Three theories have been advanced: The two that have received the most attention attribute this phenomenon to fine particles of dust in the air, the other to the presence of delicate moisture at high elevation: the first two to dust; the other to water.

The theory that for a while seemed to receive the most support, claimed that this redness was due to volcanic dust from Java; caused by an immense volcanic eruption that occurred there the latter part of August, 1883. Had this redness only continued for a few weeks, or, at the most, extended only to a few months, or gradually grown less, and finally subsided, this theory, notwithstanding its many absurdities, might have become permanently recognized by a possible majority as the most plausible. But when the phenomenon continues month after month, and for more than a year after the date of the eruption at Java (Nov., 1884), and is often repeated on as grand and positive a scale as ever, the volcanic-dust theory, although very ably supported, loses prestige.

The advocates of the volcanic-dust theory seem to think that great atmospheric commotions accompanied the eruption at Krakatoa. Such may be the case; but from then till now there has been nothing unusual or remarkable indicated on the daily weather-map; and here, if anywhere, such atmospheric commotions would be indicated. They have also, with peculiar emphasis, called attention to the fact of the great tidal-waves and other manifestations of great power created by this force. This is well enough in its way; but it does not prove that the dust from this volcano was thrown sufficiently high to pass around the globe, or that a light body like dust could be forced very high in the air.

To argue this question outside of the latest meteorological knowledge seems absurd. Our first thought, it would seem, ought to be to inquire into the state of the atmosphere on these occasions; then the possibility of a certain cause (in this case dust or water) producing a certain effect, and the appearance or non-appearance of the effect, and its variety and degree of intensity in different localities.

The fact that these red-skies continue so many months after the eruption at Java would in itself seem to be a sufficient argument against that as a cause; still, even with this fact before us, it is well to refer to the meteorological conditions that would make it impossible.

We have the array of low and high barometer, technically called "Low" and "High." These move over the surface of the earth on general lines from the west toward the east, and in belts travel around the globe. At least we see that they enter the western borders of our territory, pass over the country, and disappear off the eastern coast. "Low" is the storm-centre; "High" is the fair-weather centre. The extent of these "Lows" and "Highs" vary, and are never twice alike. On an average there are two "Lows" within the area of the United States from west to east. From the Pacific to the Atlantic is about 3,000 miles. We will, however, be generous and allow 2,000 miles from the centre of one "Low" to the centre of another. With this fair average there will be about six on one line, or within one belt, from Java to the centre of the United States. Then there are a number of these belts—three, as near as we can estimate it with our present knowledge. Three belts with "Lows" 2,000 miles on centres, we see, complicates the chances of any such material as dust being conveyed around the world, for the movement of the air is from the "High" to the "Low"; all the while from all of these "Highs" to these neighboring "Lows"; and when we bear in mind that the lighter cirrus-clouds float at a height of 23,000 feet, that although this eruption threw dust and ashes 3,000 feet into the air, the elevation was not sufficient to pass the dust above the influence of currents of air moving toward all these "Lows" at 23,000 feet, and even more. Such dust as might be thrown into the air would, within a few days, be gathered by one or more of these "Lows" and precipitated by the rain. It could not escape; it must follow the currents of air, and very soon be drawn into some of the nearer centres. This dust could not possibly run such a gauntlet as would be necessary for it to pass around the world. If by any chance it could have travelled such a distance it would have left a track of dust that would have been exceedingly disagreeable to the inhabitants of the countries over which it passed.

The second theory that claimed attention is that of *meteoric-dust*; and since the volcanic-dust theory has been relegated to the rear, many of those who held to that, and who believe that this phenomenon is caused by dust, have transferred their faith to the meteoric-dust theory, and joined their forces with the supporters thereof.

The advocates of the meteoric-dust theory claim that the earth is passing through a "meteoric-zone," and that "cosmical matter in space" is the cause of this phenomenon. How men like to explain things by the

most distant, impossible, and absurd process rather than by a plain method! Had there been any great display of meteors this theory might be plausible; we might as well claim that it is caused by the aurora, when there has been no display of "Northern lights." If this effect were from any cause beyond the atmosphere of the earth, it would seem natural for it to be seen on all occasions when a clear sky would permit; not only just after sunset and just before sunrise, but brighter and better in the evening than in the morning. But we see that it is only visible on certain occasions, and that one of the requisite conditions is a clear sky. The advocates of the dust-theories say this is very natural, and that it is evident that it can not be seen when it is cloudy. Very true, but the phenomenon does not always occur with a clear sky, and if the sky is too clear it will not occur at all, or to any great extent; or, if too cold, it will not be very positive.

An author who recently advocated the meteoric-dust theory claimed that it must be from some cause that was ten miles or more distant, and in this connection he said that the "cirrus-clouds" are the highest suspended moisture. I do not think that our meteorological information will warrant any such statement. It has not much to do with the argument, still it shows the position of the author on this point.

The lighter the clouds are, the higher the elevation at which they will float or be suspended, and the heavier they are, the lower their position in the atmosphere. Moisture that is carried upward by the heat, and is not yet formed into clouds will ever be higher than the "cirrus." When this moisture has taken a distinct form it has increased weight, and therefore settles to a lower level, and becomes what we call a "cloud." The heavier these clouds are the lower the stratum in which they move. As for the distance of "ten miles," in order to produce the necessary angle for reflecting the light of the sun, if there were only a few drops of suspended moisture in the air, there might be something in it; but there are millions upon millions, and so placed in relation to the sun to catch its rays and reflect or refract them over an immense arc. But the very statement of this author, that the cause must be at least ten miles beyond the earth, and therefore the height is too great to be produced by suspended moisture, is proof positive that in this respect he has never on these occasions used his eyes and noticed the delicate pink light creeping up and illuminating the under side of the great dome of delicate suspended moisture above us, which must be above 23,000 feet. When the astronomer examines the moon with his telescope, and perceives how the light from the sun falls upon its surface, he is convinced that the surface of the moon is irregular, and composed of hills and valleys. When we look upon the sky on such evenings as are favorable for this delicate coloring of pink or red, and see the illumination, sometimes, in a few seconds of time, advance to our eastern horizon, and see that

the effect is produced by this light illuminating the *under side* of the delicate cloud material above us, we know that it is *not ten miles* away or beyond the range of the delicate suspended moisture that under certain meteorological conditions exists.

In regard to the first of the two theories mentioned, it is said that dust has been gathered in the atmosphere which resembles the Java dust, and this, it is claimed, would prove that theory.

In the first place only a *very little dust* has been gathered, while it would seem that if this had been the cause, that dust could have been gathered in abundance, for it would most certainly have been deposited in quantities sufficient to put the question beyond doubt wherever the phenomenon occurred. Then the atmosphere is very seldom, if ever, entirely free from dust; but no one ever before heard of it being in sufficient quantity or of sufficient brilliancy to produce such an effect.

In regard to the second theory—meteoric-dust, or "cosmical matter"—it would simply be impractical to prove it by sample, for no sample could be obtained, and such proof as could be brought to bear must necessarily be of an indirect nature. No one has ever gathered this "cosmical matter," or has practical knowledge of its existence or nature; and then it is very improbable that there is such matter or dust in some particular point in space, especially when there is no visible cause for it, such as the multiplicity of meteors; and even if there were an abundance of meteors, it would be no proof that they emitted or produced vast quantities of dust, sufficient to cause a peculiar effect upon our atmosphere.

A third theory says it is water, *i. e.*, delicate suspended moisture or primary cloud-formations. In support of this theory we have not to prove by some indirect, out-of-the-way process the presence of this water in the atmosphere, for it is evident to the most common observer that water, in the form of clouds, from very light to very heavy, is thus suspended. It is as evident to us as that the sun rises and sets. We have the areas of high and low barometer. The area of low barometer is the factor that causes the winds. The cause of low barometer we ascribe to concentrated heat. The winds are from the area of high to the area of low barometer—not in straight lines, but in lines more or less curved to the right. But in this article it is not necessary to go far into the details of this department—sufficient to say that the wind is from the "High" (high barometer) to the "Low." The result is that the moisture that is formed by the heat of the sun into what we term clouds is conveyed toward the area of low barometer, and that thereby the moisture is removed from "High"; therefore with "High" we have a clear sky. The effect is the while to free it of moisture; but then it is impossible to remove all the moisture—a little, a minimum, will remain, and it is this little, in the presence of fine, delicate particles of

moisture, that produces the effect. But it may be asked, if it can only be seen with a clear sky, why not the same effect every time we have such a sky? The answer to this is that we must not only have a clear ("High") sky, but must have a warm sky. Only through heat is a heavy body like water suspended in a lighter medium-like air. The warmer it is the higher the point at which the moisture will be suspended, and the more it will be diffused. Cold contracts, heat expands, and the law applies to suspended moisture as well as to other things. When the area of low barometer is far to the north it causes the country to the south thereof, by the south winds thereby generated, to be warm, provided that there is no counteracting "Low" to the south, or an extensive and positive "High" to prevent. The best conditions to produce this peculiar cloudless red-sky is to have a north "Low," say an area of low barometer as far north as 50°, and to the south thereof an extended and not very positive area of "High" (high barometer). This, independent of all volcanic eruptions, meteoric displays, volcanic-dust, or "cosmical matter," will always cause it. When it is too cold there is too little delicate suspended moisture to produce the effect, at least on any large scale; and, by the way, herein is the cause of the "cold" sky in the cooler months of the year; there is little or no delicate, highly-elevated moisture to catch the rays of the sun, and thereby "warm-up" the sky.

Dust has few or no properties to produce such an effect; that is, such dust as would form by far the greater part of the matter thrown from a volcano, or that would compose meteors, at least such meteors as we have samples of. Then it is very doubtful about meteoric-dust being created or thrown off in such quantities, particularly so when there are no meteors to be seen; and it seems quite impossible for fine dust to be visible and produce such results while such luminous bodies as meteors are invisible. While there is little or no possibility for dust producing such an effect, there is no doubt about water; it is one of its natural characteristics. There is no doubt about it having the power of suspension in the atmosphere and at the necessary height. It may be asked why we do not see this moisture when the sun is above the horizon; for the simple reason of contrast. The light is too powerful, and shines through it at an unfavorable angle; but when the sun is below the horizon it shines through a greater mass, and is much better located for reflection and refraction. When the sun is high and shining through the mass of moisture at a right or obtuse angle, it is much like looking through a piece of glass flatwise; we see no color. Turn the glass edgewise to the light, and we at once detect color therein. In addition to this, the sun, after it has passed below the horizon, takes all this suspended moisture in a diagonal line, and also illuminates it from underneath. This is no mere theory, but a reality that may be proven on any evening when the phenom-

enon occurs; and it may be as plainly visible as the play of light upon the surface of the moon.

In this connection it may be asked, why this phenomenon at this particular time attracted so much attention? Simply because the conditions have been most favorable for developing it. Although the areas of low and high barometer are continually passing over the country, they do not pass in any regular or systematic order. Diversity and not regularity is the rule. We are liable to have a period of years when the conditions will not be favorable. They were very favorable and positive last year (1883), and also this. Nature in this department is never twice alike; but a favorable "High" can always be depended upon to give us a beautiful and delicate pink or red-sky. If this vapor-theory is true, it may be asked why the scientific world has been so slow to accept it; why so many of our best men have so readily supported the dust theories? Simply for the reason that they have neglected that great modern acquisition to science, the weather-map, whereby the meteorological conditions of the earth are, as never before, plainly revealed. There is no better proof of the neglect of this map than in the fact of the many absurd statements purporting to have the indorsement of high authority, and that are repeatedly coming from sources where, it would seem, they should have the most light. The weather-map is the only medium whereby we can understand the branch of science we term meteorology. It would seem that it is the part of wise men not to neglect it further. Its revelations are wonderful and far more important than many things for which it is at present ignored.

ISAAC P. NOYES.

Washington, D. C., Nov. 4, 1884.

Artificial Ball Lightning.—M. Planté has lately published an account of some experiments made by him in the attempt to solve the cause, and also to furnish an explanation, of the phenomenon of "ball lightning." The experimenter had his mind directed to this channel through having one of his mica condensers destroyed by a similar phenomenon. He charged one of his condensers from his secondary battery of 800 pairs, when the condenser was pierced, and instead of a bright spark a small incandescent globule was formed, which moved slowly over the surface of the condenser, following the parts where the insulating layer had least resistance, and destroying the metal film, the path being most curious and erratic. This motion continued, and the globule lasted one or two minutes until the batteries ran down. In the case of a condenser in which the insulating material was ebonite, a sound was emitted similar to that made by a toothed wheel when rapidly rotated against a piece of card-board or sheet metal; at the same time there was a strong smell similar to that produced when ebonite is burnt. M. Planté repeated this experiment with 1,600 secondary cells, which gave an electromotive force of

46,000 volts, and obtained a similar but much more complicated result. The second experiment made was to make a condenser of two flat pads of filter paper moistened with distilled water and brought near together, so as to form an air condenser; now, on connecting this condenser with his battery he obtained an incandescent globule which moved about between the pads and passed from one to the other. In this case he noticed that if the pads became dry at any point the globule disappeared, but either appeared at some other point or at the same point again as soon as it again became damp. In this experiment he found that the globule lasted a much greater time than in the case of the mica condenser, which fact was owing to the greater resistance in the condenser plates, which did not allow the battery to discharge so rapidly.

Captain Eads's Ship-Railway.

This remarkable piece of work was constructed in London at a cost of ten thousand dollars, and, with the accompanying explanation of E. L. Corthell, is of uncommon interest. It comprises a ship-model about six feet in length; the pontoon and apparatus for lifting the ship and the carriage upon which it rests out of the water to a level with the permanent way; about twenty feet of the permanent way, and a floating turn-table, which is to take the place of an ordinary curve. Owing to the length and rigidity of the carriage, no curve of a radius under twenty miles is possible. There will have to be in consequence five of these floating turn-tables where changes of direction greater than this allowable curvature are to be made. The wheels have double flanges and are attached to trucks, there being four wheels to the truck. Each truck receives its portion of the load, which will never exceed twenty tons, through the medium of four springs, which are each warranted to stand a load of twenty tons, with a depression of six inches.

A liberal estimate places the cost of the entire enterprise at \$45,000,000. A few of the difficulties which the designers had to overcome were the following: In the first place, a ship, with or without its cargo, has the greater part of its weight amidships. It would be impossible to construct any carriage of sufficient rigidity to transmit this weight equally to the numerous wheels upon which it is to rest. Thus, the wheels at either end, under bow and stern, would bear but little of the burden, while those in the middle would be crushed. To counteract this the weight of the ship while on the pontoon is supported by a system of hydraulic jacks. Under each end of the ship there is one jack, while as the centre is approached the number increases until there are five. The total area of the rams in each cross-row of jacks is the same, and, as they are all connected together and supplied by one force-pump, the pressure is equal upon each lineal foot of the carriage; according to the law of hydrostatics, that pressure on a liquid is transmitted equally in all directions.

A second difficulty is, that it is impossible to locate exactly the centre of gravity of a ship by calculation; and, even after an accurate location of that point, it would be difficult to bring it directly over the centre of gravity of the pontoon. But, if these two centres are not in the same vertical line, the pontoon will tip when floated, the guides will bind, and everything will come to a stand-still. To prevent this, there is an ingenious arrangement of hydraulic cylinders at the four corners of the pontoon, the ones at the diagonally opposite corners being connected, which will equalize the weight, and absolutely compel the pontoon to preserve an erect position.

The model can be seen at the New Orleans Exhibition.

Black Eyes in the Future.—As the outcome of sexual selection, blue eyes are to disappear from Europe. So predicts Mr. Alphonse de Candolle, in his paper on heredity in color of eyes in the human species, recently published in the *Archives des Sciences*. In studying heredity, it occurred to De Candolle that the color of the iris offered the best outward and visible sign. It is conspicuous; it can not be masked by artifice; after early childhood it does not vary with age, as does the color of the hair; and the character is, on the whole, distinct. For according to him there are only two sorts—black, or rather brown eyes, and blue; gray eyes being reckoned as mere varieties of the blue. From the working up of the statistics, in part from series of observations made for the purpose, it appears that when both parents have eyes of the same color, 88.4 per cent. of the children follow their parents in this feature; and of the 11.6 per cent. of the children born with eyes of other than the parental color, a part must be attributed to activism, that is, to intermittent heredity. But the curious fact comes out that more females than males have black or brown eyes, in the proportion, say, of 49 to 45 to 41 to 39. Next it appears that with different-colored eyes in the two parents, 53.09 per cent. of the progeny follow the fathers in being dark-eyed, and 55.09 per cent. follow their mothers in being dark-eyed. An increase of 5 per cent. of dark-eyed in each generation of discoloured unions must tell heavily in the course of time. It would seem that, unless specially bred by concolorous marriages, blue-eyed belles will be scarce in the millennium.

Renewal of Brain-Cells.—According to the novel computation of a German histologist, who has been calculating the aggregate cell forces of the human brain, the cerebral mass is composed of at least 300,000,000 of nerve-cells, each an independent body, organism and microscopic brain, so far as concerns its vital relations, but subordinated to a higher purpose in relation to the function of the organ; each living a separate life individually, though socially subject to a higher law of function. The life-term of a nerve-cell he estimates to be about sixty days:

so that 5,000,000 die every day, about 200,000 every hour, and nearly 3,500 every minute, to be succeeded by an equal number of their progeny; while once in every sixty days a man has a totally new brain.

Moral Psychic Force.—Most people have an aversion for submitting themselves to hypnotic influences. They have a natural fear that the operator or *positive* may obtain too great a control and abuse his power. After many experiments under the most favorable conditions, the writer concludes that a sensitive remains a sensitive *only* so long as the positive retains purity of intention. Just as soon as the positive becomes merely animal, that is, loses moral control of himself, at that moment the sensitive becomes positive, and like similar poles of a battery, the former sensitive, but now positive, repels the positive. The following is one of many cases that illustrate the truth of this position. A young lady of about twenty-four, known by the author to be of the highest integrity, having submitted herself to numerous tests, developed into such susceptibility that the intelllections of the positive could be communicated to her when in the hypnotic state, independently of physical means. For instance: while blindfolded she accurately described coins and other small objects taken from persons in the company present. This condition was attended with a high activity of the spiritual sense, and appeared to be dependent upon it. The readiness of communication between the operator and herself being explicable in no other way, as she was able to give a minute delineation of even the smallest coins as well as repeat figures noted by the positive or by others in the room who merely showed them to the positive. This demonstrates that the thoughts of the positive were flashed upon her sensorium, as the telegraphic characters dot the mirror. In the course of these experiments, whenever the positive would convey the impression to the sensitive that he had allowed his lower nature to predominate, at once the sympathetic conditions would terminate. The sensitive then became a positive, was no longer under control, and would make such remarks as, "I wish you would go away; I don't like you." Upon the positive's returning to his previous mental state, the trance condition with its subjection on the part of the sensitive was renewed.

I infer from this that in proportion to the development and refinement of the higher faculties we may look for completeness of response in the development of psychic power.

J. P. S., Jr.

Machinery and Apparatus required at the Panama Canal.—M. de Lesseps has announced that in order to complete the canal and have it ready for traffic in 1888, there will be needed 10,460 cars, 250 locomotives, 44 dredges, 3 hopper barges, 10 hand dumping scows, 34 lighters, 97 portable en-

gines, 100 excavators, 325 pumps, 50 earth elevators, 20 endless band transporters, 56 hoisting apparatuses, 38 steam windlasses, 814 hoisting engines, 260 miles of rails, 4 steamers, 30 tow-boats, 316 floating apparatuses of different kinds. Out of this large amount of machinery there has already been sent, or is now on the way to the Isthmus, 72 portable engines, 316 floating apparatuses, 30 tow-boats, 4 steamboats, 21 dredges, 260 miles of rails, 8,960 cars, 122 locomotives, 814 hoisting engines, 38 steam windlasses, 56 hoisting apparatuses, 256 pumps, 20 endless band transporters, and 79 excavators.

Concerning the financial status of the canal company, Mr. Coln  reports that four loans have thus far been put upon the market, the first in December, 1880, and the last in September, 1884, the whole aggregating something over \$100,000,000, all of which has been subscribed for. The company has already expended nearly \$25,000,000 in the purchase of the controlling interest in the Panama railway and in payment for machinery, supplies, labor, etc., leaving some \$75,000,000 still available for the prosecution of the work.

Visible Speech.—A remarkable example of the facility with which deaf-mutes may read the motions of the lips was given in public by a young lady of seventeen who was entirely deaf. Her teacher stood between the gaslight and the wall, thus outlining his profile distinctly. His pupil stood behind him and read from the shadow on the wall the words that he uttered. Here we have a new illustration of the effect of special training—minute differences of form and expression of the mouth being instantly detected where the ordinary observer sees no definite change.

Disease Germs.—It requires a first-class microscope with the best accessories to find bacteria—and some dissecting scientists claim, a first-class imagination also. Bacteria are alleged to be germs of disease, and he who discovered them has been called as one of the greatest benefactors of mankind of this generation. A Philadelphia doctor now claims that he has invented a trap in which he can capture these infinitesimal germs as flies are caught in a fly-trap. This curious contrivance is the invention of Dr. W. H. Webb, of North Sixteenth Street, who has upon many occasions in the dead hours of the night tested it in the streets, and has captured enough of these deadly germs to show that we breathe anything but a healthy atmosphere. He recently obtained permission from the Mayor to set his trap in the gallery of a crowded hall, and the result was appalling. He declines to explain the details of his invention in advance of the publication of an article upon the subject, which he is writing for a medical journal. As soon as this appears he purposes to send specimen traps to prominent European and American scientists, so that the value of his discovery may be fully tested.



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THE UTILITY OF PHRENOLOGY.—NO. 1.

OF what use is Phrenology? A skeptic may speak of it in this vein: There may be something to amuse in the manipulation of a head by one of your professors; possibly he may give a suggestion now and then that has value, because of its relation to personal physiology and hygiene, but I would ask particularly with reference to the art and method of observing the configuration of the head, what useful result flows from it that may not be derived from an application of well-determined principles of psychology?

Now, let us imagine such an inquirer to be seated in our study, and let us with due seriousness proceed to consider the question he is supposed to ask. The question is definite enough, and the reader, especially if he come fresh to the consideration of Phrenology, will regard it pertinent and probably will not hesitate to put himself in the place of the imaginary propounder.

Phrenology is useful in many ways, we answer, *by virtue of its essential nature*. First, it is a science or system of mental philosophy. But is it better than the systems formulated by our great meta-

physical thinkers? We think it is, and as this point is first presented, we shall consider by way of introduction the fundamental nature of Phrenology as a doctrine of mind. Mental philosophy of the old metaphysical and deductive type is for the most part a discussion of primitive faculties, and their modes of action quite independently of a physical relation; but phrenological philosophy is of a new and inductive type, founding its principles upon physiology, and tracing the relations of mental faculty to organic function through observed phenomena. The German thinker, Immanuel Kant, discusses at great length and with profound display of logical power his "categories of the understanding" and the dominance of the two "intuitions" of *space* and *time* over phenomena, or the sensible world; and claims that knowledge of things without can only be obtained subjectively. The ideal Berkeley claims that what we have of knowledge is merely formed upon ideas or impressions bearing necessarily no relation to objects really existing. Then, there are Reid and Brown, Stewart, Lord Kames, Hamilton, and others generally discussing mind as of threefold constitution, viz.: the Intellect, the Will, and the Affections. Some defining this or that faculty, say benevolence, or veneration, or conscience, or fear, or courage, is primitive and inherent; but each of these thinkers differs from the others on the mode of action and interdependence of faculties in the expression of character, and in some cases one attacks and overturns the scheme of another as altogether untenable. For instance, Mr. Stewart considers Perception, Conception, and Memory as original powers, but Dr. Thomas Brown refuses to accord them any such title, asserting

that they are only modes of mental action or acquired habits. Mr. Reid, Mr. Stewart, and Dr. Brown accept the moral sentiments as original faculties, but Mr. Hobbes, Mr. Mandeville, and Dr. Paley declare the perception of utility to be the basis of the sense of right and wrong, or a regard to our own good; which is but a refined phase of selfishness.

The living thinkers of to-day who reason on the nature of mind without accepting a physical basis for it, lest they should be charged with materialism, are found differing widely in opinions from each other. Professors Calderwood, McCosh, E. J. Hamilton, Mahan, starting from the old threefold division of Scottish metaphysics, get but little farther than the reasoners of a century ago in the declaration of truths that all can accept. To be sure we find in Calderwood and others references to the facts of the physiologists—as for instance that emotion and even intellect may be affected by physical conditions—and a general recognition of the oft-quoted *mens sana in corpore sano*, but in the elaboration of their views the tendency is toward the assertion of deductions from personal consciousness, with more or less of assurance, and thus further assumptions are added to the mass of accumulated speculation. Taking the modern Scottish philosophers collectively it is found that they recognize more than thirty of the faculties classified by the phrenological system as original or primitive, but notwithstanding their general admission of the fact that the brain is the physical instrument of the mind, not one attempts to show how the mind is related to the body and sensible phenomena. Obviously an understanding of this relation is indispensable to a clear, coherent explication of mental processes,

just as a knowledge of the relation of a steam boiler to its engine is essential to a full understanding of the operation of the engine.

With the discovery of Phrenology came light; the interdependence of mind and body through the cerebro-spinal system was clearly explained, and a substantial basis laid for a science of mind that average intelligence can grasp. Men of eminence in science and letters, who gave time to a candid examination of its merits, became convinced of the truth and high importance of phrenological principles, and freely expressed their appreciation in grateful terms. Dr. Robert Macnish, author of "Philosophy of Sleep," and other works, wrote: "For many years the philosophy of mind has occupied much of my attention, but till I became acquainted with the new method of mental investigation discovered by the late Dr. Gall, I found it utterly impossible to arrive at any rational conclusion upon the subject. The old system of metaphysics explained nothing satisfactorily, and like all other persons who attempted to arrive at definite results by its assistance, I only experienced mortification and disappointment. Since commencing the study of Phrenology a new light has dawned upon me, and various phenomena which were before perfectly inexplicable upon any known theory, are now of easy solution. . . . I have no hesitation in saying that my notions on every subject, whether of morals or physical science, have become more just, more systematic, and more in harmony with each other since I studied Phrenology; and I firmly believe that the same fortunate result may be calculated upon by all who pay any attention to the subject."

Testimony of this kind could be ac-

cumulated to an indefinite length. Now it had been shown that mental phenomena could be studied according to scientific methods; that organic function preceded and limited capacity, and that in tracing mental phenomena to their organic centres definite results were obtained, the several powers or properties of the mind being specifically characterized by terms appropriate to their distinctive natures. In a letter to Mr. George Combe, Archbishop Whately, author of works on Logic and Rhetoric, said: "I am convinced that even if all connection of the brain with the mind were regarded not merely as doubtful, but as a perfect chimera, still the treatises of many phrenological writers, and especially yours, would be of great value, from their employing a metaphysical nomenclature far more logical, accurate, and convenient than Locke, Stewart, and other writers of their schools."

As a system of mental philosophy, Phrenology is of great value to man, because of the practical bearing of its principles on every-day life. The infinite variety of intellectual endowments and of moral sentiment among individuals is accounted for. Original or innate differences of character are traceable in the physical organism, and it is more clearly seen how like follows like in family descent, how similarity of form is complementary to similarity of character. Those qualities which the metaphysicians were accustomed to consider as primitive faculties, viz.: conception, attention, perception, memory, are found to be modes of activity of many or all of the intellectual faculties, and therefore variable according to the development or power of faculty. Of this qualitative nature of the innate faculties is predicated the susceptibility of

the human mind to growth, development, culture, improvement—hence adaptation to its external relations; the physical happiness of man being proportionate to his understanding of these relations, and his attainment to the great object of his existence being dependent upon his ability to control and regulate the action of his faculties.

Prior to the discovery of Phrenology, the wide differences of opinion with reference to what were to be considered original faculties and the lack of definiteness in their classification, made the formulation of a positive scheme of mental training next to impossible. No basis existed for such formulation. Philosophers and schoolmen saw the necessity of such a scheme and proposed many ingenious theories, but they all referred to premises that were conjectural. Out of these theories grew the practice, still much in vogue, of training the intellect only, that being thought all-sufficient for the purposes of life; whereas it is but a part of the mind, and however liberally developed in itself needs the balancing influence of trained moral, social, and physical forces for its harmonious and efficient exercise.

Democracy may blazon the shibboleth that all men are equal, but science demonstrates their inequality, and that form of government that recognizes such inequality, and constructs a code of laws in accordance with the fundamental principles that govern it, will be the only one that can prove successful and permanent.

How are we to determine these fundamental principles? How otherwise than by the analysis of the human organization; by comparing man with man and defining in terms of science their variations in physical, intellectual, and moral

capacity? Here we indicate a special province of Phrenology which, in aiding the metaphysician to perfect a system of mental philosophy, also aids the political economist in forming a comprehensive system of healthful laws.

We will not dwell upon the important part Phrenology has performed in demonstrating the fact that the brain is the organ of the mind.

Prof. Alexander Bain makes the following acknowledgment in his "Study of Character":

"All theorists previous to Phrenology could not prove their principles by appeals to observed facts; they could not show a relationship existing between cerebral organs and the function of the elementary powers they had analyzed in their own consciousness. Phrenology not only showed herself capable of doing this, but she became the first and only science of character."

Although much more might be said in this behalf, we will pass to the fact of the distribution of the brain into parts or organs in correspondence with the division of the mind into faculties. Can we not safely assert that this discovery in the realm of mental philosophy is as great as any discovery in the realm of physics? Will any one say that the work of Copernicus in Astronomy, or of Cuvier in Zoology, or Davy in Chemistry, or Morse in Electricity, was greater than that which revealed the specific functions of brain tissue in connection with the thinking principle in man? Behold, how what was before confused, vague, mysterious, became settled and clear; the phenomena of perception, memory, reason, emotion, propensity, all assume their proper places, and their composite elements are traced by a certain analysis! We are not only

taught that men are possessed of a three-fold nature, in the very constitution of their minds—the intellectual faculties, the moral sentiments, and the physical instincts or propensities—but we are enabled to ascertain which of these three classes predominates in the character of a given individual. Metaphysics declares, "After you have talked, laughed, disputed, acted in your different capacities of business man, society man, domestic man, etc., I may obtain the *data* which will enable me to judge what sort of a person you are." Phrenology says, "Let me have a good look at your head and general physique, and I can on the spot describe your character and predicate your intellectual and moral power." Phrenology demonstrates that just as one has organs for hearing, seeing, smelling, etc., he has organs for hoping, fearing, loving, speaking, devising, comparing, reasoning, admiring, acquiring, etc., and in accordance with the degree of development of the cerebral organ is the strength of the mental manifestation. Behind the eye of the eagle is a mass of delicate nerve tissue, as remarkable for its quantity and complex arrangement as the organ to which it belongs is remarkable for its keen farsightedness. Ruminating animals generally possess large nostrils and a delicate scent, and examination shows the olfactory nerve to be large and highly elaborated in them. So, too, in the observation of mental phenomena it is found that the man of generous sympathies has a head well rounded and high in the sincipital region; that he who is known for boldness and high temper has an appreciable fullness or breadth in the region back of the ear; he that is reticent, close-mouthed and sly, has a marked roundness of development in the side-

head above the ear; he who has a retentive memory of whatever he may read and hear, shows a prominent forehead from the inner angles of the eyes upward—and so on with respect to all the characteristics of sentiment and intellect.

The work of Phrenology comes in as complementary to the study and speculation of the metaphysician; to confirm what is true, to correct what is error in the old system, and to establish a positive mental philosophy, the indispensable prerequisite for the definition of rules and methods whose effects shall be certain in promoting individual and social advancement, and in rendering life fuller, richer, and happier.

NO LARGE ASYLUMS FOR THE INSANE.

THE late resignation of Dr. H. A.

Buttolph of the Superintendentship of the great Asylum for the Insane at Morristown, N. J., gives us an opportunity to speak of what has been evident enough to us as well as to most observers of asylum management, that the tendency toward massing hundreds of people who are diseased in mind or body in one great building and under one general system is a mistake, and, therefore, not conducive to the best effects upon the condition of the patients. In a great hospital the cure of the sick is for the most part a matter of mere routine, and some of the patients suffer in consequence, but the percentage of harm or neglect proceeding from routine management is not half that suffered by the patients in a great asylum for the insane.

It is impossible for a superintending physician, be his abilities what they may, in an institution like that at Morristown, or like that at Utica, where more than

five hundred patients are constantly under his care, to give each that minute attention that mental disorder for its proper treatment requires. Dr. Buttolph is an alienist of great experience, and endowed naturally with rare talent for his specialty. He realizes, we can safely assert, the truth of the above statement, and it is probably one reason for his retirement from a place that he has filled with dignity and success so many years. We are in favor of small hospitals and small asylums, private treatment of the insane and feeble-minded rather than public. In large houses, it matters not how well organized, abuses will creep in. The very atmosphere of a great asylum seems to favor them.

A correspondent of a Western newspaper, who had been an inmate of a State Asylum, writes on this point:

"Walking through the streets of a great city you can not guess what is going on in the dwellings on either side of you. No more can the superintendent of a great asylum guess what is going on in distant cells. Scenes which he little dreams of transpire, and he will not believe them when they are testified to, for who will listen to the tales of the insane? Attendants often league together to deceive the doctor, who stands as middleman between the superintendent and his charge."

If the assistants of the physician-in-chief were all devoted to their work, and men of generous, patient sympathies, the inmates of an asylum would receive their needed care; but capacity for and devotion to such exhausting work as taking care of hundreds of demented beings are not readily available for such salaries as are paid assistants and keepers in State institutions.

TALENT AND INDUSTRY.

ALLUSION is often made to a successful man's *talents*, as if he possessed some peculiar elements of capability that made him successful as a matter of course, and it was not at all remarkable that he rose in the course of time to high position and became rich. The fact is, as shown by the investigations of careful observers, that the great majority of successful men are not endowed with remarkable faculties; and that the majority of men of *talent* and genius are failures in the common sense of that term. The successful men are commonly plain, unostentatious, one-ideaed, and industrious. Those who figure before society as talented, brilliant, etc., are commonly presumptuous, ostentatious, restless, discontented, uncertain. People may admire their brightness, smartness, dash, and assurance, but they do not trust them as the plain, steady, and diligent are trusted, because the latter do better work.

Should this be the case? Ought not the talented and gifted by natural endowment become more capable men than their ordinary fellows? Yes. Then why do they not take the position that it is expected they will occupy in mature manhood? Because as a general rule they are not trained and developed rightly when young. The gifted boy is always in danger of perversion through the indulgence and admiration of his parents and friends; they submit to him instead of requiring him to be submissive to guidance and education. Hence he usually develops into an arrogant, wilful youth, impatient of control, disinclined to apply himself to study, and looking with disdain upon all employments that are laborious. He scouts the idea that true success is only to be attained by

persevering industry, and laughs at the patient drudgery of common minds. He expects to leap to the summit of fame by some bold, lightning-like stroke when his opportunity comes. But it never does. And when the "common fellows" he in youth pitied are talked about in the press and in the drawing-room, he is somewhere out of sight and forgotten.

FINALLY.—On the sixth of December the top stone of the monument dedicated to the memory of George Washington was set in its place, and the structure that for thirty-six years has been slowly, and we might say painfully, rising, was completed. That the altitude of the shaft is 572 feet above the ground, and is the tallest structure fashioned by man in the world may be to many a source of boasting, but the fact that so many years were permitted to elapse since the work was begun can not be interpreted in a light reflecting great credit upon the nation. The ancient proverb that "Republics are ungrateful" to their benefactors is illustrated even in the performance of this sky-piercing pile of masonry. However, we are glad that it is done, and although so lofty, it is far from expressing the full measure of the noble spirit that led the Continental armies to victory and contributed to the building of the broad foundations of our government. On the twenty-second of February next, the one-hundred and fifty-third anniversary of Washington's birth, the monument will be dedicated with imposing ceremonies.

ASSUMPTION IN NEWS MAKING.

THE enterprise of journalism, to which allusion is so often made in the newspapers, and which brings it about that so much is reported of wrong doing

in the daily prints, is illustrated by some, it may be but a few editors, in a "crooked" fashion, that of publishing accounts of fictitious events, or accounts that have been prepared in the office of the newspaper, of probable or actual events in distant places. Correspondence purporting to come from foreign lands is often cooked up in this way. And now and then an item of special news passes current with thousands of readers, when it is a mere tissue of falsehood. Recently a case of this kind came under our notice. Two of our New York dailies, one of them claiming the largest circulation of any journal in the city, published on the 16th of October a long description of an illumination of Hell Gate on the night before by the electric lights in the new Government lighthouse at that point. The versatile reporter of one exerted his rhetorical faculties in the following graphic fashion :

"The news of the illuminating of the lighthouse by electricity had spread throughout the city, and crowds gathered at various points along the river to witness the effect. Their trouble was well rewarded by the sight presented. When the power was turned on, the spectators first perceived a dull glow high up in the darkness of the night. Then, an instant later, there gushed forth such a flood of light as threw into brightest prominence the dark surroundings of Hell Gate. Brighter and brighter, broader and broader grew this luminous stream. It rolled back the darkness before it, until at last every object for miles around was bathed in silvery showers. Far, far away in every direction stretched the broad waves of light, bringing into bold relief the spires and turrets and housetops of the city, the shipping in the harbor, and the great public buildings on Randall's, Ward's and Blackwell's islands. To the north they fell upon the slanting roofs of Harlem,

to the east they showed with distinctness the white walls of pretty Astoria, and to the south they showed the outlines of the big Bridge stretching, like some huge spider-web, from shore to shore. The bright shafts of light fell upon the waters of the East River, which reflected them back in myriad scintillations."

The truth of the matter is that there was no such illumination, as the electric lamps had not been set in the tower, and were not placed there until a week later. In this, as in many other instances of news furnishing, an item is made up on a bare suggestion from some source. If the event actually takes place, as it does in the great majority of cases, it is all right. If it does not, perhaps not one in a thousand of the newspapers' readers learns the fact.

CHOLERA IN PARIS.—The prevalence of this fearful malady in the French capital shortly before the incoming of winter, pointed us again to the consequences of neglected hygienic precautions. Although the common impression among Americans is that "Paris the Beautiful" is clean, the fact is that in certain quarters, especially where the poor live, filth and squalor abound. Besides, a visit in person with its experiences proved to us that while the streets neighboring the Louvre and the Opera and the Madelaine might appear clean and bright, within many of the houses of that fair quarter the germs of contagion existed in abundant measure ; germs multiplied by want of care in keeping the drains leading to the sluggish sewers clean, and by using the wretched water of the Seine unpurified.

Sanitary vigilance constantly exercised is the price of a city's freedom from spreading infectious disease.

Our Mentorial Bureau.

Go Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE CONTRIBUTIONS unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal matters will be considered by the Editor if this is done.

BRAIN AND WEIGHT OF BODY.—B. E. L.—With a brain of average size—that is, 21½ inches—one should weigh about 130 pounds. Of course the head may be developed in such a way that the mere circumference does not represent its dimensions. It may be very high and full in the crown and upper part of the forehead, and the temperament may be of the mental type, disposing the person to much activity of mind and body. In such case the person's health should be good, so that the demands of the nervous system may be fully met by the organs that make blood. A weight of 140 pounds would not be excessive. Taking a head of 22 inches circumference and proportionately developed, 145 pounds would be sufficient as the average weight.

SIGNS OF CHARACTER IN WRINKLES.—F. E. E.—Authorities differ on the significance of wrinkles, as they may be dependent upon conditions largely physical, health, temperament, etc. Some hold that wrinkles extending from near the outer corners of the mouth upward and inclining inward toward the wings of the nose, show the person to be decided, strong-willed, and strong-tempered; they

do not belong to a vacillating, irregular disposition, and are not incompatible with kindness and sympathy. Wrinkles lying between the eyebrows in a vertical direction are deemed to have relation to the person's sense of honor and obligation. One wrinkle of the kind signifying honesty in small matters; two a more extended sense of mine and thine; three an enlarged or philanthropical sense of duty, etc.

EDUCATION FOR A LAWYER.—UNI.—It is well for a young man who intends to pursue the law, to obtain a thorough education at some college. The full course in arts would be best, although the special course in science is sufficient now that little Latin and less Greek are required in the professions. The more a lawyer knows of general literature the better, as he must come in contact with all classes of people, and cases relating to every department of life come under the notice of a busy lawyer.

FACE ERUPTIONS.—H. S. J.—Why not try some of the hundred prescriptions so loudly advertised for the cure of pimples? Mercury receives the pretty general commendation of physicians of the drug class; why not apply some of it internally and externally? Then too there's arsenic, highly lauded for virtue in the same direction; why not try it also? There is a probability of one's falling into a worse evil by this procedure, but what matters it, so long as a certain degree of skin smoothness and brightness of complexion is obtained? Is not health secondary to a good appearance? Yet, why not have recourse to a rational method, why not treat the case on "general principles," as the doctors say when they are in doubt, or the case is too serious a one to be trifled with. These "general principles" mean a regulation of the diet, care with regard to exposure, and rest, and other simple things. We think that if you were careful in the matter of food and bathing, your skin trouble would be in great part removed.

EDISON THE INVENTOR.—J. M. B.—In the February Number of the PHRENOLOGICAL for the year 1878 you will find a biographical sketch of Mr. Edison.

Consult "Digestion and Dyspepsia," or any good hygienic work, for hints on the treatment of your trouble.

SUSCEPTIBILITY TO MESMERIC INFLUENCES.—J. J. S.—With increase of knowledge on the subject of mesmerism, the tendency of thought on this subject is toward the belief that almost all persons may be hypnotized, or magnetized. A few years ago physiologists entertained the belief that a

sensitive, or one over whom control could be obtained readily, was in a pathological or diseased state nervously. Of course there are grades of susceptibility, and as a general thing those with feeble circulation and of the lymphatic temperament are more readily subjected to the influence; one who has a strong individual nature, the organs of Self-esteem, Combativeness, and Firmness large, is not easily controlled; an energetic nature, an active intellect, contribute to individuality, and render one capable of exercising the hypnotic influence.

PRESIDENT GRÉVY OF FRANCE.—S. U. B.—We published a biographical sketch, etc., with a portrait of the President of France not long ago, viz.: in the May Number of the PHRENOLOGICAL for 1879.

CALLED TO THE MINISTRY.—J. T. A.—One having a large development of the moral and religious organs, if his training and associations have been from youth among religious people, would be likely to feel drawn toward the ministry. There are many in business pursuits who are endowed with the moral sentiments and who feel entirely satisfied with their place. The minister certainly needs such an endowment, but we have met energetic men doing excellent work as missionaries who were not remarkable for moral sentiment as a congenital development.

A YOUNG MURDERER.—Mr. H. D. McDowell, of Savannah, Mo., writes us with regard to the young man who murdered two girls at Falling Springs, in that State, a short time ago; a case of such horrible atrocity that the mere allusion to it is sufficient to curdle the blood. Mr. McDowell obtained an interview with the youth shortly after his conviction, and sends us the results of his examination: Although twenty-two years of age, his head measures but twenty inches in circumference, and his whole appearance indicates non-development. A careful inquiry elicited the fact that the boy was the victim of private vice, and was almost entirely wanting in the sense of moral obligation. From his own confession, the horrible deed was committed entirely without premeditation; he knew the girls well, enjoyed their confidence, and at the time of the murder the impulse for their destruction entered into his thought suddenly. This is his own statement.

From the examination of the very poor portrait which Mr. McDowell enclosed in his letter, we are impressed that the boy's case may have been similar to that described by alienists as "pubescent dementia." He has all the appearance of an unbalanced, ill-nourished organization.

THE PHRENOLOGICAL JOURNAL, in its old age, the *Tribune and Farmer* says, has matured into one of the most substantial and valuable periodicals published. Its field of usefulness is broad, and it belongs as much to the home family as to the professions.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

DEVELOPMENT AND WORTH.—We are constantly studying and judging of action and condition in the natural world, but we do not as often consider that the laws governing the mind are just as inevitable, although our mental growth is as much under our control as the natural agents are. We can not by one herculean effort attain anything much desired. Our whole life-work must be in unison with the result we are aiming at; and if we approach any work naturally, there will be no labored effort, because we have brought ourselves to the work by the gradual development of power demanded for the exertions expected of us. Life in the natural world implies motion; everything that has being is continually changing; and there are many degrees from the smallest animated creature to the highest order of life; and existence with man means more than the action required in the opening of the rosebud, or the development of the acorn into the spreading oak. The tiny leaves that burst through the ground and reach up toward Heaven have life, but have not the sensation of the brown-winged bird that flutters and trills to tell you that he feels joy in living. We know that the higher the organism, the more complicated are the functions and the more sensitive and intense is the animal.

Perpetual growth requires that one step only be taken at a time. If we exercise our best judgment upon our work, and faithfully discharge the duties of each hour—seeking to live true to nature meanwhile—our efforts will be easy and effective, and our work will stand the trials brought to bear upon it.

Behold the youth starting forth in life, with a proud step, and with an earnest light in his eye! He is dreaming of the future; he pictures himself bearing the banner with the device "Excelsior." Will his ambition stand the test when the enterprise he has undertaken demands constant attention, close study, and prompt action? Has he brought to his work the highest degree of power of which he is capable? Is he laboring under the influence of his best faculties? If so he will press forward toward the goal of his ambition. But if his efforts are put forth at random, or if he possesses a will too weak to bring himself under proper discipline, he will sit down by the wayside, and let others pass him, who in the start-out he considered much inferior to himself in faculty and purpose. And when the youth who has been taught at his mother's knee the precepts of morality and heart purity, goes out into the world, to meet and mingle with new and strange influences, and is disposed to

sacrifice principle to what seems to be present advantage, does he not publish to the world that, although he may be most sincere and exalted in his aims and aspirations, he has nevertheless sacrificed his ideal and neglected some important part of his mental organism? Purity of motive, if it is not so bright and strong that we may detect its fibres in the web of human life, is not genuine.

Real worth must stand the test at the fireside, behind the counter, in the church, and in the office. It must be a part of us, permeating our bone and sinew, giving direction and force to every power of our lives, furnishing motive and impulse to our nature.

MARY ROBINSON.

ONE FOE TO PUBLIC HEALTH.—There was a prophecy in existence to the purport that the Continents would be swept by an epidemic as fatal as those recorded to have raged in olden times. This report reaching my ears when a mere child, made a deep impression and set me earnestly to thinking.

Reason, however, prevailed. I meditated: Such a dread repetition of history, I solaced myself, is impossible. Conditions since have improved; people are housed and fed better; hygiene and medicine have advanced; our cities are the safer for more prudent measures taken in regard to drainage, the disposal of the dead, the removal of miasm-creating substances. Famine and nation-devouring wars—the usual forerunners of those historic pestilences—are out of the question.

No danger! no danger! Public safety is sufficiently guaranteed.

There I dropped the matter until more than a score of years later. The same theme is presented anew to my consideration. The foe to public health now seems to announce itself as lurking in our daily food. "Adulteration" is the password afloat, to which the public helplessly falls victim.

Deny, who can, that we have to suspect half the articles of provision we buy. Consider things, practiced in the interest of filthy lucre, that affect our purse only—as, for instance, the selling of watered milk—if indeed there the mischief stop.

Of a less innocent character are the cheap, base things added to our sugar, flour, cheese, etc.

Dare we of the city eat a piece of bread, even from the inviting "home-made" loaf, and make sure of its wholesomeness?

We must doubt also that our flesh meat is free from taint by fever or abuse in transit and treatment. Tea and coffee have been reported falsified by wholesale, and everybody knows it.

Let us grant that apprehension exaggerates, painting the truth in very dark colors, yet the evil exists; our food is tampered with and made pernicious. If no alarming symptoms are perceptible, remember that man is fearfully and wonderfully made, that he is constituted to resist an amount of hurtful influences. Nature, however, has to yield

when exhausted in the struggle against injurious conditions that are constant.

Look about for small beginnings. How do you account for the several infirmities that have crept upon us within the last decade, that continue to baffle the physicians' skill and wisdom? Is it wholly ungrounded to trace them as mysteriously connected with the above-mentioned vile frauds? Must we go on allowing public health to be staked against the low ambition of money-greedy adventurers, and finally pay the consequences out of our health and pockets?

Time must tell.

SOPHIE SIEVERT.

PERSONAL.

Mrs. JULIA WARD HOWE is doing well in her management of the department of woman's work at the New Orleans Exposition. She has collected a vast amount of instructive and highly interesting material, and enjoys the co-operation of some of the leading ladies of the country.

MR. LABOUCHERE, the editor of the *London Truth*, bears a strong resemblance to Mr. Elaine, and, like the latter, is known for his spirit and persistence. He entertains handsomely, talks as well as he writes, and is very generous in his deeds.

A NEW PHRENOLOGICAL SOCIETY.—It is pleasing to learn that a new Society has been organized in Springfield, O., of which the following are the officers: Prof. J. W. Van Sickle, President; George Netts, Vice-President; and W. S. Tibbitts, Recording Secretary. The Society meets every Friday evening, and is reported by its President to be in a prosperous condition.

SETH COOK, of Rathboneville, N. Y., was 103 years old January 10, 1885. On October 16th last he went alone to Cowanesque Valley, expecting to meet his son. When he arrived there he learned that his son was at Gaines. There was no train for that place until night, and Mr. Cook concluded it would be a waste of time to wait for it, and set out for Gaines on foot. The distance is seventeen miles. He walked the entire distance in six hours, arriving at his son's an hour ahead of the train. What an old tramp! Can they match him on the other side of the "pond"?

A YOUNG SCULPTOR.—Visitors at the exhibitions of the National Academy of Design this season have been drawn to consider a group in marble there, named "The Slaughter of the Innocents," representing a terrified but heroic mother seeking to protect her child from the murderous hand of Herod's soldiers. This work is the production of a young man, August Zeller, who has made sculpture the study of his leisure, and its merit is such as to suggest very high accomplishments in the future. Such original talent deserves encouragement, and we hope that Mr. Zeller will not want for opportunity to exercise it.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

HE that swells in prosperity will shrink in adversity.

EVERY real thought, on every real subject, knocks the wind out of somebody or other.—HOLMES.

A HEAD properly constituted can accommodate itself to whatever pillows the vicissitudes of fortune may place under it.

MEMORY is not wisdom ; idiots can rote volumes ; yet what is wisdom without memory ? A babe that is strangled in its birth.—HOVEE.

MUSIC is the only sensual gratification which men may indulge in to excess without injury to their moral or religious feelings.—ADDISON.

THE golden moments in the stream of life rush past us, and we see nothing but sand ; the angels come to visit us, and we only know them when we are gone.

THINK of your own faults the first part of the night (when you are awake), and of the faults of others the latter part of the night (when you are asleep).—Chinese Proverb.

IT is a foolish idea to suppose that we must lie down and die because we are old. Who is old ? Not the man of energy ; not the day-laborer in science, art, or benevolence ; but he only who suffers his energies to waste away and the springs of life to become motionless.

CARLYLE, meeting a young man walking alone, asked him with what his thoughts were occupied. "Sir," said the young man, pompously, "I am speaking with myself !" "Take care, always, young man, that you do not talk with a bad man," quietly rejoined the philosopher.

"*Omnia vestra enim sunt,*"

Is thy priceless boon, my soul !
Though all things earthly fail thee,
And unreach'd thy human goal.
Life and death through grace are thine—
Death is stingless, and divine
Is thy life before thee.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

ICICLE, bicycle, tricycle, broken nose.

THE house of correction : The printing-house.

"DYING in poverty," mused a needy student, "is nothing ; it is living in poverty that is hard on a fellow."

"JOHNNY," said an editor to his hopeful, "are you in the first class at school ?" "No," replied the youngster, "I am registered as second-class male matter."

"MILKMAN, why does your milk always look so blue ?" inquired the housewife. "My cows came from Boston, mum," proudly replied the milkman, "and they're blue-bloods."

A GENTLEMAN once asked Dr. Abernethy if he thought the moderate use of snuff would injure the brain. "No, sir," was Abernethy's reply ; "for no man with a single ounce of brain would ever think of taking snuff."

"AREN'T you almost boiled ?" inquired a little girl of a gentleman. "No, little one, I can't say that I am. On the contrary, I feel quite comfortable." "That's funny. I should think you would be." "Why so, daisy ?" "Oh, because I heard mamma say your wife kept you in hot water all the time."

"MRS. —AWAY, while cleaning house, asked her husband to nail up some [] ; he refused ; she looked †† at him, told him his conduct was without [], and beat him with her [] until he saw **. He now lies in a (,)tose state and may soon be a subject for disg." A man must be an * his life and limb in such a way as that.

"I UNDERSTAND that you have stopped practicing," said the Secretary of State to an eminent colored physician.

"Yas, sah, 'cluded ter gin up de trade an' go ter preachin'. In dis country dar ain't no money ter be made in de practicin' o' medicine. W'y, sah, ef I had er 'voted my time ex close ter suthin' else ez I has ter dis business, I would er been pretty well off by dis time. Ober two-thirds of my patients neber paid me, sah."

"Why didn't you sue them ?"

"I wouldn't done no good, 'case dey wuz dead, sah. I got the wus class o' patients. None o' 'em neber had no health an' constitution."—Arkansaw Traveller.

THE WEDDING OF THE GOLD PEN AND THE INKSTAND.

A "STATIONERY" TALE.

THE Gold Pen wooed the Inkstand.

The Inkstand was of crystal, with a carved silver top. It evidently came from an aristocratic family, and was therefore a fitting match for the Gold Pen, which also was an aristocrat and carried itself haughtily toward the Goose-quill and the Steel Pens, its poor relations.

The wedding was a splendid affair. All the inhabitants of the Table were invited, and the great Unabridged Dictionary—the true autocrat of the Writing-Table—gave away the bride, while the fat Pen-Wiper, in scarlet and black cashmere, sobbed audibly ; not that there was anything to sob about,

but she had heard that it was fashionable to cry at weddings.

After the ceremony, "the happy pair received the congratulations of their large and distinguished circle of acquaintances," as the Newspaper says.

"Many happy returns," blundered the Goose-quill, claiming his privilege as a relation of kissing the bride. The Goose-quill had got itself a new point for the occasion, and quite plumed itself on its appearance.

"Wish you joy," said the Steel Pen—a brisk, business-like sort of fellow, leading forward the Pen-Wiper.

"Joy," echoed the Pen-Wiper, with a fresh burst of sobs.

"May life's cares rest lightly upon you!" said the Paper-Weight.

"Stick to each other through thick and thin," said the Mucilage Bottle.

"Let no external influence divide you," said the old, well-worn Scissors.

"I congratulate you, madam," said the (S)quire of Legal Cap, "the bridegroom is a distinguished fellow—*stylus potentior quam gladius*. Pardon the Latin; but we lawyers, you know—He! he!" and he retired with a smirk, quite satisfied with his display of erudition.

"Live ever in a fool's Paradise," growled the Foolscap, who was a disappointed old bachelor.

"May the star of Love never set in the heaven of your happiness!" simpered the rose-tinted Note Paper, who was always delicately sentimental, and it was rumored that she was in love with the Violet Ink.

The bride of the occasion looked up brightly in response to the compliment, and the Note Paper turned a shade rosier, and murmured, "How sweet!"

"Come right to the mark of duty," said the Ruler, "and your line of duty will never go crooked."

"May love be never erased from your hearts!" said the India Rubber.

"And may nothing ever divide you!" said the Ivory Paper-Cutter.

"Let all your actions bear the right stamp; and, above all, never tell a lie!" said the Postage-Stamp, who bore proudly the portrait of George Washington, and must therefore be excused for introducing the latter remark.

"Don't let the little *rubs* of life wear out your mutual kindness, my dears," said the matronly old Eraser.

"Hech, lad," said the little Scotch-plaid Index, that came tumbling out of a volume of Burns. "A lang life an' a happy one to you an' your bonny bride!"

"May you always be wrapped up in each other!" said the Envelopes, who came up in a solid group.

"Though the Gordian Knot was cut," said the Penknife (a sharp chap, by the way), "may this True Lover's Knot never be severed!"

"I hope you'll make your mark in life," said blunt old Lead Pencil.

"Look closely," said the Pocket Microscope,—
"but for virtues, not for faults."

"May the remembrance of each unkind word or deed be quickly blotted out!" exclaimed the Blotting Pad.

"Bless ye, my children, bless ye. Be happy," said the Big Dictionary, in the (theatrically) paternal manner.

The Gold Pen and the Inkstand did not make a wedding tour, but went to live immediately in a beautiful bronze stand dish in the centre of the Writing Table, and are said to be living in harmony, and are models of practical usefulness.

C. F. RUESTOW.



In this department we give short reviews of such New Books as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

A MATTER OF TASTE. A Novel. By George H. Priard. 18mo, pp. 220. Fancy cloth. Price, \$1. White, Stokes & Allen, New York.

A lively little story, abounding in pleasantries that are decidedly taking, without being at all far-fetched or vulgarly abrupt. The author puts us in the midst of a sprightly group of married and unmarried young people who are doing Europe in a kind of mixed English and American fashion, because the group is composed of persons of both "persuasions." The contrasts of demeanor among these people are dextrously interpreted, the American young lady especially being well handled. There are sundry exhibitions of sentiment and of "unannounced tears" that accord well with the locale of the scene, it being for the most part Venice, and a "sweet" love tale percolates through the whole that has its sad and dark features—the latter for being, we suspect, in Italy. Several finely executed engravings of Venetian architecture add their grace to the well printed book.

VOCAL AND ACTION LANGUAGE. Culture and Expression. By E. N. Kirby, Teacher of Elocution in Lynn High Schools. pp. 163, 12mo. Cloth. Price, 75 cents. Boston: Lee & Shepard. New York: C. T. Dillingham.

A concise and practical manual for the student in vocal culture, it is adapted to private use, although no mere text-book will supply the place of a teacher. The author advises well that two or more should associate in the study of this art in following the directions of a handbook, for from such associ-

ations help and encouragement will flow to each and more positive progress be secured. The brief physiological exposition is to the point and aptly correlates with the directions for the use of the voice and the expression of language.

HEINE'S BOOK OF SONGS. Compiled from the Translations by Sir Theodore Martin, K.C.B., and Edgar A. Bowring, C.B. x6mo. Gilt top. Price, \$1. White, Stokes & Allen, New York.

Of Heine, the essayist and poet—but as a poet chiefly esteemed by the Germans—this tasteful little book furnishes the English reader a very good idea. The work of the translators is well done, displaying the delicate fancy of the great lyric master with much greater fidelity than is commonly the case in translations from German poetry. The selections are taken from Heine's poetry at different stages of the author's life, and embrace a wide variety of subject, grave and gay, jocund and severe. We have tried our hand at rendering this poet's measures, as have so many students of the grand old German tongue, and think that by such experience we know somewhat of the difficulties involved in giving proper expression to the poet's fancies. This little bit from the volume strikes us as very happily "done into English":

Tower and castled peak look downward
On the mirror of the Rhine,
And my bark sails blithely onward,
In the sunbeams' golden shine.

Calm, I mark the ripple stealing
O'er the broken wavelet's crest;
Silently awakes the feeling
Cherish'd deep within my breast.

Looking tender in its splendor,
On the stately river glides,
But the gleaming fair in seeming,
Death and night within it hides.

Sweet to view, at core fallacious
Stream, my lady's type thou art;
She can wear a smile as gracious,
Look as meek and kind of heart

PATHFINDER for the Organization and Work of the Woman's Christian Temperance Union. By Mrs. E. G. Greene, Pres. Vermont W. C. T. U.

The women are earnest in their temperance work. The same zeal that indicated itself in the "crusade" against the dramshop of a few years ago is rife in the organized and legitimate efforts of the Christian Temperance Union of to-day. Its branches are increasing, so that before many years we may expect to see every town in the country with its corps of women diligently contending with the minions of alcohol. In this new book we have a convenient manual for the help and guidance of new workers. It contains forms of organization for local Unions, together with election of officers, committees and their duties, delegates to conventions, plans for institution, list of departments, with

a full description of each; list of superintendents, together with their duties, etc., etc. It also contains an introduction by Miss F. E. Willard, President of the Union. Paper. Price, 25 cents. Published by National Temperance Society, New York.

THE ART OF TAMING AND EDUCATING the Horse. By D. Magner. 500 illustrations. 8vo, pp. 1088. Published by the author, at Battle Creek, Mich.

The ideal horseman presents himself to the mind commonly as a tall, dark-complexioned, athletic person, on the strong lines of whose face emphasis and determination are easily read, together with an unyielding spirit where contest for mastery is provoked. Probably the ranchero, or cow-boy of the Western plains, appears to most of us a suitable candidate for the honor of high skill in training our useful beast of burden, and he is generally figured as an athlete of a dashing, reckless manner that suggests little schooling and a proud contempt for the ambitions of town society. The author of this book is of a type entirely different from the above, as is seen in the excellent steel portrait at the opening of the book. A man of medium size, with a nervous temperament, and a face that indicates intensity and delicacy, he may disappoint some, who looked for a herculean frame and iron features. But to us the face indicates rare tenacity of purpose, resolution, and sensitiveness of intellectual comprehension, and we are ready to subscribe to the opinion of the writer of the preface, that "he is gifted to discern the nature of animals, and educate them for man's service."

This elaborate work is a comprehensive detail of the author's study and experience in the training of horses, and offers to the public a system that has been kept secret for his own use, by which wild and vicious horses may be subjected. Mr. Magner is known far and wide as a skillful tamer and trainer, and his book will be welcomed by thousands who have witnessed his remarkable powers. The system is at once simple and humane, and contrasts in the latter respect with the cruel methods of horse-trainers generally. The procedure is described by which forty representative vicious horses were subdued. There are interesting analyses of different types of horses, in which the author shows a close inspection of the physiognomical elements that enter into form and expression; also chapters on feeding, stabling, shoeing, and the practical treatment of sicknesses and diseases to which horses are subject. The illustrations are highly graphic, and for the most part original, contributing much by their number and technical applications to the value of the work, which, as the production of an expert, has no superior in its line now in print.

RECHERCHES, CLINIQUES ET THERAPEUTIQUES, sur l'Épilepsie, l'Hystérie et l'Idiotie. Compte rendu du service des épileptiques et des enfants idiots et arriérés de Bicêtre pendant L'année 1883, par Bournéville, médecin de Bicêtre, Bonnaire, Routier, Leslaive, internes du service,

P. Bricon et Seglas, docteurs en médecine. Volume IV. avec 8 figures et deux planches. Paris, Aux Bureaux du *Progres Medical* 14, rue des Carmes, A. Delahaye & E. Lecrosnier, éditeurs, Place de l'Ecole de Médecine.

This is a report of services and observations on Epilepsy, Hysteria, and Idiocy, made by the physicians mentioned in the title. Full tables are given exhibiting the systematic method that was pursued by them. An interesting and elaborate paper on Rumination, or "cud-chewing" in animals, is a special feature of the pamphlet, the author devoting the larger part of his attention to rumination in man and furnishing cases from several sources. A second paper, prepared with much fullness by MM. Bourneville and Bonnaire, is founded on recent observations of hysteria and epilepsy in a boy who was cured by hydropathy. The closing paper of the report is on the diseases following hydrocephalus. Several very fine pathological views of the brain accompany the report. The pamphlet is of value to neurologists.

PUBLICATIONS RECEIVED.

OUT OF EGYPT. Bible readings on the book of Exodus, by G. F. Pentecost, is Number 127 of the Standard Library, published by Funk & Wagnalls, of New York. The chapters or sections forming it are summarized from the series of Bible readings given in London by this clergyman. They are very interesting, abounding in incident and opportune reflection—never dull or heavy. The series has passed through many editions abroad, and its appearance on this side of the water will doubtless receive a cordial welcome from church-goers and Bible readers. Price in paper, twenty-five cents.

NOTE. From certain remarks that we have overheard, there seems to be a possibility of the suspension of the publication of the "Standard Library." If this be true, it must be owing to want of support, and we would say in this place, that as Messrs. Funk & Wagnalls have given to society over a hundred and twenty-five volumes of excellent reading in neat form and at a remarkably low price, their enterprise in this respect should not be allowed to fail. The literature issued from their press is of the kind to meet and stem the tide of trash and rot so rapidly moving and so broad in its influence.

HARPER'S MAGAZINE for January contains a richly illustrated sketch of Wiclif and his times; interesting views of life in Florida taken by a tourist who explored the streams in a small yacht; A Revival of Mezzotint in the painter's art has fine specimens of that class of art. In A Pair of Shoes we have a very full description of the *modus operandi* in the production of a factory shoe.

THE JANUARY CENTURY supplies its readers with a series of admirable drawings of modern architectural achievements in America, several church edifices being the chief subjects. In "The

Making of a Museum" we have several pictures from the Smithsonian Institute. An article describing operations on the Mississippi River in the early days of the late war is very graphic and the treatment is commendably impartial.

PROHIBITION AND COMMON SENSE, by John Bascom, D.D., LL.D., President of the Wisconsin State University, offers to him who takes any part in reformatory measures a well-arranged discussion of the fundamental principles upon which the demand for prohibitory statutes relating to the liquor traffic is based. Price, ten cents. J. N. Stearns, publishing agent, New York.

THE CHRISTIAN ADVOCATE, the organ of the Methodist Church, edited by Dr. Buckley, of New York, has improved in a marked degree under the present management. We find in late numbers sketches of foreign travel and of home society that are very attractive, while the special province of the newspaper is far from neglected.

THE AMERICAN ART JOURNAL, of New York, endeavors to keep up its reputation for impartiality and comprehensiveness of view in relation to music and the drama. Mr. Thomas, the editor, is doubtless successful in his effort to make his paper an important element in its special relations.

THE ECLECTIC MAGAZINE of foreign literature for January comes to us with a beautiful frontispiece and a good selection of topics from current literature. An article on Goethe invites a careful reading.

A SPANISH GYPSY, by Marie Sibree, revised by Rev. E. P. Thwing, Ph.D., is a delightful story of Christian living and suffering.

ELEVENTH ANNUAL MEETING OF THE WOMAN'S CHRISTIAN TEMPERANCE UNION, Iowa, held at Oskaloosa, Aug. 7-10, 1884. This voluminous report is certainly encouraging to all who hope for the growth and extending influence of temperance principles. Published by Miller, Girton & Watters, Des Moines, Iowa. Price, ten cents.

NO. 13 OF OGILVIE'S POPULAR READING contains several stories that have already acquired popularity, as East Lynne, Engaged to be Married, Diary of a Village Gossip, etc. Price, thirty cents. J. S. Ogilvie & Co., New York.

THE HOLIDAY NUMBER OF THE BOOK NEWS deserves mention in this place for containing a small gallery of pictures, taken from the fresh books which are advertised in its columns.

THE MAGAZINE OF WESTERN HISTORY shows in the initial number which is under observation a vigorous effort on the part of its publisher to popularize the record of our country from its beginnings. Subscription price \$4. Published in Cleveland, Ohio.

THE AMERICAN INSTITUTE OF PHRENOLOGY is the only institution in the world where a course of instruction in the principles and practice of phrenological science is given, or where such facilities, consisting of skulls, busts, casts, portraits, anatomical preparations, skeletons, plates, models, etc., are to be found for the purpose of studying mind in its relation to brain and body.

This Institute was incorporated by the Legislature of the State of New York in 1866, and holds an Annual Session, beginning the first Tuesday of October, continuing six weeks, during which time more than a hundred lectures are given in Practical Phrenology, Physiology, Physiognomy, Psychology, Insanity, Idiocy, Vocal Expression, etc. Those wishing to make Phrenology a profession have here the best opportunity to prepare themselves for the work so as to insure success, while those engaged in other pursuits will secure important advantages by the knowledge obtained in a course at the Institute. The prosperity of business men depends on knowing men; the success of a teacher hinges on a knowledge of the pupils in their different capacities and adaptations; to study how to control and manage mind is of the first importance to lawyers; and he who knows mind best is in the greatest request in the trial of important cases. But no man needs to understand mind as taught by Phrenology more than the minister of the Gospel. He has not only the youth of his parish to deal with, but he has the solid, ripened, concentrated character of the adult to treat. Three-quarters of all the business, professional, and commercial work of this day and age is successful or a failure in proportion as the actors understand human nature.

The following are the RESOLUTIONS offered by the class at the close of the late session:

Having finished the course of instruction, the members of the class of 1884 beg leave to submit the following resolutions:

1. *Resolved*, That we regard Phrenology as ranking among the first of the sciences, because a knowledge of it enables us to know ourselves and to discern the character and motives of those with whom we come in contact.
2. *Resolved*, That we regard Phrenology as promoting the general welfare, because its tendency is to enlighten, purify, and elevate the human race.
3. *Resolved*, That great injustice has been done

to the science of Phrenology and its worthy advocates by men who pretend to be, and some of whom probably are, scientists, but who, nevertheless, are ignorant of the true principles of Phrenology.

4. *Resolved*, That a vote of thanks be extended to all our teachers for the interesting instructions which they have imparted to us.

5. *Resolved*, That we recommend the American Institute of Phrenology to all those desiring to learn how to judge of human nature with scientific correctness, as affording the best advantages for the acquirement of such knowledge.

6. *Resolved*, That the class of 1884 accepts the teachings of Phrenology as set forth by the American Institute of Phrenology, and that in the future its members will scan closely before accepting any novel and fanciful innovation upon a noble science that has been formulated upon the large experience of earnest and able investigators, from the days of Gall and Spurzheim to the present time.

7. *Resolved*, That this class recommend that the true mode of brain development as explained by Prof. Nelson Sizer, be known and spoken of as Sizer's Facial Angle, in contradistinction to Camper's Facial Angle.

8. *Resolved*, That we recommend the publication of the names and specialties of the Faculty of the Phrenological Institute.

MISS NELLIE FOWLER, New Jersey,
W. G. ALEXANDER, Canada,
JOHN S. ROESLER, Wisconsin,

Committee on Resolutions.

GEORGE MORRIS, New York.
J. S. SCHAEFFER, Iowa.
E. M. LOCKARD, Pennsylvania.
JOHN A. JAMISON, Jr., New York.
E. J. BRETTHOUR, Canada.
A. L. FERRY, Washington, D. C.
MISS FLORA MACRAE, New York.
F. C. JOHNSON, Massachusetts.
JAMES M. KIMMONS, Kansas.
MRS. M. A. SAHLIN, New York.
J. LEMON, New York.
GEORGE L. KING, Ohio.
REV. W. K. BURR, M.A., Canada.
ALEX. H. ANDERSON, Canada.
PETER ECKHARDT, Illinois.
FRED. M. WHYTE, New York.
J. S. CENTERBAR, New York.
REV. A. J. BROWNSON, Indiana.
J. R. STERLING, Canada.
MISS M. E. HERRICK, Massachusetts.
MISS E. CONSTANTINE, New Jersey.

For a Circular containing full particulars of the course of instruction, terms, etc., address the Secretary of the Institute, or

FOWLER & WELLS CO.,
753 Broadway, New York.

THE
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[WHOLE No. 555.



WILLIAM COWPER.

FOUR CHARACTERS FAMILIAR.

COWPER—HANNAH MORE—ALBERT BARNES—"CHRISTOPHER NORTH."

THE noblest souls of every age have believed their best labors inspired and crowned by a power above and beyond themselves, but the secret of the hidden being and working of thought has never been revealed. As over the highest garden wall may float to us the perfume of roses and violets, yet behind

the cold gray stone the sweet face of the rose and the violet be unseen; so into the domain of the noblest human soul, no step may enter, no eye may ever peer. Of all workers the brain is the most exclusive and secluded. How it best works, and what are the conditions of the greatest mental activity, are subjects of never-tiring interest and study. It is not always rest or quiet or health or sunshine that nurtures or completes the noblest thought. A mind dwelling in the fraillest frame, tossed and tormented with pain, with powerful will and tireless energy may accomplish the grandest result and crowd into one short life a succession of marvellous intellectual tasks. The mind can, and does at times, independent of great bodily suffering, and even of suffering in the brain, climb the greatest height, fathom the deepest depth, and travel over the widest field of thought.

Like beacon lights in a storm, all through the ages, these brave, patient souls shine out for us, learning through suffering their noblest art or sweetest song. The clear-eyed soul of a blind Milton has revealed to our happier vision the brightest glories of a lost Paradise.

From the sorrow-veiled heart of Cowper came to us some of the sweetest songs that for almost a hundred years have cheered and inspired myriad souls. Adown how many cathedral aisles and arches have sounded his sublime and trustful words:

"A glory gilds the sacred page,
Majestic like the sun,
It gives a light to every age
It gives, but borrows none."

This sweet hymn-writer, and the most popular poet of his time, was subject to great physical weakness and mental depression. After breakfast every morning he was accustomed to retire to his "little summer house not much larger than a sedan chair, the door of which opened into the garden, which was covered with pinks, roses, and honeysuckles, and the window looked out upon his neighbor's orchard, where he says the grass was be-

spangled with dewdrops, and the birds were singing in the apple-trees among the blossoms." This he called his "verse manufactory." It was lined with garden-mats, and had in it a table and two chairs, and here he sat morning and afternoon translating Homer into English blank verse, writing every day his forty lines until he had at last accomplished the forty thousand verses, never leaving the lines until he had given his best idea of "the style and manner and sentiments of the great Grecian bard."

The ballad of John Gilpin was written during his hours of illness, after hearing one day the story of the renowned citizen from his friend, Lady Austen, just as she had heard it in her childhood; and he told her the next morning, "that the ludicrous incident had convulsed him with laughter all night, and that he had embodied the whole into a ballad." This poem that has amused "three generations was written in a single night." It was read by Henderson, the actor, to crowded houses in London, and "one publisher alone sold 6,000 copies of a print of John Gilpin on his famous ride." Cowper lost his mother when only six years old, and was sent away to a boarding-school, where he was so teased and tormented and terrified by an older scholar, that his life there was perfectly wretched for two years. Over the pathetic lines in after years he addressed to his mother's picture may have fallen more tears than over any other poem in the English language. In all the region of poetry are found no more beautiful or touching lines.

Breaking away from the long-used pompous and stately style of writing so universal in his time, Cowper gives us the simplest, purest pictures of nature and of home. He thrilled the coldness of "his material age" with his "nobler conceptions of the spiritual and divine." He has been called the David of English poetry, "pouring forth his own deep and warm feelings in behalf of religious truth." The most impressive hymn that he ever wrote,—

"God moves in a mysterious way
His wonders to perform,
He plants His footstep in the sea,
And rides upon the storm";—

was written after passing through great mental sorrow, and in the lowering lonely "twilight of departing reason." Over the stormiest waves of time have these words sounded to sorrow-tossed souls like a sublime organ peal. Through the darkness that sometimes comes to all, ever echo the words tender and trustful:

"God is His own interpreter,
And He will make it plain."

This was the last one of the tuneful "Olney hymns" Cowper had been writing. How often has it been sung in the old church at Olney he loved so well! "To Jesus, the crown of my hope," is said to be the last hymn he ever wrote. Cowper's hymns are direct, simple, and clear; like little green sprigs of comfort we press them to our hearts. When tasting some new sorrow how the dear words come to us:

"The bud may have a bitter taste,
But sweet will be the flower."

Cowper was said to be the most delightful of all English letter-writers. His epistolary style was easy, graceful, and fascinating. Among his many interesting and amusing letters we find this one, addressed to the Rev. John Newton. It is so quaintly curious, and shows how easily his pen could turn from gravity to gaiety, that it is worth reading:

AN EPISTLE IN RHYME.

"July 12, 1781.

"TO THE REV. JOHN NEWTON.*

"My very dear friend:—I am going to send, what when you have read, you may scratch your head, and say, I suppose,

* "Cowper, in one of his letters, complained to Mr. Newton of the wanderings of his mind; his friend acknowledged a similar weakness;—'Yes,' replied the poet, 'but you have always a serious thought standing at the door, like a justice of peace, with the riot-act in his hand, ready to disperse the mob.' Cowper's correspondence with Newton presents few specimens of this delightful badinage. He loved and respected, but he also feared his friend."—WILLMOTT.

there's nobody knows, whether what I have got, be verse or not; by the tune and the time, it ought to be rhyme; but if it be, did you ever see, of late or of yore, such a ditty before? The thought did occur, to me and to her, as madam and I, did walk and not fly, over the hills and dales, with spreading sails, before it was dark to Weston Park.

"The news at Olney is little or none; but such as it is, I send it, viz.: Poor Mr. Peace cannot yet cease, adding his head with what you said, and has left parish-church quite in the lurch, having almost sworn to go there no more.

"Page and his wife, that made such a strife, we met them twain in Dog-lane; we gave them the wall, and that was all. For Mr. Scott, we have seen him not, except as he pass'd, in a wonderful haste, to see a friend in Silver End. Mrs. Jones proposes, ere July closes, that she and her sister, and her Jones mister, and we that are here, our courses shall steer, to dine in the Spinney;† but for a guinea, if the weather should hold, so hot and so cold, we had better by far, stay where we are. For the grass there grows, while nobody mows, (which is very wrong,) so rank and long, that so to speak, 'tis at least a week, if it happens to rain, ere it dries again.‡

"I have writ Charity, not for popularity, but as well as I could, in hopes to do good; and if the Reviewer should say, 'To be sure, the gentleman's Muse, wears methodist shoes,' you may know by her pace, and talk about grace, that she and her bard have little regard, for the taste

* The Spinney was a delightful rural retirement—a grove—belonging to Mrs. Throckmorton of Weston, and about a mile from Olney. The word is used for a thicket, or clump of trees.

† Cowper's summer-house still exists, but his favorite Spinney was cut down in 1785. Writing to Newton, he said, "In one year the whole will be a thicket; that which was once the serpentine-walk is now in a state of transformation, and is already become as woody as the rest. Poplars and elms, without number, are springing in the turf. They are now as high as the knee. Before the summer is ended they will be twice as high; and the growth of another season will make them trees. The desolation of the whole scene is such that it sunk our spirits."

and fashions, and ruling passions, and hoidening play, of the modern day; and though she assume a borrowed plume, and here and there wear a tittering air, 'tis only her plan, to catch if she can, the giddy and gay, as they go that way, by a production on a new construction. She has baited her trap in hopes to snap all that may come, with a sugar-plum.'

" — His opinion in this, will not be amiss; 'tis what I intend, my principal end; and if I succeed, and folks should

eight, without pipe or string, or any such thing; and now I have writ, in a rhyming fit, what will make you dance, and as you advance, will keep you still, though against your will, dancing away, alert and gay, till you come to an end of what I have penn'd; which that you may do, ere madam and you are quite worn out with jigging about, I take my leave, and here you receive a bow profound, down to the ground, from your humble me,

" W. C.



HANNAH MORE.

read, till a few are brought to a serious thought, I shall think I am paid, for all I have said and all I have done, though I have run, many a time, after a rhyme, as far as from hence, to the end of my sense, and by hook or crook, write another book, if I live and am here, another year. I have heard before, of a room with a floor, laid upon springs, and such-like things, with so much art, in every part, that when you went in, you was forced to begin a minuet pace, with an air and a grace, swimming about, now in and now out, with a deal of state, in a figure of

" P.S. When I concluded, doubtless you did think me right, as well you might, in saying what I said of Scott; and then it was true, but now it is due to him to note, that since I wrote, himself and he has visited me."

Cowper combined with the most playful humor and powerful satire, the purest patriotism, the most tender morality, and fervent piety. He was greatly beloved and admired. The purest, sweetest memories of home, the dearest hopes of heaven, are linked with his name wherever we see it. In Cowper's hours of

agony he wrote thoughts surpassing in beauty and brilliancy the most elaborate efforts of others made under the most favorable circumstances. His soul was like a bird singing in the rain, and it is singing still in the voices of the great congregation, in every land — singing resignation and faith. Loved ones have passed away with his words on their lips, and we are singing them still. In the whole range of the hymns of all the ages, is there one verse breathing more love and reverence for the Divine Father than this :

" The dearest idol I have known,
Whate'er that idol be,
Help me to tear it from thy throne
And worship only Thee."

And how faith and hope thrill through every word of this verse, so often sung and so great a favorite with every Christian heart. What purer, nobler strain could peal forth from all the organs of all the earth, could all the world's voices sing together :

" Then in a nobler, sweeter song
I'll sing Thy power to save,
When this poor lisping, faltering tongue
Lies silent in the grave."

Many a loving pilgrim has knelt reverently at Cowper's grave. The noblest of pilgrims lingering there, Elizabeth Browning, has written these lines :

" It is a place where poets crowned may feel the
heart's decaying,
It is a place where happy saints may weep amid
their praying ;
Yet let the grief and humbleness as low as silence
languish !
Earth surely now may give her calm to whom she
gave her anguish."

HANNAH MORE.

There have been many other souls who have been an inspiration and blessing to the world, who have patiently borne the weight of suffering through all the hours of their mortal life. No woman that ever held a pen did more real good in her generation than Hannah More, who was an invalid all her long life. She wrote many volumes, and accumulated nearly a hundred and fifty thousand dollars from them.

Some of her tales, published monthly, reached the circulation of a million each number. With an ever-aching head, she was subject to successive illnesses, hindering and delaying her best efforts, and yet she said " that her frequent attacks of illness were a great blessing to her ; they induced a habit of industry not natural to her, and taught her to make the most of her well days and to contrive employment for her sick ones." She suited her occupations to every gradation of the measure of capacity she possessed.

" I never," she said, " afford a moment of a healthy day to transcribe, or put stops, or cross 't's,' or dot my 'i's.' " Her poor days she gave to the lowest drudgery of writing, and saved her better days for better things. Though some of her days were poor, all of her works were successful. Of her "*Cælebs in Search of a Wife*," her most popular work, there were ten editions sold in one year. Her early stories and dramatic works gave her so good a reputation that, on a visit to London, she was admitted to the famous literary circle of which Johnson, Burke, Garrick, and Sir Joshua Reynolds were among the principal members. Her tragedy of "*Percy*" was brought out by Garrick, and displayed some dramatic power, and for it she received \$3,750. She would, after a little practice, have shone as a dramatic writer, but she became deeply impressed with the importance of religious truth, and gave up her ambition to write for the stage.

She lived to be eighty-eight, and, amid severe bodily infirmities, she wrote with untiring zeal, prose and poetry flowing constantly from her ever-busy pen. The collection of her works is comprised in eleven volumes octavo. She founded schools and extended charitable efforts for the education of the poor in all the surrounding country.

Her story, "*The Shepherd of Salisbury Plain*," had an enormous circulation, and made a profound impression.

By her writings and by her personal example, Hannah More drew the sympathy of England to the poverty and crime of

the agricultural laborer. When she first went about the parish of Cheddar, not far from her home, to improve the ignorant condition of the people, she found only one Bible in the whole parish, and that was used to prop up a flower-pot; but she lived to see 1,000 of the Cheddar children taught the Bible, and joining in a yearly religious festival, when the hills of Cheddar echoed their sweet songs. With hardly a day without pain, she labored untiringly to cheer and help and instruct the poor miners and cottagers, to cultivate the intellects and impress the hearts of all

ALBERT BARNES.

In our own country there have been many noble souls who have accomplished



ALBERT BARNES.

great good with great hindrances. Of these, few have done more than the well-known theologian, Albert Barnes. Almost deprived of sight by unremitting toil while others slept—rising at four in the morning—he wrote for years on his celebrated Commentaries on the Scriptures. All the five volumes on the Old Testament and the eleven on the New were written before nine in the morning. What might have been another man's work for a lifetime he accomplished in the early morning hours, poring over the works of Grotius and Newcomb, Doddridge and Horne,

Campbell and Macknight, and the other most valuable helps within his reach, to get the real meaning of the original. In 1856 his "Notes on the New Testament" had reached a sale of 400,000 volumes, and some of them had been translated into several languages.

He had the first rank among pulpit orators; his clear, calm, and impressive style always chained the attention and won the hearts of his hearers. He closed his last volume with the prayer that this, his early morning work, might be one of the many instruments of forming correct religious views and promoting the practical love of God and man among the youth of this country. He was deeply impressed with the thought that this work might be exerting an influence on immortal minds when he was in the eternal world.

Albert Barnes has been fifteen years beyond these earthly scenes—but his "Notes" are as fresh, direct, and comprehensive as ever, a treasure for any library's shelves. We wish his noble face could have been on the first page of all of them. We have seen, in the smallest and most retired country villages, large classes of earnest men studying the Bible, with Barnes' "Notes" in their hands, and boys and girls gathered around the homeliest firesides, with no books on the shelves, no literary or Biblical helps around them, studying their Sunday's lessons, and looking to see what Barnes had said about some passage whose meaning puzzled their uncultivated minds. And Barnes' "Notes" were the first whole set of books I ever owned—given me, when a girl, by the most brilliant and lovable youth I had ever known. I was to him an elder sister; to me he read his first poems and his first prose. Whatever his after faults and misfortunes, I have never known so gifted a boy as was Fitzhugh Ludlow, whose brilliant pen enriched so many magazines and books; whose early death I sincerely mourned. He came to me one morning early, when a boy, with his arms full of Barnes' "Notes," as a gift. He came laughing in, and laid the heavy bundle in my lap. I would like to be rich enough to give a

whole set of Barnes' to every youth in the land; not to make them Presbyterians or Methodists or Episcopalians, but to help them to travel the sacred fields, to climb the Orient hills, ascend the Mount of Olives, and gather hope and faith from the Garden of Gethsemane; to keep forever in their minds "the simple and majestic purity and power of the English tongue" as expressed in our English

aching with grief for the loss of the best of mothers, had had some hand placed on his head and some voice to say: This child must have the bright sunshine, the free air, be removed from the terror and torment of his miserable school life; he has a sensitive, gifted mind, but he needs all the blue sky and the green earth that he can see,—if such a hand could have helped him at the very gate of life, the



JOHN WILSON ("CHRISTOPHER NORTH.")

Bible, that has for two hundred years guided the steps of millions in their path to immortality.

Into the deep realm of research Barnes' dim eyes peered for us, and Hannah More's aching head planned and completed noble works for the help of the world's ignorance and suffering; and Cowper's sorrow-shadowed soul sang for us the most inspiring, hopeful songs. If the boy Cowper, whose young heart was

clouds might not have gathered for long years over his mind, and that life would have been rounded and complete.

JOHN WILSON.

We turn our pitying, admiring eyes from him to another youth, whose happier childhood made him as splendid a specimen of manly grace, strength, and beauty, as he was a wonder of wisdom

eloquence, and wit. Not one of earth's long list of gifted sufferers or sorrow-tossed children of genius, he stands forth like an Apollo in form, a Titan in intellect, with clear brain and joyous heart. John Wilson, the distinguished professor of moral philosophy in the University of Edinburgh, has been named with Burns and Scott as a member of the trinity, so to speak, of Scottish literary genius. "He stormed the heart of the Scottish people, and when their great novelist was gone he was their idol and literary representative." He was the "Christopher North" of *Blackwood's Magazine*, but earned his earliest laurels by his poetry. He was born at Paisley, 1785. He was the eldest son of a wealthy manufacturer, and at an early age was placed under the care of the minister of the parish of Mearns, a wild moorland district in Renfrewshire. His most delightful stories in after years were glowing with the charms of this boyish home. He was afterward removed from this residence to the home of another minister, at Glenorchy, in the Highlands, who encouraged him not only in the most regular and faithful study, but in the liveliest and most athletic outdoor exercises. Here in this wild, picturesque spot he formed a "lifelong passion" for the Highlands. He entered the University of Glasgow; was there a diligent and successful student, and from thence went to Oxford, where he was distinguished for rapid and thorough intellectual attainments, for splendid mental gifts, and for his "supremacy in all kinds of athletic games." He had a noble and athletic frame, a handsome face, kindled with the glow of genius, and he was the "boldest rider, the stoutest oarsman, the most indefatigable walker" among all his contemporaries. Among a great crowd of competitors, he won the "Newdigate prize of fifty guineas for his English poem, of fifty lines, on the study of Greek and Roman architecture." After four years at Oxford, he bought a beautiful estate on the banks of the lovely Lake Windermere, in Westmoreland. There he went to make his home, near

the homes of Wordsworth, De Quincey, Coleridge, and Southey, and other distinguished men. In the companionship of these delightful friends he lived most happily, sometimes spending whole days in his boat on the lake, and occasionally visiting Edinburgh for a short time. With luxuriant health and exuberant spirits, surrounded with the magnificent scenery of the lakes, his life was happy and complete, having married an amiable and beautiful woman whose companionship was the charm of his life. He gave himself up to the study of poetry, and "published his 'Isle of Palms,' a poem of the lake school, abounding in glowing descriptions of tropical scenery." This poem, and others that followed it, won for the young author great praise and admiration.

His lines on a sleeping child are very tender and musical. In the second verse he says:

"And who can tell what visions high
May bless an infant's sleeping eye!
What brighter throne can brightness find
To reign on than an infant's mind,
Ere sin destroy or error dim
The glory of the seraphim?"

His lines written in a burial-ground in the Highlands begin musically:

"How mournfully this burial-ground
Sleeps mid old Ocean's solemn sound,
Who rolls his bright and sunny waves
All 'round these deaf and silent graves."

In the shipwreck, in the "Isle of Palms," there are these two expressive lines:

"But gently now the small waves glide
Like playful lambs o'er a mountain's side."

The whole poem is one of Professor Wilson's finest efforts.

With youth, fortune, fame, and a glowing fancy, life seemed bright as a poet's dream; but, through a relative's unfaithfulness, the fortune of \$150,000 left him by his father was greatly diminished, and he was obliged to leave his beautiful home and to go to Edinburgh to adopt literature as his profession. He entered the Scottish bar, but, having much leisure time, he offered his literary aid to Mr. Blackwood, and connected himself with

the magazine. Blackwood was the editor, but Wilson was the presiding spirit, under the name of "Christopher North," and other pseudonyms. With great wealth of genius, here he poured forth his richest thoughts. His "Noctes Ambrosianæ" are a "series of discursive essays, displaying to the best advantage the wit, shrewdness, and rare ability of the author." These brilliant and amusing papers made "Christopher North" widely known and loved. He made *Blackwood's Magazine* celebrated by his brilliant stories, sketches, and essays. His novels, the "Lights and Shadows of Scottish Life," and trials of "Margaret Lynsdsey," and "The Foresters," were very popular. These were tender and pathetic stories of Scottish home and pastoral life. In 1820 Wilson was appointed professor of moral philosophy in the University of Edinburgh. He filled this important office with great ability and fidelity, and for thirty years large classes of young men listened to his eloquent lectures and were impressed by his glowing enthusiasm. He continued his literary labors also. It has been said that no literary man ever possessed a more magnificent physique. His eyes were of the clearest blue, his hair the Licumbrean yellow, his cheek brightened with a rosy glow. "For thirty-five years his commanding figure and finely-formed head, around which his hair flowed in wavy locks, formed a marked feature in the circles of the Scottish metropolis." His was a rare, won-

derful face, passing so rapidly in expression, from the deepest pathetic tenderness and gravity to the most sparkling and genial humor. His daughter has written his memoir, and his son-in-law collected and published his works in twelve volumes. In 1840 he lost his wife, and was at the time nearly prostrated with grief. The shadow of this great sorrow clouded his remaining days, and for the years left him the brightest charm was gone. He continued his duties and literary labors for eleven years, and in 1851 was smitten by paralysis and resigned his professorship. During his last years he enjoyed a pension of \$1,500 from Government in acknowledgment of his literary services. He joined the immortals in 1854. LYDIA M. MILLARD.

KNOWLEDGE is from a supreme fountain. It is not a collection of gleanings from this field and the other, not a compound more or less heterogeneous from numerous specifics, but in energy over all, transcending all, and including all. It pertains to the faculty of intellection, rather than to that of understanding; in other words, it is not a boon from the world of time and limit, but is of the infinite and eternal. It employs no cerebration for its processes, but may employ the corporeal organ for its mirror and medium. As science is concerned with things which are apparent, so intellectual knowledge is the perception and possession of that which is. A. WILDER.

A F A C E .

ONLY a face on the busy street
He saw as he passed along;
Only a face, but it was so sweet!
It haunted him like a song;
Amidst the press of hurrying feet
It haunted him for long.

And many a day as, faint and tired,
He travelled the way again,
He saw it still, and felt inspired
'Mid crowds of teeming men,
And a stronger wish was in his heart
To do good by word and pen.

But the stranger who passed him never knew
The joy that he had given,
How the smile of his face, so kind and true,
Had been as a balm from heaven,
And gladdened and cheered a weary heart
By storms and tempests driven.

Only a face on the busy street;
Who can tell how many more
Were cheered and refreshed by that face so sweet,
By the kind look that it wore,
Amidst the press of hurrying feet
And the city's dreadful roar?

ANDREW M. LANG.

THE SOCIAL FACULTIES.*

DOMESTIC AFFECTIONS.

AMATIVENESS. — *Location.* — The cerebellum is the seat of this passion. When the cerebellum is developed it gives prominence to the head just above the nape of the neck. When deficient, the distance from the ear backward is small. Fig. 1 is the portrait of a clergyman in whom the organ is large. In Fig. 5 the organ is quite weak.

Function. — Amativeness is the sexual passion, and its function is to secure the perpetuation of the race. It is the impulse that brings together individuals of



Fig. 1.—AMATIVENESS LARGE.

opposite sex. It is the prime element in Love, but alone it does not constitute that sentiment. It only inspires what is known as passion.

Perfect love results from this passion, and the desire for companionship, purified by Ideality; and a complete satisfaction of the other's faculties by the attributes of the person beloved. At the

* From "The Science of the Mind applied to Teaching. Including the Human Temperaments, and their influence upon the mind. The analysis of the Mental Faculties, and how to develop and train them. The Theory of Education and the School; and Normal Methods of Instruction and School Management. By U. J. Hoffman, associate Principal of Jennings Seminary and Normal School, and Professor of Belles-lettres and Teachers' Training."

age of puberty this faculty becomes active. There is then a complete change in both body and mind. The womanly form and charms are developed; the boisterousness and awkwardness of girlhood are superseded by the grace, beauty, and modesty of womanhood. The eyes sparkle with animation, the voice becomes musical, the sensibilities are quickened; and if the health be good, joy and beauty so pervade everything that life seems a delightful romance and a charming poem. But in case of ill-health, especially in diseases peculiar to women, there is a painful and unbalanced condition of the emotions. The blues and hysterics set in, and life is almost unbearable.

In the boy the manly form is developed, the voice changes, the eagerly awaited mustaches begin to show signs of life, boyish sports and thoughts become tame; there seems to him to be an indescribable charm before unknown about the person of the opposite sex; the impulses that move men soon take hold on him; ambition, love of power, and desire to achieve great things now become the ruling elements of his life.

Cultivation. — It is not in the common-school teacher's province to secure to a great extent the guidance of this faculty. Yet his influence in the community being great, he may be able to disseminate correct ideas on this all-important subject.

This is the faculty that is at the basis of domestic life and happiness, and domestic happiness is at the basis of all other happiness. The evils which arise from Amativeness can be traced to three sources: disease of the reproductive system, erroneous teachings as to the nature of love, and the abuse of the faculty.

Ill-health of the kind just mentioned produces an abnormal activity and condition of all the emotions. Irritability of temper, peevishness, jealousy, despondency, instability of purpose are its direct results. Where these exist in either husband or wife domestic felicity is impossible. Among the higher classes of Amer-

ican women not one in ten is to be found that is healthy in this respect. The unmistakable cause of this ill-health is their manner of dress and living.

The lady teacher should become a teacher in dress and health reform. She can not do a greater or better work than to introduce into the families that have girls, such books as teach girls what they should know about their own persons.

When love exists as a passion it is the strongest feeling of our nature, and for the time being it makes all other interests subordinate to itself. It warps the judgment, and makes the person incapable of knowing the truth. In low fiction the idea is inculcated that this fever heat is to continue through life. All passion is short-lived, and this one soon takes its proper place among the feelings of ordinary life. People have the idea that passionate love is all that is necessary to make the marriage state all that romance pictures it. They think where this exists incompatibility of temper and taste, the difference in intellectual culture, all are absorbed in love. Never was there a greater mistake. Love arising from this passion may exist in its intensest form between two persons who have no tastes, desires, or attainments in common besides this passion.

While the passion lasts their differences are but slightly felt. But when it subsides, each sees the other in his glaring defects; after which a happy life is impossible. People should be taught that while marriage should never be contracted where there is no love, neither should it be where the one is not the other's complement in tastes, ambitions, morals, temper, and all other things that enter into ordinary life.

It is undoubtedly true where love is once begun it should be continued, for having once been under the influence of this great passion, and been disappointed, love will never again exist in so normal a condition. In some temperaments true love will never again exist toward another object. So it is of the highest importance that parents should by proper guid-

ance and instruction keep their children from forming attachments which will prove detrimental.

Teachers always have trouble when this faculty begins to exercise an influence in the children's minds. There will be neglect of studies, to sit and gaze across the room at the charming creature; quarrels among the girls about the boys; the insuppressible post-office where they exchange notes. Then parties are the rage; there is such a breaking up of former habits and modes of thought, such a complete breaking up of established conditions of the mental nature, that



Fig. 2.—SOCIAL ORGANS GENERALLY LARGE.

a change for better or worse must take place. Unless the right means are employed the most promising boy or girl may be turned into wrong courses and their lives be ruined. Happy is the boy or girl who has a mother that has the experience to guide safely through this critical period.

During this period a skilful teacher who has the confidence of his students can lay hold of their newly awakened ambition and lead them to higher planes of life. He can impress upon them the greatness and desirableness of becoming good men and women, worthy of esteem and love. Now it is the best time to establish in their lives the principles of pu-

rity and nobility that are necessary to a complete and happy life.

LOVE FOR CHILDREN.

Location.—This faculty is connected with the brain which lies just above the occipital process. When developed it gives length of the head backward from the ear, as in Fig. 3.

There is a larger development of the head in this region in females than in males, and it is well known that the love of young is stronger in the former than in the latter.

Function.—It is the function of this faculty to give an instinctive attachment of parents to their children, especially while they are young and helpless. The mother has no other reason to love her



Fig. 3.—PHILOPROGENITIVENESS LARGE.

infant except that it is an infant, nor can she will not to love it; for in all well-regulated constitutions this is an uncontrollable instinct placed there by the Creator to compel the care of the young. The impulse is strongest toward one's own children, but it reaches out toward all children and even pets. Little girls show it when they bestow their affections upon dolls or kittens.

Cultivation.—No teacher, whether of small children or older ones, can ever make a real success of his work unless his heart be full of love for those in his charge. Children may be attracted by a beautiful face, but they are attracted far more by a warm heart. Children avoid those who have no love for them; nor can they be deceived—if you do not love

them, they know it. They are irresistibly attracted to those who love them. The teacher has to work upon human souls that have a fixed constitution, and can not be fashioned into any form as can wood or stone. If he would succeed in his work he must have a life-giving force within his own heart that will act as sunshine upon a plant, awakening its powers and causing it to expand into a perfect life.

The sunshine of the soul is Love. When love shines upon the soul of another, new life is awakened. A teacher without love in his heart, as compared with one whose heart is aglow, has about the relative strength of the moon as compared with the sun. His faint light has little power to awaken life in the growing heart of the child.

If you can not love your pupils, it were better that you quit the work. Men and women may make much progress under the instruction of one whom they dislike personally, but children can not. They must love their teacher, and this can only be when he loves them. For children an inferior instructor whom they love is better than a superior one whom they dislike.

If you would cultivate the faculty in yourself, seek to find all that is admirable and lovable in children. Put yourself in sympathy with them by recalling how you felt and thought when you were a child; by studying their desires and ambitions, by making yourself one of them, encouraging them in what is innocent and interesting to them. Treat them kindly, respectfully, and tenderly. Above all, do them kindness from motives of sympathy. If we do any one a wrong, we hate them worse than if they had done us a wrong. So, if we do good to another, we will love him better than if we had received it from him.

FRIENDSHIP.

Location.—The part of the brain with which this faculty is connected, is located on the back part of, and on the side of the head, about half-way from the base of the cranium upward. When developed

it gives width and length to that part, as in Fig. 4. It is moderate in Fig. 1.

Function.—This is the gregarious instinct, and the tendency to attachment which is expressed by the term. It aids in the formation of society, and is the source whence arise the particular friendships found there. When well developed it constitutes what is called an affectionate disposition, and causes children to nestle in their mother's lap, or sit down and lay their heads together.

It is a mental attraction of cohesion which causes human beings to cling together, and form themselves into compact bodies, acting only upon such individuals as are brought into sufficiently close contact by similarity of constitution and circumstances as to fall within its sphere. Its first and closest bond is the family union, the love of brother and sister, and all who are in close household companionship, gradually extending to school-fellows, neighbors, and more distant acquaintances. It is a disposition always to be near its object, mentally or corporally; making the infant restless when removed from the nurse, and the school-girl hurt if her daily correspondent does not tell her every thought and purpose. The habits of the mind are infectious as those of the body, and the choice of our associates becomes highly influential upon our own dispositions. "Tell me a man's companions, and I will tell you what he is." (Bray.)

Friendship differs from Parental Love in this, that it seeks for companionship, and not for a helpless creature that requires care. It is the tie which unites persons of compatible natures without regard to sex. The mother's love for her child is from Parental Love, that of the child for its mother is from Friendship, but it is the maternal instincts which cause the child to cling to its pets.

Friendship gives a warm-hearted, companionable nature. It is beautifully manifested by the dog that loves his master so tenderly and faithfully, and seeks always to be with him to receive his kind words and caresses. When deficient it gives a

cold and unsociable disposition. The person likes to live alone, and nothing is more irksome to him than society. He attaches himself to no companions, and though he may be kind-hearted, just, and generous to the needy, the less he can have of people's society the better he is suited.

It is one of the strongest civilizing forces, as it causes individuals to share their interests with others, and this contact awakens many thoughts and feelings which lead them to a better mode of life. The union which is the result of this impulse combines the strength of all, and by this combined strength mankind can accomplish all that is desirable.



Fig. 4.—FRIENDSHIP LARGE.

Cultivation.—Secretiveness is the faculty which enables us to hide from view our own thoughts and feelings. By it we can shut out from the secret chambers of our hearts those whom we do not love. Friendship clings to companions, and we say we love them. When we love them we open to them our inmost feelings.

If the teacher would be in the highest degree successful, he must be able to get into the pupils' hearts, the source of life and conduct. And this can be accomplished only by Friendship. If the teacher is himself secretive, he may feel a deal of affection for his pupils, but will not show it, and so he fails to awaken in them the feeling which is necessary to his

highest success. He should not be afraid to show his own regards for them. Of course he is not to carry his heart in his hand among strangers. But when he becomes acquainted with his school, it becomes his family, where he ought to express in deeds, at least, all the love which he feels. If the teacher be of a pure, upright disposition, and loves truth, sincerity, honor, the beautiful, and the good, his example and friendship will do more toward making good citizens of his pupils, than will all the dogmas that he could teach in a lifetime. Love for the right and the pure, in the lives of those who teach, and not doctrine, is the greatest source of righteousness.

INHABITIVENESS.

Location.—The location of this sentiment is in the brain, which lies between



Fig. 5.—INHABITIVENESS LARGE.

Parental Love and Self-esteem. It is large in Fig. 5, and moderate in Fig. 1.

Function.—An analysis of the domestic nature shows that there is an impulse to bring together the sexes, and thus secure the continuance of the species from one generation to another.

There is next the impulse to provide for the welfare of the young in their helpless condition. The rearing and the education of the young can be best secured by living at some permanent place. We find in many animals, and in man, this instinct to live in one place, where all the interests of the individual can be concentrated. This impulse is called Inhabitiveness.

A permanent dwelling-place serves man's highest interests. Here he can surround himself with all things that are necessary to his physical being and comfort. Here he can rear his family, and enjoy their love and presence, gather his wealth, educate himself and his children, enjoy all the pleasures of domestic, social, and industrial life. We find in every well-organized mind this love of home. Its function is not to love those things which are in the house, nor to love the house because of the interests concentrated there. It is an instinctive inclination to live in one place. A person with the faculty weak may love home because of the pleasures which are centered there, but he will be equally happy at another place, if the same sources of pleasure are removed to it. The man with large Inhabitiveness would rather live in the place of his bringing up, with only the necessities of life, than live at another where he might have all the luxuries. It is always strong in those people who live in mountainous countries, where removal from place to place is difficult. It is weak in the American character, because from the beginning our people have been migratory, and because the facilities for travel are so great. There are comparatively few homes in America. A large majority of the people live in other people's houses, and nearly every one is willing to sell his house if he can do a more prosperous business elsewhere.

One of the incidental functions of this faculty is to concentrate the actions of other faculties, or, rather, continue their action at the work upon which they are engaged. Persons with this faculty strong are disposed to dwell upon one subject, and to keep at one kind of work. They possess more continuity of action, and are indisposed to change from one thing to another. Those in whom it is deficient are prone to change. They follow one kind of work but a short time, and can do a dozen things equally well or indifferently.

Cultivation.—In school, children should

have a desk of their own, and should be induced to take an interest in keeping it in order. In the home they should have their own rooms, which they should be required to keep in order and make just as attractive as possible.

REMARKS ON THE AFFECTIONS.

Love is the basis of all goodness and virtue. Without it man is not human, and becomes the enemy of his kind. Without it there is no happiness; words are without meaning, and deeds without kindness: friendship is hypocrisy, and kindness is selfishness.

When a child shows affection, it is an indication that there dwell in it the seeds of a true manhood or womanhood. The infallible way of starting a child on the road of its own happiness and well-being is to feed its affectional nature with that which is true, pure, and good. Satisfy its heart with what is worthy, and the source of its conduct will be kept pure. When a child exercises its affections for pets, the care and kindness which it exercises toward them will enlarge its capacity to do good to others. Often we see children growing up, and their affections receive no food. The father is absorbed in business, he exercises no love toward his children, and they grow up to fear rather than to love him. The mother has her cares and missionary societies to look after. The brothers and sisters, therefore, exercise only their selfish natures toward each other. So they arrive at the age of puberty, and their hearts are anchored to nothing. At the time certain passions become active, and all the affections are intensified; they are in a very whirlpool of passion, and are swept on in the irresistible current. Their hearts were never anchored to father and mother, sister and brother, and in this time of awakening there is nothing to hold them to a virtuous course. They rush headlong into the gratification of their restless, craving, maddening desires. The girls elope with coachmen, and the boys run wild in debauchery and

vice. Then people wonder why children of so good a family should go to the bad!

On the other hand, children who are reared in the atmosphere of affection, loved by father and mother, sister and brother, taught to exercise care, affection, and kindness toward all those whom they love, receive the food to sustain their affectional natures. They attain a pure, healthy growth, and their young lives are spent in the sunshine of love and the joy of hope.

When the time of awakening comes they are so securely anchored to the hearts of the dear ones at home that no unworthy object can engage their affections, and tear them away from their happy loves at home. Such girls will love only those who have the noble qualities of their own father and brothers. Such boys will have such exalted ideas of womanhood, from having had the love of a real mother and worthy sisters, that they will not be lightly influenced to do that which will give them grief. Not only should the affections of children be engaged to the members of the family, but their love of home should be strengthened. This can be done by making that the most pleasant place for them. Let them feel that at home they are as free as when they are away.

What children seek away from home is freedom; give them this at home and they will not leave it. Children should be kept cheerful and happy. No angry passions or depressing feelings should be allowed to remain long in their minds, for these distort their normal development. Let them be engaged in mental and physical pursuits that will keep them cheerful and happy, and their temper and disposition will become sweet. By developing their affections they learn to love the right and the good. Parents or teachers whose minds are in a normal condition, that is, those whose feelings are properly regulated, need never to exercise harshness to control children. It is only those who are themselves defective in their better nature that need to resort to fear.

THE FACULTY OF GENERAL OBSERVATION OF MEN.

WHEN one has known other men of his own class he is better able to obey the trite injunction, "Know thyself." Three or four methods of observation may be particularized.

1. *Position*.—When a person's muscular condition is normal, he will stand voluntarily in an easy, unconstrained position. This position, contrary to the usual opinion of laymen, is not very erect, or very upright. The shoulders are not prominently thrown back, neither is the back straight upright. On the contrary, the healthy, athletic man in his usual street dress would not be noticed for any unusual posture. It is only in the motion of walking that he is noticeable; but standing, while the head is rather erect, and the line dropped from the back of the head to the heels touches two or three prominent points, his shoulders are a little forward of an upright line, and his back a little diagonally projected forward.

2. *Movement*.—It is, however, in the *motion* of the healthy, symmetrical man that one discovers his normal condition. He walks *all over*. Not a muscle is quiet as he steps elastically and easily; shoulders, head, arms, partake gently and gracefully of the motion of the whole body, at every step he makes. It is a plain statement of his movement to say that "he walks like a cat." Any one who has ever observed a healthy domestic animal move about will understand the expression.

3. *Aspect*.—The face of a healthy man is a charming test of his condition. Whatever be his complexion, a sensation of pleasure is experienced by one who looks upon his countenance. The eye is bright and clear; the skin lively, hard, well-colored, translucent; the cheeks not necessarily ruddy, but transfused with a delicate ruddy hue; the teeth clean; the lips of a lively pinkish-red or crimson tinge, the cheeks neither fat nor attenuated, but firm in appearance to the eye; the hair upon the scalp and cheeks of a healthy brilliancy.

Either of these tests can be readily ap-

plied by an observer, and is tolerably conclusive, with some unimportant reservations.

Besides the test of health or physical condition, the exploration for previous history is equally simple. The man who is educated moves more certainly and with more celerity than the boor. His expression, particularly his countenance, is brighter and more animated. His speech is keener, his dress and manner more precise and fitting. Moreover, the educated or cultured man breathes less loudly and more synchronously; he moves his head less often from side to side; he speaks more distinctly and with more exactness and expressiveness, using no slang or vulgarity. The artisan is more observant, the literary man more absorbed; the business man more elated or depressed in demeanor, the clergyman more dignified; the uneducated man more vain of his clothing, and self-conscious, the tramp more deprecatory than other classes of men, and each, therefore, exhibits the nature of his development. Children, who were tolerably alike in their childlike aspects, having passed through the vicissitudes and culture that bring about such marked results, show the effect of these circumstances on all that they do characteristically. The thing that wrought them is readily distinguished in the result that is obtained in their development. Loose habits and extravagant waste of vitality bring about a wasted tissue, a flabby and weakly and exceedingly sensitive temperament or condition. Sharp, heavy trials conduce to a wearied, languid air of expression; congenial circumstances to a rich and robust constitution; healthy exercise to toughness and endurance; a suitable mental training to quickness of apprehension. In fine, whatever we would see in ourselves, we can study in its development in others, avoiding their faults and copying their good ways. It is a large factor in our own education to know what the results of certain training have proved in others.

HENRY CLARK.

A CRITICAL NOTE ON J. S. MILL'S "ESSAY ON NATURE."

"For I doubt not through the ages one increasing purpose runs,
And the thoughts of men are widened by the process of the suns."

IN the treatment of a subject such as "nature," which of course includes humanity and all pertaining thereto, the well-balanced organization of the author is a point of momentous importance, and one that is too often overlooked in the estimate of a man's writings. To form a true judgment of man and his attributes, it is not sufficient that a writer be an observer, he must also be a thinker—a philosopher; *knowledge* is the characteristic of the one, *wisdom* of the other, and a blending of these two is absolutely necessary in an unprejudiced writer.

By all means let us give Mill his due; his wonderful perceptive faculties were without parallel in his time among writers. But his want of reflection may be traced in his works. He was an observer, *not* a thinker.

The essay above mentioned is indicative of a misanthropy and general ignorance that are pitiful in a man to whom circumstance has given the position of one of the teachers of philosophy of the nineteenth century.

To begin with, his definition of nature is tangled, unsatisfactory, and vague. According to him—"Nature is the sum of all laws, known or unknown, with their resulting phenomena, *plus* the phenomena, which though not, still are capable of being called into activity."

Nowhere from beginning to end of the essay does he recognize the differences, in the effects, which always have been, and must be, in accordance as we work *with* or *against* nature. All health and pleasure and progress in every direction are the results of living and acting in harmony with nature and nature's laws; and the reverse has been, and ever will be, productive of disease and pain and discord. In Mill's handling the world is painted very black, and man becomes the puny slave of his own passions, as if that

were his destiny. But such is not the case. In the progressive, *upward* tendency so forcibly demonstrated by nature, the greatest achievement of her grandest laws is man! In him are centred the elements of a perfect physical organization and the germs of a psychic force which would make him, if he would only live and work harmoniously to the development of humanity, her chief glory; and not, as we too often see him, a blot on the fair face of nature.

Thus, utterly disregarding of harmony, Mill enters upon a wordy discussion on the signification of the word Law, which he says "has distinctly two meanings: one, denoting some definite portion of what *is*; the other, what *ought* to be." As an example of the former, he gives the law of gravitation, and of the latter, the criminal law.

I do not understand why criminal law *ought* to be; I rather think it ought *not* to be, since crime ought not to be; but in consequence of perverting and disobeying nature's laws crime becomes possible, hence criminal law is a necessity. Moreover, law in the *one* sense is merely rule, and changes with the fashions of the times and people; in the *other*, it is an eternal, universal, and immutable force.

Then he proceeds to show how absurd it is to exhort mankind to conform to the laws of nature, when it is impossible for him to do otherwise. In the confusion born of his ignorance of the laws that govern the physical and intellectual development of man, he talks of *conformity* and *obedience* to law, leaving out of consideration altogether the terrible consequences of *non-conformity* and *dis-obedience*. According to his argument, if a man meet with an accident, or come to grief, it is because he *conformed* to some law which he should have avoided. What law or laws do men *obey* that favor the degradation accompanying intemperance? Is it not that they *dis-obey*, and oppose laws, both physiological and psychological? Mill says: "Every action is the ex-

ertion of some natural power, and its effects, of all sorts, are so many phenomena of nature, in exact obedience to some law or laws." And, in illustration, he goes on: "When I voluntarily use my organs to take in food, the act and its consequences take place according to the law of nature; if, instead of food, I swallow poison, the case is exactly the same."

I beg to differ; in the simple deglutition the case is the same; but the law of a man's being that prompts to a constructive metamorphosis, and in obeying which he would take food, is very different from, and not to be compared with, the mental derangement that whispers suicide.

Again: "A person who goes into a powder-magazine either not knowing, or carelessly omitting to think of, the explosive force of gunpowder, is likely to do some act which will cause him to be blown to atoms in obedience to the very law which he has disregarded." What does he mean? The law disregarded would be self-preservation—will that cause a man to be blown to atoms? If I stand on the edge of a precipice, am I, in obedience to the law of gravitation, to fall over? Excuse me, but my will is also a law of nature, and must have a voice in the matter.

Mill seems to forget that the majesty of nature's scheme has reached its acme and sits regnant in the intellect of man—that mighty power, before which the infinitudes of time and space have lost their vastness; that power before which the dim past and the mysterious future have become an open book; that power capable of taking a heliocentric stand, and weighing and measuring and marking out the paths of the orbs of the solar system. All this man's intellect has done, yet Mill says of him: "If there is any one feeling or attribute more natural than all others to human beings, it is fear"; and that "courage" is only "acquired" after long cultivation. He thinks the aim of education should be to extirpate or starve by disuse the "bad instincts" of humanity; and for instance predicates "an instinct to

destroy for destruction's sake." We have not anywhere in the animal kingdom such an exhibition.

The laws that prompt the bee to gather honey, and the squirrel to store grain and nuts for his winter's fare, also impel the lion and tiger to seek their prey; these same laws, too, guide the savage in the chase to procure his daily food; and, in the progress of development, in the higher walks of civilization, they become the spur to that courage, thoroughness, and energy which have ever been so characteristic of all those men who have left their mark on the world's history. When we meet with an organization out of tune, seemingly possessing this "instinct to destroy for destruction's sake," do not let us make a mistake and call it a "freak of nature," for nature has no freaks; such a one is the victim—innocent, perhaps, but nevertheless the victim, bearing the punishment for some infringement of nature's laws.

The sentence under criticism has quite a Hamiltonian ring, and, while forgiving the lack of originality in Mill, in admiration of his wonderful knowledge, one can not help regretting the mistake he made in following one author, to the exclusion of another of so much sounder worth. Had he taken his views of human development from George Combe's writings, I think mankind, in his *Essay on Nature*, had been painted in purer and brighter colors.

F. MACRAE.

FROM THE GERMAN.

HE who sees a faithful Ruler
Guide the universe so grand,
In his own life reads a record,
By the same great guiding hand;
As the sun that wreathes the rainbow
Round the glowing azure height,
Gilds the smallest trembling dew-drop
With the radiant glorious light—
So my soul, thy weakest brother
Give some ray of comfort warm;
Let his bitter lot be sweetened
By thy life's o'erflowing balm.

L. M. M.

JOHN H. VINCENT, D.D.,

THE SUNDAY-SCHOOL LEADER.

THE first impression which this portrait gives to the observer is that of health, next power, then sincerity, earnestness, self-reliance, ability to meet and master difficulty; the observer will also notice a self-poise and consciousness of

duration; that broad head means power, courage, executive ability; and the largeness of the brain indicates mental massiveness, and the term mental means not only the intellectual, but the moral, the social, and the executive forces. Such a



JOHN H. VINCENT, D.D.

power, ability to avail himself of all the conditions favorable to success. In more technical phrases, we may say that his temperament indicates vitality, or the ability to convert food into nutrition, so that his large brain is amply supplied with healthy blood; that strong frame, and that broad face mean vigor, en-

head and face as that would walk the deck of a ship in a storm, and feel competent to do whatever was possible for winning the voyage. Such a head as that is a natural teacher, which comprehends much,—first, the power to gather knowledge; second, the power to remember it; third, the power to comprehend

it, and organize it into force ready for use, and then the power to tell clearly and fully to others the knowledge he possesses. That large and prominent eye indicates language; that massive and completely-rounded forehead shows no deficiency in faculties which attend to detail and particulars; it shows a retentive memory, as well as ability to originate and deal with new ideas. The width of the head in the region of the temples shows mechanical talent, which gives the ability to unite into harmonious working the forces that belong to intellectual and moral enterprises. There are few men who can set so many persons at work in a given direction, and show them how to do it harmoniously.

As a preacher he would be clear; simple enough for children to understand, and logical enough for the older ones in society to be fed; and then he has the power of co-ordinating all his knowledge, and making every fact and principle serve as a factor in the production of complex results. That which puzzles many men seems clear to him.

He is orderly, and brings that element to the surface wherever he moves. That rounded top-head indicates Benevolence, Veneration, Imitation, Faith, Hope, and Conscientiousness; but he works more by love than by law, by persuasion more than by coercion, by leading rather than by driving. He has a faculty of leading and persuading men of character and calibre to follow in his footsteps and do his bidding, without feeling that they are being dominated; in fact, he does not dominate them, though he controls them. He presents truth in such a manner that people seem to desire it, and to reach after it; he does not corner people up, as it were, and hammer his logic and

opinions into them, so that they are bound to accept them as unwelcome truths logically proved.

He seems to have large Mirthfulness, and if his discourse and conversation and whole life do not glow with wit and humor on fitting occasions, then his head is not well represented in the picture. He is combative, brave, thorough, and severe if necessary; is watchful, has considerable policy, and a world of social force; is fond of the young, and will never be so old as to appear like an iceberg among young people and children; and he will never look to young people as old as he is on that account.

He has in him a world of sunshine and sympathy, and that kind of vital power that tends to enliven and cheer and vivify all it touches; precisely the reverse of some people who are constitutionally melancholy, depressed, hard, and sober, and though they may be the excellent of the earth, carry an iceberg's atmosphere wherever they move.

This organization works on the good side of human life; appeals to the better feelings and hopes of others; and if he were called to deal with the lowest among the civilized, as missionary, his methods would be persuasive rather than dogmatic; he would seem to be more like a shepherd leading his flock by shaking the salt-dish, than like a butcher driving the sheep to the slaughter.

In this face and head we see power enough to command the respect of strong men; we see in it intelligence sufficient to instruct nearly everybody, and especially the power to instruct those who are young and uninformed; he could begin at the bottom; he could teach an infant more than most mothers could, and when he moves among strange men he is re-

garded as a power to be accepted, as an elder brother to be the guide of others, but not as a tyrant, wielding the letter of the law without mercy or grace.

This gentleman, so widely known as a promoter of Sunday-school work, and even more popularly eminent because of his connection with the Chautauqua educational enterprise, was born in Tuscaloosa, Alabama, in February, 1832. He was a mere child when his parents removed to Lewisburgh, Pennsylvania. He early manifested a serious temper of mind, and a bias toward participation in religious exercises, and his friends being for the most part connected with the Methodist Church, he was drawn toward the ministry of that body, and prepared himself for it.

In 1853 he joined the New Jersey Conference, and received two appointments to preach, in Irvington and North Belleville, small towns near Newark. In both these places he gave special attention to the Sunday-school work of the church, and organized classes among the young people for training in Bible knowledge.

In 1857 the Rock River Conference of Illinois invited him to join it, and as he felt drawn toward the West, he was transferred to that body and preached at several places, including Galena, Rockford, and Trinity Church, Chicago. In 1862, while stationed at Rockford, he visited the Old World, making a tour through Europe, Egypt, and Palestine.

His interest in Sunday-schools had grown more absorbing, and the efforts he made in the different stations to which he was appointed were attended with marked success in improving the relations of teachers and pupils, and rendering the community more alive to the importance of good organization and systematic instruction in the Sunday-school. At Joliet, Illinois, when there, Dr. Vincent formed a Normal Class, in which were many representatives of other denominations besides the Methodist-Episcopal,

and which was conducted with marked vigor.

In 1860, at the session of the Rock River Conference in Chicago, he brought the subject of Sunday-school Institutes before the Sunday-school committee, and that committee, in their report, recommended the organization of an institute. The report was unanimously adopted by the Conference, and on the 17th of April, 1861, at Freeport, Illinois, the first Sunday-school Institute was held, and had Dr. Vincent for its conductor. In 1864 he organized, in Chicago, a Union Sunday-school Institute for the Northwest. The importance of this work so grew upon him that he felt compelled to resign his pastorate and devote all his time to it. In 1865 he started *The Sunday-school Quarterly*, that is now known as the *National Sunday-school Teacher*, but soon after resigned its charge, on being appointed general agent for the Sunday-school Union of the Methodist-Episcopal Church, and initiated a series of institutes and normal classes for the training of teachers. In this relation he planned and introduced "The New Scheme of Sunday-school Lessons," the object being to render Sunday-school instruction in Bible matters uniform throughout the church. This scheme was the forerunner of the International Series.

In 1868 he was appointed editor of the *Sunday-school Journal* in New York. His special capability in this field was felt at once in the increase of its circulation from 5,000 to over 100,000 within a few years. In 1872 he was elected by the General Conference to the position, which he still holds, of Secretary of the Sunday-school Union of the Methodist-Episcopal Church, and editor of its Sunday-school publications. The lesson system, known as the "Berean System," which he introduced, and has for twelve years edited, now circulates upward of 1,500,000 copies, and is used largely by Sunday-schools outside of his own denomination.

But the most influential of all the movements instituted by Dr. Vincent has been

that of the Chautauqua Assembly, which was first held in 1874. The original plan was suggested by Lewis Miller, Esq., of Akron, O., of a Sunday-school Institute in the forest, and such was the first Assembly. Its success was so great that it was made a prominent institution, and many departments added, as Schools of Languages, of Music, of Theology, Secular Teachings, Missions, etc., until now it has grown into a great enterprise for the education of the masses, the Sunday-school being but one of its many sections. In 1878 Dr. Vincent established the Chautauqua Literary and Scientific Circle, with a course of study giving "the college outlook" for the people. Beginning with eight hundred students at its inauguration, it has risen to an enrollment of forty thousand names with "local circles" for study and reading in every section of the land, every State and Territory of the Union, and every continent on the globe. Last summer its first class, after examination upon a four years' course, was gradu-

ated, consisting of more than eighteen hundred members, of whom seven hundred were present on commencement day at the little town on the beautiful Lake Chautauqua, and received their diplomas from the superintendent's hand. As a leader in general education, rather than in the Sunday-school work, Dr. Vincent will probably be remembered in future years.

The relations of Dr. Vincent to the Sunday-school publications have required him to reside near New York City, and he has made the beautiful town of Plainfield, N. J., his home, where he is much esteemed by the people. As a preacher and lecturer he always draws a good audience. His statements are replete with thought and earnest meaning. He has no sensational methods, no tricky subterfuges to excite applause. A good voice, a winning manner, a kindly magnetism, a well-stored mind, and a direct motive are at the basis of his success.

REFORM IN JOURNALISM.

(Read before the late Women's Congress at Baltimore, Md.)

IT is easier to sit in an artistic library or "sanctum" and dream of an ideal journal, than it is to place upon the market literary wares that will sell—a paper that the newsboys will clamor for, and one that our business-burdened, practical people will take time to read. However, as a basis or starting-point for reform, all will admit, I think, that so long as we hesitate and almost shudder to see our pure young boys and girls take up the morning paper, there is a solemn, a responsible and imperative duty, a sacred responsibility confronting not alone every journalist, but also every father and mother, brother and sister, every philanthropist, citizen, and patriot; a work to be done that will eventually so dignify journalism that not the bishop's gown, the cardinal's hat, or the judicial ermine, shall secure to the wearer greater opportunities for helpful service than the simple title,—*Journalist*. We recognize the

great interests of our people to be physical, industrial, social, educational, and spiritual; hence a journal that fairly represents the interests and responds to the needs of the people, should have hygienic, industrial, social, educational, and moral departments. To teach the people how to be healthy, wise, useful, happy, and good, should be its constant aim. Are our great journals dedicated to such work? So long as our leading journals are published by and for syndicates of mere politicians, can the home, the school, the workshop, be properly represented?

Nor is this condition of affairs solely the fault of the editors-in-chief. The managing editor of a great daily sits in his sanctum from early morn, oftentimes, until midnight, and sees a steady stream of politicians. Philanthropy, reform, science, and industry are not sufficiently aggressive.

When our earnest women, upon taking up the morning paper, filled with sickening details of crime, shall earnestly ask themselves, "What could I have done to render this paper better; what could I have crowded out, by crowding in some helpful fact or suggestion?" we shall begin to see evidences of reform, and have reason to hope that the journalistic leaves that fill the air may prove indeed "for the healing of the nations."

When our American women thus earnestly enlist in this good work, we can with less humiliation quote Lamartine's beautiful tribute to the women of Europe. At the close of an eloquent chapter he says: "From Pericles and Socrates at Aspasia's, from Michael Angelo and Raphael at Vittoria Colonna's, from Ariosto and Tasso at Elenore d' Este's, from Petrarch at Laura de Sade's, from Bossuet and Racine at the Hotel Ramboulet, from Chateaubriand at Madame Recamier's, everywhere it is from the fireside of a lettered, political, enthusiastic woman that an age is lighted up or an eloquence breaks forth. Always a woman as the nurse of genius at the cradle of literature!"

Her biographer says: "Women are not half grateful enough to Madame de Stael for the honor she conferred upon her sex by taking up the noble side of every question, armed only with her pen and her eloquence, never once calculating what the consequences would be. As time goes on, and details sink into insignificance, she will rise as the grand central figure who withstood Bonaparte at the head of six thousand men, with all Europe at his back."

Our own beloved Whittier thus recognizes the work of two Western girls in literature, philanthropy, and journalism—Alice and Phœbe Cary:

"Who from the farmfield singing came,
The song whose echo now is fame,
And to the great false city took
The honest hearts of Clovernook,
And made their home beside the sea,
The trying-place of liberty."

Her eminent eulogist said of Madame Swetchine: "She belonged to the great

minds of her age. At a time of intellectual dependence, when parties bore everything in their train, she made no allegiance and submitted to no attraction; she isolated every question from the noise which surrounded her and placed it in the silence of eternity."

Who does not recognize the need of an army of women who, with but their pens and their eloquence (born of earnestness), shall, like Lydia Maria Child of America, Madame de Stael of France, and Harriet Martineau of England, nobly espouse the sacred cause of human rights, and enlist for life under the glorious banner of the golden rule.

Was it not our own Emerson who wrote, "It required a generation of cultured, brilliant women to render the salon of Madame Swetchine or of Madame de Stael possible"; and we should not ignore the fact that we must arrive at an almost ideal civilization before we secure the ideal journal. There must be great deeds to chronicle "the royal deeds that make great destinies for multitudes"; and yet our criticism is, that to-day crime, disease, and immorality receive more prompt recognition than philanthropy, health, and integrity. We insist that the headlines shall not always be devoted to crime, slander, wretchedness, woe, ruin, floods, famine, fires, earthquakes, railroad horrors, prize fights, boiler explosions, suicides, murders, jealous husbands and *kerosene*, but occasionally some a union to the pleasanter phases of life be allowed. If the time has not yet arrived when the details of crime can be relegated to an "official record," as it seems they should be, let us at least maintain a roll of honor, whereon brave deeds and unselfish service shall receive recognition, and sometimes in lieu of the desecration of the morning air by the rasping, discordant voices of defrauded childhood shouting "All about the execution," "The double murder," etc.; occasionally the key-note of the day shall be struck by a cheery chorus exclaiming, "All about the heroism of the brave engineer," "Generous donation to the Kindergarten" or "Flower mission fund," etc., etc.

Do we as mothers realize what a burden of sorrow our children must bear who read the daily papers, containing as they do a record of the world's crime and suffering with such slight recognition of integrity and happiness?

In the selection and appointment of our editorial staff, a revised code of honor should obtain; let the editor write in g'aming letters across the portal of his sanctum, "No positions for cowards, who, armed with that almost omnipotent weapon, a newspaper, will, for the sake of making the journal sell, assail manhood's integrity, woman's honor, and childhood's happiness!" Journalistic reform should obtain to the extent that the requisites of a member of the reportorial staff should be accuracy, sufficient absence of imagination, and sufficient courage to refrain from descriptions of circumstances that never had, might, could, would, or should happen, good eyes, good ears, and good-will toward man *and woman*.

We shrink in horror from the man who would rush into the sacred precincts of a happy home, and in the presence of loving children strike the parent dead. But what of the soul-assassins, who, for the sake of "our paper," or "our party," ruthlessly ass il what is dearer than life, integrity and character? How often, because of the market value of sensational head-lines, is an offensive rumor set afloat by the betrayer against the betrayed, by the selfish against the generous, by the traitor against the patriot!

A single word to my journalistic friends. A glorious opportunity for genuine chivalric work is yours. You sit in your pleasant sanctum and read some poet's dream of the romance of chivalry, when knights e'er stood in waiting, eager to tilt a lance in defence of the oppressed, until, with noble impulse aroused, you sigh for a similar arena in which to win the spurs of "gentlemen." Remember that in these days, as those, the hearth-stone should be a sacred shrine,—the nome should ever be a castle,—and that yours is the knightly service to protect these home-shrines from the ruthless

invasion of the bigoted partisan or the unscrupulous news-gatherer.

This ideal journal should be edited in the spirit of true patriotism. The greatest good of the greatest number be the watchword.

Alas! not all the graceful ensigns floating fair,
The sacred watchwords, truth and progress, bear;
Some o'er the tide drift aimlessly along,—
Most are inscribed, "Our party," right or wrong.

We dare to dream of a journal ever ready to accord justice even to the opposition candidate.

Another reform that seems desirable would be a class of art critics and book reviewers who would always give fair, honest criticism, entirely ignoring the fact of the receipt, or non-receipt, of free tickets to the lecture or concert, or advance sheets from the author. A critic or reviewer who should prove the opposite of the actual critic is described by our inimitable Lowell:

"Now there happened to be among Phœbus' followers
A gentleman, one of the omnivorous swallows,—
Who bolt every book that comes out of the press,
And can bear it at first,—but by gradual steps he
Is brought to death's door of a mental dyspepsia.
Through his babyhood no kind of pleasure he took
In any amusement but tearing a book;
With a mind so well poised it seemed equally made for
Applause or abuse, just which chanced to be paid for.
From this point his progress was rapid and sure
To the post of a regular heavy reviewer.
And here I must say, he wrote excellent articles
On the 'Hebraic points,' or the force of Greek particles:—

If any old book reached a fiftieth edition,
He could fill forty pages with safe erudition,—
But give him a new book fresh out of the heart,
And you put him at sea without compass or chart,—
His blunders aspired to the rank of an art!
As I said, he was never precisely unkind—
The defect in his brain was just—*absence of mind!*
A critic whose homœopathic sagacity
With an ocean of zeal mixed his drop of capacity."

And now we would emphasize woman's peculiar duty and opportunity as related to reform in journalism: Given one generation of self-poised, self-respectful women, and we would find few sons eagerly aiming their pen-shafts of ridicule and misrepresentation at their sisters, or worse, often sending their poisoned arrows straight in'o the quivering hearts of *their own mothers*. Given a generation of truly self-poised, self-reliant

women, and the journals to-day ridiculing woman and her work would cease to exist, would die through lack of readers, it having been resolved that they could not be admitted into the home shrine. Is it not forever true that the fault is in ourselves?

In order to illustrate this point, and also protest against a current opinion resultant from false records, I ask your patience toward a personal reminiscence.

At the close of our dread civil conflict, with girlish enthusiasm kindled by reading the helpful memoirs of Margaret Fuller, I went, at the request of the editors of three representative papers of the West, to report the Woman Suffrage Conventions held in New York and Brooklyn, in connection with the disbanding of the old Anti-Slavery Society. During the three days, the conventions were addressed by Elizabeth Cady Stanton, Lucretia Mott, Susan B. Anthony, Lucy Stone, and many other representative men and women. The Brooklyn Academy of Music was packed to the utmost by what a clergyman who knew Brooklyn audiences assured us, was the finest assemblage he had ever seen convened in the "City of Churches." At the close of the third day a reporter from a representative journal of New York City came into the private box behind whose curtains our little table was placed and requested an introduction to Mrs. Mott and Mrs. Stanton, adding that he had come to make a confession,—that he had been converted during the session, having never listened to such eloquent appeals or witnessed such courtesy from ladies to gentlemen,—but, he added, "I am a man, with a family of several small children; I am sent here with instructions to burlesque this convention, and assured that if I fail to do it thoroughly, my position will be forfeited." The next morning that superb audience was described as a small gathering of fanatics,—a few short-haired women, and long-haired men,—and one of the speakers was described as "a slab-sided, shingle-faced individual from the West, called Livermore."

Now my point is this: that report was made when the entire country knew of Mary A. Livermore's herculean labors in behalf of its suffering and wounded citizens, and if our women had not been sadly wanting in self-respect, such an avalanche of protests, effective protests in the form of "stop my paper," would have been received as to have convinced that editor that it did not pay to burlesque women.

Why did they not do it? Why is it a fact to-day that many of our leading journals will devote three columns to descriptions of a prize fight or horse race and three lines to a report of a woman's club, a suffrage convention, or W. C. T. U. Association? Why is it that the Associated Press of this country will yield more space to details of an elopement of some silly girl, or to reports of a ward caucus than to all the proceedings of the Women's Congress?

These reasons are, first: a lack of self-respect on the part of women who have failed to rally to the support of the brave journals who have battled for the pure, the good, the true, and have also failed to insist that journals whose columns are habitually spiced with ridicule of women and misrepresentations of her work should not be tolerated in the home. Also we have allowed without protest in many of our cities, reports of our work to be taken by the youngest and most immature member of the reportorial staff. These young boys whose indifferent mothers "have all the rights they want," often read some sporting paper during all the deliberations, and at the close coolly say to some earnest woman, who is giving the best years of her life to the work of saving our boys and girls, "You look rather obliging, please tell me was this a social science, industrial school, kindergarten, woman suffrage meeting, or what?"

On the other hand many noble young men who have risked the loss of their situations rather than burlesque their mothers, have not received from us the recognition they deserved.

In making such protests, let us ever

remember the time when Wallace met Bruce in the Highlands, and fought him such a battle with reason and kindness that the voice of Bruce was from that hour for "Scotland and freedom," instead of England and oppression.

Second, we do not possess the power to execute many of our most helpful theories, and hence the masculine world does not place so much value upon our theorizing in conventions.

"How does it happen that a conservative man like you allows your wife to attend these meetings?" was a question recently asked.

"Oh! These women do so like to convene; and so long as they can not execute their impractical ideas in regard to moral education in the schools, industrial training, prohibition, etc., let them convene. It gratifies them, and it does not interfere with us."

I would be false to the truth as I understand it, hence false to all, if I failed to emphasize as the most potent factor in this and every other reform possible under our form of government, the ballot in the hands of women. Nothing so develops self-respect as responsibilities accepted and duties performed. Wendell Phillips voiced a truth of great import when he said: "This woman movement has been well described as the most magnificent reform that has yet been launched upon the world. It is the first organized protest against the injustice which has brooded over the character and the destiny of one-half of the human race."

In this nineteenth century, in this land of the free, there is scarcely a leading secular journal that will allow women even in their special editorial corners to state their political convictions. Just as the cause of morals suffers, because of the great loss of woman's experience, so journalism suffers to-day because the honest thought of one-half of the people is stifled.

We need a great daily paper wherein the woman-thought upon all questions affecting home, the school, the workshop, and every phase of domestic legislation

may find expression. And I believe this association could not render more helpful service than by establishing such a journal; a journal whose divine mission it should be to espouse the cause of the weak, the oppressed, the unfortunate of every sect, class, race, and sex; a journal that should bravely announce,

Not what the people want, but what they need.

No bartering here of truth for sordid gold.

Its royal work to see the truth and lead.

To strike for truth blows manifold and bold.

A few practical suggestions in conclusion. It was my pleasure to offer at a recent state convention a resolution to the effect that the respective presidents of the National and American Woman Suffrage Associations, the W. C. T. U., and "A. A. W.," be requested to confer together and devise some lines of work upon which the strength of these organizations could be concentrated. I would respectfully suggest as one line of work, journalistic reform. There is to-day scarcely a secular daily journal in the country in which all phases of woman's organized work receives respectful, dignified consideration. It is time that we clear the decks for action, and insist that the journals which continue to ridicule or misrepresent woman and her work shall be excluded from our homes. If this wonderful agent, instead of proving a purifying disinfectant, shall become an agent for conveying the soul-destroying miasma of slander and crime, then must weary, suffering, wronged humanity linger long at the slowly-opening gateway of the morning of hope.

We recognize that it is a solemn thing to serve as engineer to guide the swift, rushing train of public opinion across the roaring waters of cynicism and around the abrupt curves of prejudice, through the tunnels of ignorance, over the seductive quicksands and dizzy heights of political highways, and through the dangerous morasses of "our party," safe into the city of truth and progress. The work is one that demands man's patient research and philosophical investigations, and woman's instinct for government.

moral reform, and spiritual insight; and the same helpfulness that woman brings to the home and the school-room, she will bring to the sanctum. Our journalism is as yet largely masculine, hence chaos reigns in the sanctum and confusion in the newspaper.

A "swing of the eloquent pen" reminds us that in the thirteenth century, when the intellectual world was dead, stretching out like a black forest, there where language lay shattered, and was neither the Latin of the past nor the

Italian of the future, a beautiful girl lifted up her divine form slowly, and around her white forehead a lover came and wove a new language,—literature being thus raised from the dead by Dante and Beatrice.

Would that a similar apotheosis might be effected in journalism, and true lovers of humanity might, in the sanctum, pledge their troth, and justice, mercy, and peace, purity and truth, receive eternal and immortal resurrection.

ELIZABETH BOYNTON HARBERT.

A CRY FOR PURER WORDS.

I HAVE always believed the power of good was stronger than evil in the world, and that the profanation of purity because of the over-weighing power of virtue must cease to exist. My doctrine, which blossomed encouragingly, fruits slowly, and in my weaker moments I grow discouraged in regard to the harvest of our generation.

That God blesses every effort for good, I am morally and spiritually sure; and that we, God's handmen and handwomen, are insufficient in our endeavors to crush out bad customs and foster purity, I am just as conscientiously certain. The labor is great, never-ending, and disheartening; our measure of strength slight, and we fold our hands, vainly thinking the right *will* prevail; that we must not be so sensitive and particular; that we can surely endure the jars of wickedness for a few years until we are called to the saintly rest beyond their sound. "There will be no swearing or drunkenness in Heaven," we attempt to console our conscience by whispering, and that *one* voice would have no influence at any rate, and it is better to leave things to take their course.

But it is this spirit of sufferance and inactivity that is demoralizing our nation, and allowing evil the upper hand, until in some of our boroughs and travelled ways a person can scarcely walk a hun-

dred yards without hearing men, boys, and even babies exchanging oaths. Intemperance is the root of profanity, but the branches overshadow even more than the root. The babies learn to swear before they are taught to drink.

Country-reared people, who have at least breathed pure air and been accustomed to sweeter sounds and silence, can scarcely reconcile their ears to the jargon of oaths. If there are no active measures taken to hush profanity on the streets, should there not at least be rules of discipline adopted to prevent the use of such language in our public schools and institutes of learning? The presence of a few foul-mouthed pupils who are unrestrained in a school of two or three hundred boys, have a demoralizing effect on the weak, and make it gratingly unpleasant for those of finer moral taste.

We are progressing as a people in many regards, and while the good grows, can we not in a measure choke out the weeds? Mental development is grand, good, and needful. "Education makes the man." Why must the finer spiritual senses be subject to such blunts and jars to acquire it? The work of temperance is the great initial movement, but while we dig at the root let us not lose sight of the branches. The Woman's Christian Temperance Union of Pennsylvania has in circulation a petition asking the enactment of a law

requiring scientific temperance instruction in our public schools. Michigan, Vermont, and New Hampshire, through their respective legislatures, have adopted this wise and promising law. While laboring for its advancement in other States can we not lower the voice of profanity?

Compromise with those who see no way to hush wholly evil sounds, by requiring them at least to be whispered on school ground, and not screamed on the streets for the benefit of deaf persons without the prompt interference of police.

MRS. S. L. OBERHOLTZER.

THE TREE OF KNOWLEDGE.

SINCE thy fruitage Eve once tasted,
All our powers on thee are wasted,
All the beauty, all the roundness,
All the vigor, all the soundness
We have sacrificed to thee!

All the litheness, all the sweetness,
All the tender, soft completeness!
Some have even rashly given
Every hope of earth and heaven!
All, have sacrificed to thee!

Time—his name is a misnomer!
Health—who cares for her diploma!
Sight and hearing gladly spending,
As we're ever onward wending;—
These we sacrifice to thee!

Some new lesson thou art teaching,
Swiftly at thy blossoms reaching,
All our busy hours and leisure,
Every pure domestic pleasure—
All, we sacrifice to thee!

Yet thy blossoms are but seeming,
Our attainments but a dreaming!
All unconscious of Life's tendings,
Its beginnings or its endings—
Still we sacrifice to thee!

Truths most precious are withholden;
All the grandest! all the golden!
Things we vainly would discover,
Which forever o'er us hover,
As we sacrifice to thee!

GRACE H. HERR.

GLIMPSES INTO CHILD-LIFE.

EVERY one loves to be reminded of his or her childhood, and the pleasantest occupation of long-separated friends is to recall their childish pranks and ideas. I have an acute remembrance of scenes and incidents in my early life which, even in one instance, reaches to my infancy. Looking back into them seems like a peep into another world—a quaint and wonderful one too. One of the earliest of mine, which is a remembrance of a remembrance, is as follows: I think I was nearly three years old when it occurred, as we left the house which is the subject of some of my reminiscences when I was about that age, and I have not been in it since; and know my memory to be trustworthy, because even yet, when I mention one of these incidents and ask an older member of the family if the location of rooms, furniture, trees, etc., is correct, I find that it is. Upon this occasion I was sitting on the floor

playing at the feet of two grown girls, one my cousin, the other my eldest sister, with both of whom I was a favorite. They were sewing. Presently one said to the other something to this effect: "I wonder what the little thing is thinking about"; "I wonder if they don't at that age remember their babyhood"; "Let's see." The cousin, who was very deft in making things clear to children, questioned me in a way that made me understand their drift. In obedience, I made the effort, but could only look up and smile. I could not *describe* the picture memory brought to me, and they thought I did not remember anything. But both scenes, the questioning and the picture, return vaguely to me at times, but is one of those fleeting things we rarely put into language except when with our sincerest friends. This cousin is still one of my dearest intimates, to whom I can talk freely on odd subjects—or, as we say,

"we think aloud to each other." One day I described the incident to her, and she said she seemed almost to remember something of the kind. But she replied, "You did not remember." I answered I did, but had not language with which to explain. To confirm it I said, "I want to ask you one question: Didn't I, when an infant, scream and cry a long time every evening, just as it was getting dark, and would not be comforted?" She replied, "Yes; but otherwise you were a very good babe." "Well, when you asked me that question I remembered lying in your arms like a baby, and you were in a large rocking-chair rocking me vigorously, singing, doing everything to soothe me, but nothing could remove the terrible fear that as the darkness crept on the world, with my mother and all I loved, was going out presently like the snuff of a candle; that is, I felt that everything would turn to nothing."

I suppose I had seen darkness sometimes before the lamp was lit, and accepted the appearance for the literal fact—that darkness was a state of nothingness. It was a natural enough impression, as I saw everything fading in the twilight. My cousin says, perhaps it is this little notion that makes *colic* such a general complaint among infants toward evening; and perhaps lighting the lamp would reassure them that the world is going to last a while longer, and be the best cure for it. I suppose I ceased my weeping and cries when the lamp was lit, for that would not only dispel my fears, but from having them dispelled a number of times, I could at length learn that there was no danger and that the earth was a permanent institution. This incident led her to relate a similar one in her own life. A picture sometimes came to her like a flash; it was of her mother and father sitting in a wagon, herself an infant in the lap of the former, a jolt which gave her a view of two red oxen, with great wide horns, that were drawing the wagon. She asked her mother if there was anything like that picture in her life. Her mother remembered moving to a prairie

farm, with an ox-team, when the daughter was *eight months old*, and that the child was taken very ill in the wagon. Her father, when asked, recollected that they were red oxen.

Looking back through one's own childhood is somewhat like looking back through the centuries of history, and produces very much the same emotion. It seems like peeping into twilight when I recall a butcher who seemed to me a terrific character, for he used slyly to flourish his shining knives and show me how he could cut me up; but one glimpse of my mother always settled him, although she knew nothing about his mirthful threat or my fear. How it made me reverence her! Such power in a mortal!—to be able to keep a formidable creature at bay just by her presence. How, when a storm beat around our home, thunder raging, lightning flashing, and God very angry at something, if I could but sit beside my mother, hold a fold of her dress in my hand, peace settled like a dove upon me. In sickness how her presence seemed like an angel's, and her absence, for a moment even, like a blight.

Heaven was very near to me then. One had only to look up, at night, to the sky to see the *almost* transparent, cerulean floor through which the brilliant lamps of the "Golden City" shone. One night, seeing a shooting-star for the first time, I knew that God was scraping a match, and exclaimed, "Look, look, sister, God is lighting His candles!" I was told God gave us the Bible. I pictured to myself the scene: At the horizon, where the heavens and the earth come together and make it convenient, a hand placing the veritable book in my father's hands. But then did He not open at night (with His fingers, of course) the very flowers that I admired next morning? He was all about us. How I can see the childish fancy of Him as a gigantic being, about as tall as the highest tree, or as a five-story house, on His knees, on the floor of a blue heaven, kneading up dust, like dough, into babies, and benevolently handing them down to parents. From the teach-

ings of our elders we weave our own literal ideals.

I was told that I should grow to be a woman. I looked forward, through dim centuries, to the time—as old, some day, as sister Melle or cousin Alice, or even my mother. I looked at them. They seemed *always* to have been just as they were, eternal like the rocks and hills and mountains. We must be past the adult age before we realize that time flies swiftly. Even yet, as I arrive at ages that I remember in them, it seems nearly impossible to realize that they came to them in the same way that I did. I look at the fleeting lives of children now—why one attends the wedding to-day of

the babe one played with yesterday—and think what a blessing it is that, while their sweet innocent lives are really speeding along so rapidly to outward observers, to them an illusion of ages lies upon it.

Childhood is the deliberate stage-coach or foot-passenger way of traveling; age, the railway-train. Heaven help the poor child whose disposition and future character are spoiled by the over-indulgence of silly parents, or the one under the dominion of cruel, unjust parents, because the time of childhood seems so many times longer to the child, while he experiences it, than all of life to the gray-haired veteran.



LOCH LOMOND.

A GLIMPSE OF SCOTLAND.

AFTER a brief sojourn among the hills and lakes of bonnie Scotland a few years ago, our thoughts often turn with pleasure thitherward. A writer in *The Universe* describes some of the lake scenery of the land of the heather, with the enthusiasm born of personal contact with its beauty, and we cordially repeat his language, for we recognize its fidelity to the truth:

"Perthshire, one of the most important counties in Scotland, is distinguished for its magnificent mountain, lake, and river scenery. It is here that the celebrated Grampian hills attain to nearly their maximum height; Ben Lawers towering within a few feet of 4,000, Ben More 3,843, and several others above 3,000 feet.

"In fine contrast with these noted elevations, are the numerous beautiful lakes

in whose translucent depths reflections of mountain summit and the blue æther combine. There are also several streams of note. These lakes and streams abound with fish; the salmon in the Tay alone yielding in rent about \$75,000 a year.

"This beautiful county, made so attractive by its manifold varieties of river,

"Some of the stateliest mansions in Scotland are situated in Perthshire, while Roman roads and camps still exist to prove the power of the Seven-hilled City and the distance to which her proud and conquering legions penetrated.

"The lakes of Scotland are noted as being some of the most picturesque and re-



DOUNE CASTLE ON THE RIVER LEITH.

lake, and mountain scenery, is rendered still more interesting to the student of antiquity through its connection with the early history of Scotland. For here the Caledonians under Galgacus attempted to withstand the victorious legions of Rome led by Agricola. The last battle, in which the lowlanders were defeated, was at Mons Gramp or Graup.

mantic waters in the world. Loch Lomond, the largest of these, lies between Dumbartonshire on the west, and Stirling and Perth on the east, and is a body of water twenty-four miles long and varying in width from one to seven miles. Its varied and beautiful scenery, the lake being dotted with numerous islands, while mountains to the north and inviting

woods surrounding its lower portion, make Loch Lomond one of the most attractive and beautiful regions in all Scotland. To the west of this pleasant lake is Dumbartonshire, whose romantic scenery is described by Scott as a part of Rob Roy's country. Like Perthshire, the scenery of Dumbartonshire is very romantic. A portion of the Roman wall of Antoninus runs through the southeast corner of the county, and ends at Kilpatrick. The old

Romans left many traces of their presence here. Stone coffins and Roman vases and coins have been found. There are remains of a Roman fort and of a Roman bridge at Duntocher."

Thus the Scots have many features of topographical and historical interest to strengthen their attachment to their country, while to the traveller all things in the land of Wallace and Bruce combine to attract him for a long visit there.

LANGUAGE.—No. 7.

A UNIVERSAL LANGUAGE.

ACCORDING to the dictum of ancient sacred history, all mankind were at one time of one language and of one speech. If the first appearance of man upon the earth occurred only at one centre—a point which naturalists have not yet settled—this was doubtless the case. It was, however, at a very early period of the world's history, and was a state of things which did not long continue. The circumstances under which and the processes by which diversity of language came about, are fully explained in the first paper of this series. To what was said there we can now add only, that this differentiation of speech would occur all the more readily on account of the want, at that early period, of a written language.

The question which we have undertaken to discuss in the present article is this: Will all mankind ever again become of one language and of one speech as they once were? The affirmative of this question has been thought by some to be not beyond the bounds of possibility and even of probability. It has been the dream of poets, philosophers, and sages in all ages since literature had its birth; and it is an idea which is even now fondly cherished by many intelligent and thinking men. Then another question arises out of this—If any such uniformity of language and of

speech should ever come about, which of the now spoken tongues will it be that is to have such pre-eminence and such universal acceptance? We have seen that many languages which once were spoken tongues have now become extinct—as such, dead languages, although their literature still survives, and many other languages now spoken will doubtless experience the same fate. In case of a universal language for all mankind, all the now living languages and dialects except that one, must be extinguished as spoken tongues, and become dead languages, leaving only their literature behind. Which one then of them all is thus destined to survive the rest and to become the universal language of mankind?

If ever there be again a universal language, whichever one of the languages existing at present it shall be, it must depend for its pre-eminence above all others, mostly upon two things. First, the inherent merits of the language itself; and secondly, upon certain characteristic traits in the people speaking it, as enterprise, energy, etc.; their commercial supremacy; their political significance as a nation; and not a little perhaps upon their geographical position. Let us now take up one by one the different languages of the world as they exist at present, in order to discover, if

we can, which one of them all, with the people speaking it, best fulfils these conditions.

First, as to the Italian. The Italian is excluded from the competition by the want of political importance of Italy itself. Italy was contented with having once conquered the world through her Roman legions, and though larger in extent of territory than England, she has never entered into the contest with modern nations for the supremacy of the globe. There was once a prospect that the Spanish might become the leading language of modern times. When Columbus returned to the court of Ferdinand and Isabella, and told them of the new world he had discovered beyond the seas; when Pope Alexander VI., of infamous memory, issued a bull giving to Spain the whole of North America as a possession forever; when Spanish navies almost alone traversed the Atlantic, and planted Spanish colonies almost wherever they chose; it might have seemed as if the speech of the conquerors of Mexico and Peru must certainly predominate in the New World at least. But it was not to be. That prospect was blighted by the very exuberance of their success. Spain grew surfeited and sick by the very abundance of her riches. The head of the Spanish monarch, Philip II., was turned by the wonderful growth and expansion of his dominions. To make to them still further additions, he attempted the subjugation of the only rival he had in the western hemisphere, worthy of the name, by striking her at home. So he built what he called his Invincible Armada, and sent it, with the papal blessing upon the enterprise, against Albion, with the declared intent to enrich her polity with an Inquisition, and enliven the monotony of her social life with periodical *autos-da-fé*. England was not in those days in military, or we should rather say in naval strength, the equal of Spain, or even of France; yet nevertheless she occupied an impregnable position. The Invincible Armada was destroyed, with the help of nature, to be sure, and the Spanish

naval power declined from that day. Without this she could not keep in subjection her distant colonies; and these one by one revolted, threw off her yoke, and became independent states; until now, Cuba, "Queen of the Antilles," and Porto Rico, are all that remain to her in the Western world. Thus Spain lost the lead among the nations of Europe.

The contest was now narrowed down to the German, the French, and the English. The German language possesses more inherent merit than any other spoken tongue, except the English. The Germans, however, are excluded from the competition by the fact that they are not a maritime nation, and hence can not expand themselves over that vast world which universal navigation opened to the enterprise of Europe. To the Frenchman, France is the world, and he cares for little beyond. Her fertile plains, her vine-clad hills, her gay capital absorb his whole soul, and he has no desire to emigrate to even the fairest and most inviting portions of the globe. Out of France the Frenchman is always an exile. Transplanted he never fairly takes root in foreign soil, but pines through a sickly existence or dies, his last thought dwelling on *La Belle France*, that dear land he is never to see again. Consequently, French colonization has met with but indifferent success.

The fact is, that since the decline of the Spanish naval power, the work of colonizing the world has fallen into the hands of the Anglo-Saxon race. Into better hands it could not come. In the veins of the Anglo-Saxon flows the best blood of the Caucasian stock. He is the incarnation of common sense. For 300 years the power of England has grown as that of no other nation since the rise of the Roman Empire. The Briton is a thorough colonizer; and though not forgetful of the old home, he is never homesick, like the man of the Latin race; he never dies of *nostalgia*. He creates another England wherever he goes. The colonies of Great Britain encircle the globe. The sun never sets upon her do-

minions. Sustained by such enormous wealth at home, and such ubiquitous power abroad, these colonies rapidly grow and expand. Schools and colleges spring up among them to keep alive and perpetuate the learning and intelligence they brought with them from the mother country. Oxford and Cambridge have many a hopeful daughter blooming into fresh life on many a distant shore. Thus have the English language and literature been spread abroad, and thus have they taken root in the uttermost parts of the earth.

In New Holland the English language is destined to prevail. In a land of comparative freedom, the descendants of the convicted colonists already exhibit a spirit of enlightened liberty more resembling that of the American republic than that of the English monarchy. The English tongue has found lodgment, too, in Africa. To say nothing of the English colonies planted on the southern extremity of that continent, that dusky race, a portion of which has dwelt so long in the house of bondage, is now receiving, and has already received a knowledge of our language and literature through the returning descendants of former exiles who go back to the native shores of their ancestors enriched with the language and civilization of their former taskmasters. The Turkish Empire is tottering to its fall. The shores of the Mediterranean may some time be peopled anew; and we know of no race more likely to undertake this enterprise and to succeed in it than that which is now grasping the commerce of the globe.

But there is another country that is doing more than even England for the spread of the English language and literature, and that is our own. More than half a million of immigrants are being poured into this country each year from the various nationalities of Europe. Nearly that number were landed last year at the port of New York alone. Although more than half of these when they arrive are ignorant of the English tongue, they very readily adopt the language of the

people among whom they come; and the natural increase of our population is about half a million annually. We inherit all the most valuable literature in existence. It seems to be written in the Book of Fate that the Anglo-Saxon race is to overspread and possess the continent of North America. The English language is now spoken from the Gulf of Mexico to Baffin's Bay, and from the Capes of Florida to the mouth of the Columbia River. It will of course require a long time to fill up with a dense population the whole territory within these limits, but it will be done some day. That Mexico and the States of Central America will one day be absorbed into our political system we regard as only a question of time; and wherever the Anglo-Saxon goes, the English language goes with him, as a matter of course.

The English language is already spoken by more than one hundred and fifty millions of the most enterprising, prolific, and colonizing people the world has ever seen. And these are mostly people of Anglo-Saxon race and lineage. A few individuals of other nations, with whom these have commercial relations, may learn our language and make use of it, so far as they may find this to be necessary and expedient for the purpose of facilitating commercial intercourse; but no great number of people whose vernacular is different from ours, people having no ulterior objects in view, will ever acquire our speech unless it be on account of some inherent merit in the language itself, some superiority which it may possess over all others, to make a knowledge of it desirable.

Has, then, the English language any such inherent merits, or any such superiority over all other spoken tongues, as to make its acquisition so eminently desirable? We think it has. At least there are these things to be said in its favor, not all of which can be said of any other tongue. 1st. Its grammatical construction is simple and philosophical. 2d. Its vocabulary is copious and expressive. 3d. Its literature is unsurpassed. A

French author of some repute, the Abbe Sicard, says: "Of all languages, the English is the most simple, the most rational, and the most natural in its construction. These peculiarities give it a philosophical character; and as its terms are strong, expressive, and copious, no language seems better calculated to facilitate the intercourse of mankind as a universal medium of communication."

A Russian priest, Father Alexander Diligentsky, was in New York in the month of December, 1883, returning to St. Petersburg on a journey around the world. In answer to the inquiry of a reporter of a New York newspaper, "What has struck you most during your trip?" he said, "The lead that English-speaking people have taken everywhere. English has become the international language. With my limited knowledge of English, during my trip I have been far better off than any of my occasional German and French friends. English has a glorious future; it is bound to become the universal language of science, trade, and industry. There have been three great epochs in which all educated men spoke Greek, Latin, and French respectively. Now we are entering an epoch of English. The Greek world was too limited in both area and age. The Latin world was larger than the Greek, but its field, politics, was too narrow. The French epoch was diplomatic. Now the English, or rather the Anglo-American epoch will embrace the whole world. The English-speaking nations lead the world in the higher politics and in industry and trade, and they are unsurpassed by any nation in scientific, religious, or philosophical thought. Our German friends object to English on the ground that it is, in their opinion, not an original language, being rather a mixture of German and Latin. In my opinion this is rather an advantage, for English is not quite a foreign tongue to Germans and to the nations of Latin origin, and so much the more easily can be adopted by all of them."

Says Prof. John Fiske, of Yale College:

"For this (the English) language a future of unprecedented glory is in store. By the end of the twentieth century, English will no doubt be spoken by something like eight hundred million people, crowding all over North America and Australia, as well as over a good part of Africa and India, with island colonies in every sea, and naval stations on every cape. By that time so large a proportion of the business of the world will be transacted by people of English descent that, as a mere matter of convenience, the whole world will have to learn English. Whatever other language any one may have learned in childhood, he will find it necessary to speak English also. In this way our language will become more and more cosmopolitan, while all others become more and more provincial, until, after a great length of time, they will one after another assume the character and incur the fate of local patois. One by one they will become extinct, leaving English as the universal language of mankind."

This testimony is the more remarkable, too, as coming from one who rejects the hitherto generally accepted theory of a common origin for all mankind, and with that of course rejects the theory of a common origin for all languages.

Thus we see that in the opinion of experts, our language does possess rare inherent merits, as well as the advantage of being the speech of the dominant race. But there is one serious disadvantage in which it labors, the one which was referred to in our last paper, and which, unless remedied, will be an insuperable obstacle in the way of its general acceptance, and which will, as long as it remains, prevent the English from becoming the universal language of the world, or the speech of any considerable portion of it outside of the Anglo-Saxon race. This obstacle is the defective representation of the language as written, wherein the phonetic principle has to a great degree been lost. Those who have not studied the subject are not perhaps aware of the importance of this principle, and how great has been its influence

in the improvement of written language, commencing with a very early period of its history. "The substitution of *phono-graphy*, or *sound-writing*, for *ideo-graphy*, or *thought-writing*," says an enthusiastic writer, "was the greatest revolution ever introduced into the arena of human effort. The latter system was prevalent throughout the East before the former came into vogue. In the mighty regions of Eastern Asia, China and its dependencies, it flourishes, or should we not rather say, it stagnates, at the present hour. The intellectual contrast between Europe and Asia, between England, France, and Germany, on the one hand, and India, China, and Japan, on the other; the progressive civilization and all-conquering science of the former, and the stationary intellect and political insignificance of the latter, is no unfair measure of the relative power of the two methods for furthering the lofty ends and equitable aims of society."

The way in which, and the methods by which, written language, at first phonetic, gradually, and in process of time, lost this characteristic; each successive tongue as it became a written language, possessing less and less of it than the languages previously existing, until in the English, the last formed language, and one which in other respects possesses merits and excellences far beyond those of any other modern tongue, the phonetic principle has been to a very great extent, although not wholly lost, have been already explained. The Sanscrit, one of the most ancient written tongues, was very completely phonetic; more so perhaps than any of the languages that have arisen since. In its written representation, every sound of vocal utterance was very carefully indicated. A very little modification of the requisite number of characters, selected with wise discrimination from the Sanscrit alphabet,—for they are very numerous,—would have fitted them for the representation of modern English. As may be supposed from what has been already said, the English language, as at present

represented by the characters of the Roman alphabet, is much less phonetic than any of the modern tongues of Continental Europe. From this want of correspondence between its spoken sounds and their written representation, as well as from the irregularity and ambiguity of its orthography, arises the difficulty of its acquisition by the people of other nationalities than our own, by all, in fact, who are not "native and to the manor born." It is related of Voltaire, that when in his painstaking efforts to learn the English language, he discovered that the letters *a-g-u-e*, spelled *ague*, a word of two syllables; but that if the length of the example be increased by prefixing two letters, thus, *p-l-a-g-u-e*, it becomes *plague*, a word of one syllable, he threw his book across the room in a rage, fairly danced in a frenzy of philological passion, and in his own bitter way wished that the one-half of the English nation might have the *ague*, and the other half the *plague*!

Mr. Gladstone, the English Premier, says he can not conceive how it is possible for a foreigner to master the pronunciation of our language when we call to mind its total want of real method and system. A German philologist of eminence, Dr. Rapp, while acknowledging the superiority of the English language to all others, points out this obstacle to its general acceptance which we have been commenting on in the following terms: "The English may pass for the universal language of all the world out of Europe. The suitability of this language for general adoption would be still more evident were it not obscured by a whimsically antiquated orthography." He concludes with the quaint observation: "The other nations of Europe may esteem themselves fortunate that the English have not made this discovery." But English-speaking peoples have discovered the orthographical weakness in the written representation of their vernacular, and some progress has been made already toward remedying it, especially in England, where the lan-

guage is now written phonetically by thousands of persons; and it is confidently predicted that this will in time become the common style of writing with all who speak the English tongue, and phonotypy, the style used in writing books and newspapers; and that before another Centennial of American Independence comes to be celebrated, the books in Roman type, with which our libraries are now filled, will be contended for at auction sales by collectors of curious old books, as rare old black-letter folios are contended for at present. To all of which we say "Amen. May heaven speed the day."

A writer whom we have already quoted in this paper, a little while back, attributes, as we have seen, the stationary civilization of certain nations of the East, to the non-introduction into their written language of the phonetic principle. If we but take a glance at the early history of ancient States, we shall find there much to warrant this conclusion. Take for example the Chinese. The Chinese at one time laid claim to being the most highly civilized people on the globe, and with good reason; for there is no doubt that at an early period of the world's history they were that. But they shut themselves up in seclusion from the rest of mankind, and for a great length of time they had no knowledge of anything that was transpiring among the other nations of the earth—the "outside barbarians," as they sneeringly called them. But when other peoples made improvements in their written language from time to time, and most important of all, introduced the phonetic principle, they in time caught up with and passed by the Chinese, whose written language was yet, and remains still in the primitive ideographic stage. The introduction of the phonetic principle led soon after to the invention by the Phœnicians of the alphabetic system of writing, which was an immense step in advance; and this system being speedily adopted by European nations generally, the progress of all continued up to the invention of the art of printing by the Germans; by

which invention the progress of all civilized peoples was accelerated in a tenfold degree. The Chinese had the printing-press, the mariner's compass and,—some say,—also gunpowder, at a time when wild hogs ate acorns on the site of London, and the North American Indian chased the red deer through the forests of Manhattan Island, whereon now stands the metropolis of the New World. But though they have been in possession of the art of printing for ages, they have never been able to avail themselves fully of the benefits of this potent civilizing agent, owing to the existing condition of their written language.

It is interesting to reflect what might have been the condition of the Chinese at the present time, had they adopted into their language the phonetic principle as did the other nations, and at the same time. And it is still more interesting to contemplate what in the future India, China, and Japan might become, should the present or some similar movement to rectify the defective representation of the English language, so as to fit it to become the universal language of the world be carried out, and should these nations adopt our language, so reformed, and the rich stores of our literature be thus opened up to them. The human mind can not conceive the momentous results which might flow from this not impossible combination of circumstances.

From the foregoing our opinion will be seen to be, that if we are ever to have a universal language, one that shall be spoken and written by all the world, that language can be none other than the English. No other language can come into competition with it for the supremacy of the globe. And not that even can ever obtain universal acceptance until its written representation is so improved as to make its acquisition by all the world a matter of less difficulty. So then we conclude that whether all mankind shall ever become of one language and of one speech, depends wholly upon the reconstruction of the written representation of the English language upon a phonetic basis.

JAMES COULTER LAYARD.



THE SMOKER IN SOCIETY.

TO a man who is uncorrupt and properly constituted, woman remains always something of a mystery and a romance. He never interprets her quite literally. She, on her part, is always striving to remain a poem, and is never weary of bringing out new editions of herself in novel bindings. Not till she has been utterly conquered and crushed by hopeless misery, or a false religion, does she give up the dream of still being a pleasant enchantment. To this end, without precisely knowing why, she turns the old dress, retrim it, or arrays herself in the freshness of a new one, ever striving to present herself in recreated loveliness. Uncontaminated man sympathizes with this intention, and easily lends himself to the renewed charm. Have you not felt something of this, old smokers, when, after indulging in the stock jests and sneers at womankind, you lay aside your cigars and "join the ladies," arrayed in bright colors and bewitching novelties of dress, moving gracefully in the brilliant gaslight, or arranged in glowing groups about the room? Has not the truth flashed upon you, at such moments, that you had been talking prose upon a subject essentially poetical? Have you never felt how mean and low a thing it was to linger in sensual stupefaction, rather than take your proper place in such a scene as this?

It is true that a few women in commercial cities—a few bankers' and brokers'

wives, and others—bewildered by the possession of new wealth, do go to ridiculous excess in dressing, and thus bring reproach upon the art. It were well if their husbands did no worse. Now and then, too, is presented the melancholy spectacle of an extravagant hussy marrying, perhaps spoiling, the career of her husband by tasteless and unprincipled expenditures in the decoration of her person. But is it wholly her fault? Is he not the purse-holder? Is it not a husband's duty to prevent his wife from dishonoring herself in that manner? When men are sensual, women will be frivolous. When men abandon their homes, and all the noble pleasures of society, in order to herd together in clubs and smoking-rooms, what right have they to object if the ladies amuse themselves in the only innocent way accessible to them? The wonder is that they confine themselves to the innocent delights of the toilet. A husband who spends one day, and seven evenings, of every week at his club ought to expect that his wife will provide herself both with fine clothes and some one who will admire them. Besides, for one woman who shocks us by wasting upon her person an undue part of the family resources, there are ten who astonish us by the delightful results which their taste and ingenuity contrive out of next to nothing.

It would be absurd to say that smoking is the cause of evils which originate in

the weakness and imperfection of human nature. The point is simply this: tobacco, by disturbing and impairing virility, tends to vitiate the relations between the sexes, tends to lessen man's interest in women, and his enjoyment of their society, and enables him to endure and be contented with, and, finally, even to prefer the companionship of men. And this is the true reason why almost every lady of spirit is the irreconcilable foe of tobacco. It is not merely that she dislikes the stale odor of smoke in her curtains, nor merely that her quick eye discerns its hostility to health and life. These things would make her disapprove the weed. But instinct causes her dimly to perceive that this ridiculous brown leaf is the rival of her sex. Women do not disapprove their rivals; they hate them.

Smoking certainly does blunt a man's sense of cleanliness. It certainly is an unclean habit. Does the reader remember the fine scene in "Shirley," in which the lover soliloquizes in Shirley's own boudoir, just after that "stainless virgin" has gone out? She had gone away suddenly, it appears, and left disorder behind her; but every object bore upon it the legible inscription: I belong to a lady! "Nothing sordid, nothing soiled," says Louis Moore. "Look at the pure kid of this little glove, at the fresh, unsullied satin of the bag." This is one of those happy touches of the great artist, which convey more meaning than a whole paint-pot of common coloring. What a pleasing sense it gives us of the sweet cleanness of the high-bred maiden! If smokers were to be judged by the places they have left—by the smoking-car after a long day's use, by the dinner-table at which they have sat late, by the bachelor's quarters when the bachelor has gone down-town—they must be rated very low in the scale of civilization.

We must admit, too, I think, that smoking dulls a man's sense of the rights of others. Horace Greeley was accustomed to sum up his opinion upon this branch of the subject by saying: "When a man begins to smoke, he immediately

becomes a hog." He probably used the word "hog" in two senses, namely: hog, an unclean creature, and hog, a creature devoid of a correct sense of what is due to other creatures. "Go into a public gathering," he has written, "where a speaker of delicate lungs, with an invincible repulsion to tobacco, is trying to discuss some important topic so that a thousand men can hear and understand him, yet whereinto ten or twenty smokers have introduced themselves, a long-nine projecting horizontally from beneath the nose of each, a fire at one end and a fool at the other, and mark how the puff, puffing, gradually transforms the atmosphere (none too pure at best) into that of some foul and pestilential cavern, choking the utterance of the speaker, and distracting (by annoyance) the attention of the hearers, until the argument is arrested, or its effect utterly destroyed." "If these men are not blackguards," he adds, "who are blackguards?" He mitigates the severity of this conclusion, however, by telling an anecdote: "Brethren," said Parson Strong, of Hartford, preaching a Connecticut election sermon in high party times, some fifty years ago, "it has been charged that I have said every Democrat is a horse-thief; I never did. What I did say was only that every horse-thief is a Democrat, and that I can prove." Mr. Greeley challenges the universe to produce a genuine blackguard who is not a lover of the weed in some of its forms, and promises to reward the finder with the gift of two white blackbirds.

Mr. Greeley exaggerates. Some of the best gentlemen alive smoke, and some of the dirtiest blackguards do not; but most intelligent smokers are conscious that the practice, besides being in itself unclean, dulls the smoker's sense of cleanliness, and, what is still worse, dulls his sense of what is due to others, and especially of what is due to the presence of ladies.

The cost of tobacco ought perhaps to be considered before we conclude whether or not it pays to smoke; since every man who smokes not only pays his share of the whole expense of the weed to man-

kind, but he also supports and justifies mankind in incurring that expense.

The statistics of tobacco are tremendous, even to the point of being incredible. It is gravely asserted in Messrs. Ripley and Dana's excellent and most trustworthy *Cyclopædia*, that the consumption of cigars in Cuba—the mere consumption—amounts to ten cigars per day for every man, woman, and child on the island. Besides this, Cuba exports two billions of cigars a year, which vary in price from twenty cents each (in gold) to two cents. In the manufacture of *Manilla* cheroots—a small item in the trade—the labor of seven thousand men and twelve hundred women is absorbed. Holland, where much of the tobacco in smoky Germany is manufactured, employs, it is said, one million pale people in the business. In Bremen there are four thousand pallid or yellow cigar-makers. In the United States, the weed exhausts four hundred thousand acres of excellent land, and employs forty thousand sickly and cadaverous cigar and tobacco makers. In England, where there is a duty upon tobacco of seventy-five cents a pound, and upon cigars of nearly four dollars a pound, the Government derives about six million pounds sterling a year from tobacco. The French Government gets from its monopoly of the tobacco trade nearly two hundred million francs per annum, and Austria over eighty million francs. It is computed that the world is now producing one thousand million pounds of tobacco every year, at a total cost of five hundred millions of dollars. To this must be added the cost of pipes, and a long catalogue of smoking conveniences and accessories. In the London Exhibition there were four amber mouthpieces, valued at two hundred and fifty guineas each. A plain, small, serviceable meerschaum pipe now costs in New York seven dollars, and the prices rise from that sum to a thousand dollars; but where is the young man who does not possess one? We have in New York two (perhaps more) extensive manufactories of these pipes; and very interesting it is to look in at the windows

and inspect the novelties in this branch of art. In Vienna, men earn their living (and their dying too) by smoking meerschaums, for the purpose of starting the process of "coloring." Happily, the high price of labor has hitherto prevented the introduction of this industry into America.

An inhabitant of the United States who smokes a pipe only, and good tobacco in that pipe, can now get his smoking for twenty-five dollars a year. One who smokes good cigars freely (say ten a day, at twenty cents each) must expend between seven and eight hundred dollars a year. Almost every one whose eye may chance to fall upon these lines, will be able to mention at least one man whose smoking costs him several hundred dollars per annum—from three to twelve hundred. On the other hand, our friend the hod-carrier can smoke a whole week upon ten cents' worth of tobacco, and buy a pipe for two cents, which he can smoke till it is black with years.

All this inconceivable expenditure—this five hundred millions per annum—comes out of the world's surplus, that precious fund which must pay all the cost, both of improving and extending civilization. Knowledge, art, literature, have to be supported out of what is left, after food, clothes, fire, shelter, and defence have all been paid for. If the surest test of civilization, whether of an individual or of a community, is the use of surplus revenue, what can we say of the civilization of a race that expends five hundred millions of dollars every year for an indulgence which is nearly an unmitigated injury? The surplus revenue, too, of every community is very small; for nearly the whole force of human nature is expended necessarily in the unending struggle for life. The most prosperous, industrious, economical, and civilized community that now exists in the world, or that ever existed, is perhaps the Commonwealth of Massachusetts. Yes, take it for all in all, Massachusetts, imperfect as it is, is about the best thing man has yet done in the way of a commonwealth.

And yet the surplus revenue of Massachusetts is set down at only three cents a day for each inhabitant; and out of this the community has to pay for its knowledge, decoration, and luxury. Man, it must be confessed, after having been in

business for so many thousands of years, is still in very narrow circumstances, and most assuredly can not afford to spend five hundred millions a year in an injurious physical indulgence.—From "*Smoking and Drinking*," by James Parton.

SHOES AND FEET.

A SHOE dealer of Washington takes occasion to give the fashionables of the National Capital some good advice, through the *Republican*, in the care and culture of the feet. As a man of much experience in his vocation, he is entitled to a respectful hearing. He says:

"About two-thirds of the feet that walk our streets are more or less deformed or crippled with corns, bunions, sunken arches, ingrowing nails, and other unsightly, unnatural features. It is as rare to find a handsome foot as a perfect hand—even rarer, for the foot has to bear the weight of the body, and the style of shoe generally worn is much more objectionable than that of the gloves. Strange as it may appear at first glance, there are more men with well-shaped, natural feet than women.

"It arises chiefly from the excessive, nearly always ignorant, solicitude mothers show about the feet of their daughters, when the latter are young. The custom of buying ready-made shoes, especially for children, is a fatal one to the beauty and health of the foot. The average man and woman are as incapable of picking out a proper ready-made shoe as they are of selecting a pair of spectacles suitable to the requirements of the eyes without calling in the aid of an oculist. For example, the shoe should be two sizes longer than the foot. A mother buying a pair of shoes for her child will have the child's foot incased in one of proper length, and then, feeling around the toe, will say: 'Oh, this shoe is entirely too long!' Off goes the shoe, and the little one's tender feet are pressed into a pair no longer than the foot. The feet of a child grow rapidly, and any excessive pressure, even if the nerves do not complain, acts injuriously.

Then the ready-made shoe, being built on a general measure, can not be adapted to the requirements of each individual foot, except at the expense of the foot. There is great difference in the sizes of the same person's feet, one or the other being longer, broader, with higher instep, larger heel, etc."

In the course of further remarks, the dealer said: "Nothing so soon spoils the arch of the foot and beats down the instep, making the foot flat, as buttoned gaiters. You observe that the flesh around the instep is unusually tender, and has but little support. The bones of the foot are not calculated to stand a continuous pressure such as buttoned gaiters give on top, and the effect of wearing them is to cause the flesh to spread out and flatten, and the bones to yield, until finally a well-shaped, handsome foot is made ugly. A gaiter that laces up the front is very bad for the feet, but not so objectionable as the buttoned. A shoe that laces up the side is far better, and, as ladies will not generally wear boots, is the best shoe to preserve the health and beauty of the foot.

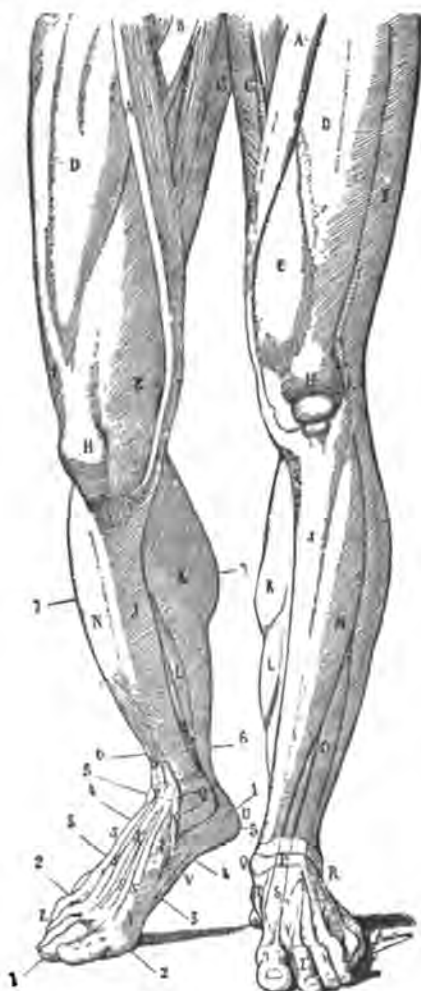
"Boots are the only kind of foot-covering that answer all requirements of health, comfort, and good looks. A boot well made braces up the foot and ankle, and rests the extremity instead of fatiguing it. Such evils as pointed toes and narrow soles should never be thought of, much less worn.

"Men ought not to get drunk; or, in fact, lead lives other than of the highest purity; but they do, and will continue to do so. And hence they are always sinning and always repenting. Nature, however, has given one good remedy for corns and bunions, and the same will go far toward restoring deformed feet to their

original shape—by the use of hot water and soap. No matter how badly his pedal extremities have been abused, if a man will soak his feet every night in hot water for about fifteen minutes, and use soap on them freely, he will get rid of corns, and the feet will gradually assume their normal shape. He must continue the practice

usually taken by French shoemakers for making a pair of gaiters or boots. The letters indicate particular muscles and the place of certain bones, as follows:

The letter *A* marks what is called the sartorius, or tailor's muscle. *B* indicates the triceps, or three-headed muscle. *C* is the membrane running behind the thighs. *D* is the anterior, or rectus muscle, which acts in extending the leg. Two other muscles, indicated by the letters *E*, *F*, vastus internus and vastus externus, are also used in extending the leg. *H* is the patella, or knee-pan, which serves to strengthen the junction of the bone of the thigh (femur) and leg (tibia) bone. *I* is the inner condyle of the femur just mentioned. *J* is the tibia, the chief bone of the leg. *K* and *L* indicate the muscles used in extending the foot. *M* is the flexor muscle which acts on the toes. *N* is the chief muscle, which moves the main part of the foot. *O* is the muscle, extensor longus, used in extending the toes together. *P* is a web-like ligament, which holds together the tendons which move the toes. *Q* is the interior and *R* the exterior ankle-bones, the malleoli. *S* indicates the tendons which move each particular toe. *T* is the tendon controlling the first metatarsal bone. *U* is the heel bone. *V* is a portion of the sole. *X* is the situation of the tarsus. *Y* that of the metatarsus. *Z* the toes.



PRINCIPAL MUSCLES OF LEG AND FOOT.

sometimes for many months, but it is never-failing. Of course, he must wear pretty loose shoes all the while."

The above illustration, taken from the French organ of the shoemaking fraternity, *Le Moniteur de la Cordonnerie*, shows the parts of the feet and legs that are affected by improperly-fitting shoes. Around the right foot and leg are lines and numbers, that show the measurements

TO RECOVER THE FROZEN.—How to do this has been the subject of much discussion and many experiments. A recent experimenter thinks that he has discovered the best method, and it seems to us in antagonism to all theories heretofore entertained. Laptschinski took sixty animals and exposed them to severe cold. Of these, twenty were gradually brought to in a cold room, but fourteen died, of the twenty introduced at once into a warm room, eight died; of the twenty placed immediately in a hot bath, all recovered. We have heard of frost-bitten plants being treated with hot water and restored, but think that the majority of florists would consider this too "heroic" treatment.

ED.

NOT A DISPENSATION.

"IT'S a sick and sinful world, Mrs. Lyman," said Elder Benedict, with a sigh, "and nothing but faith in another and a better one can sustain us as we travel through it. We are all ailing at our house, and seems to me I've never known so much sickness in the village as there's been this spring. But you look very cheery, ma'am, and your little folks seem as healthy as young colts," the old gentleman added, after a pause. "I was telling my wife yesterday that it was always a pleasure to drop in and have a talk with you, though we don't agree on all points, it is true."

"What seems to be the trouble at your house?" Mrs. Lyman inquired, pleasantly.

"Well, I dunno what 'tis," the Elder responded. "My wife seems to be all run down, hasn't a speck of appetite, and whatever little scrap she does pick up seems to distress her dreadfully. Alzina has a sick headache two or three times a week, and Jonathan has had rheumatism ever since last fall. It seems to me sometimes like a real dispensation, Mrs. Lyman, a sort of process, as it were, to gradually wean us from this vale of tears."

"The vale-of-tears doctrine is very obnoxious to me, Elder Benedict, and we will have to disagree at once on that point," Mrs. Lyman replied.

"But if it isn't a vale of tears, I should like to know what you call it?" the visitor inquired dryly.

"This world is very beautiful, and I believe was made beautiful for us to enjoy," the lady responded, "and if we do not find satisfaction in it, it is partly at least our own fault. To simply tolerate this world because we believe in another sinless and painless state of existence seems to me as illogical as it is ungrateful."

"It's a great comfort to a sick man to be a believer, Mrs. Lyman," the Elder observed, thoughtfully. "If it wasn't for the promises, I'm sure I dunno what we would do down to our house."

"Far be it from me to throw cold water on the promises," said Mrs. Lyman, "but you professors of religion seem to lose sight of one very obvious fact. It must be true, Elder, that this earthly condition must be just as necessary as the more spiritual one to which you look forward, or it would not have been given you. The child in the primary school who has no pleasure in his studies, no enjoyment with his companions, comforted only by the thought that some day he will leave it, is not likely to be a very promising candidate for graduation. This world seems to me like a great primary school, Elder, and our business is to learn and enjoy."

"But a man who is sick all the time can not enjoy life," the old gentleman responded, not a little bewildered by his companion's quick repudiation of his theory. "Now, for instance, all the real comfort I have comes from anticipation. I am never free from headache and dizziness; I can not enjoy my food, because I know I shall feel worse after I have eaten than I did before. You talk, ma'am, as if folks were averse to taking comfort; I'm sure I wouldn't object to a little as I travel along, neither would my folks. It's mighty easy to pick flaws, but it is not so easy to mention a remedy. I should like you to tell me what we have done to our house that we should be thus afflicted?"

Nothing is surer than that the Elder believed this to be a poser.

"You eat doughnuts straight from the smoking lard, Elder Benedict. Stale bread in your house is only considered fit to feed the chickens with. Hot biscuits are brought to your table every day. A dinner at your house without a dessert is no dinner at all, and so after you have disposed of meat and potato, and dumplings, and fresh bread and rich gravies, you add mince-pie, plum-pudding, or something else equally poisonous and indigestible. By this time you are quite ready to talk about a vale of tears."

"Well, if I ever heard more than that," said the Elder, like a man who had been

knocked down, and suddenly lifted to his feet again; "and you believe the sickness at our house is all our own fault?"

"I will not make so sweeping an assertion, because I do not know what kind of stomachs you had to start with," the lady replied; "but I am quite sure you are mostly to blame; and that being the case, it seems to me somewhat blasphemous to shift the responsibility to God. Who is to blame but yourself if you do not regard the laws of health? It is no answer to say that these things have been provided for you to eat. One thing may be good for you, while several articles of food—all of them equally healthful separately—may be rank poison when combined. You have doubtless attributed your indigestion to a weak stomach which was purposely furnished you, to wean you from this vale of tears; and all the time it has not been the stomach at all, but the conglomeration you have thrown into it. No slave was ever so hard driven by the cruellest task-master as are some of our stomachs. Look at the care which scientific men bestow upon their engines, and their valuable machines; they are watched and carefully oiled, and a certain pressure constantly adhered to. But the more delicate and complex human machinery is generally overtaxed and neglected."

"Why, Mrs. Lyman, I've eaten warm doughnuts and biscuits ever since I can remember, and I never knew 'em to hurt me," the Elder replied; "and so have all my folks. What do *you* eat now, for instance? 'Tisn't likely that you live on stale bread."

"All the bread I eat is stale," the lady responded; "but bread is not the staff of life with my family. We eat wheat before it is powdered into flour and lost most of its nutritive qualities; we have it stirred into mush and eat it with cream. Sometimes we have it made into gruel for our suppers. We have corn prepared in the same manner. We eat vegetables, and fish and eggs, and plenty of fruit; but we never eat pies, cake, dumplings, or rich puddings. Our aim is to eat regu-

larly such food as we know we can digest with ease, and properly assimilate. Look at the case of young Mr. Vose, who died last week—'removed by an inscrutable Providence,' his obituary read. Now, for three years or more this poor, ignorant fellow had been breaking down; he belonged to a family of *gourmands*, and the weaker he grew the more dainties he ate. He was stuffed from the cradle to the grave. Jaundice was the result; his liver secreted enough bile, but there was not activity enough in the system to throw it off properly. The effete matters retained in his tissues were taken up by the blood and distributed; pyemia set in, and this was the end of it. During all this time his wife and mother ransacked the town for material to tempt his appetite. The last time I saw him he was bolstered up in bed, eating a piece of lemon-pie with evident relish, and his mother was making him an egg-nog. To my mind, Mr. Vose's death, instead of being 'a dispensation of Providence,' might with more truth be called assisted suicide. That man had a noble physique, and a sweet, generous nature. Instead of riding the waves in a boat which might have been staunch and true, there was a hole in the bottom of it and he was drawn under. Ignorance, carelessness, and an unbridled appetite, Elder Benedict, instead of the work of a loving, all-wise Heavenly Father."

"That's rather a new doctrine, isn't it, Mrs. Lyman?" the old gentleman inquired thoughtfully. "I don't know as I ever before heard war declared against doughnuts and fresh bread, and such things, though may be you are right. Some folks might say, though, that it was destined to overthrow some deeply-rooted theological ideas."

"The theology that does not harmonize with common sense and humanity will have to go, Elder Benedict. What we are principally concerned about is religion, and there is a religion of the stomach as well as a religion of the soul. A man with an irritable or inflamed stomach can not love his neighbor properly. He may

have conscience enough to keep from committing murder, but true love is out of the question."

"Well, you've started me to thinking, anyway," said the Elder, taking his hat to go. "A radical change of diet, though, at my age, might be more dangerous than keeping on in the old groove," he added, with an evident wish to be enlightened.

"It is never too late to mend, Elder," his companion responded, "and I think you are not too old to enjoy the things of this world, which, I claim, were given you to enjoy; if you will only put into your stomach that which your stomach can take care of."

"If your ideas are correct," said the Elder, "it will have to be admitted that this is a very ignorant world, for most of

the folks I know eat about as we do at our house."

"And they grunt about as you do at your house."

"That's a fact," said the Elder; "most everybody I meet is complaining."

"And it is all wrong, and utterly opposed to every principle of Christianity," said Mrs. Lyman. "Force a man to abuse his stomach, year after year, and throw the blame upon God, is a species of meanness and cowardice which can not be too strongly reprobated."

The Elder went home full of thought, and Mrs. Lyman turned to her daily duties with a sigh.

The Gospel of the Stomach: how few preach it, and teach men and women how to live in this world. What wonder that she was discouraged? ELEANOR KIRK.

COMMON DELUSIONS IN DRUG MEDICATION.

THE physician of experience and broad culture now and then gives utterance to his conclusions with regard to the use of certain drugs that have long been favorites with the general practitioner in such an emphatic manner that the public, did it read the medical organs, would be likely to lose confidence in any composition of the pharmacists. The London *Lancet*, one of the oldest and most highly esteemed of publications in the domain of medicine, has shown much of the spirit of the iconoclast in late years, and the liberal views often presented in its columns have a tendency to undermine the whole fabric of even "regular" therapeutics.

In the New York *Medical Record* recently a "valued" correspondent was permitted to urge the necessity of a more critical and careful analysis of therapeutical experience, and claim that while nihilism in therapeutics is greatly to be deprecated, a more critical study of the action of remedies and of alleged therapeutical results is earnestly to be desired.

The editor himself adds much to the force of this by saying: "We have care-

fully examined the 'delusions' set forth by our correspondent, and find that, in the main, they agree with the results of the more conservative clinicians and of pharmacological experiments. They are as follows: It is a delusion that veratrum viride or aconite will abort croupous pneumonia or essentially modify its course; that chlorate of potash is of any use in catarrhal angina; that nitrate of potash is an anti-pyretic, an anti-rheumatic, or (to any appreciable extent) a diuretic; that lime water will dissolve a diphtheritic or croupous membrane; that nitrate of silver is of any value in epilepsy; that the excessive and continuous use of iron induces plethora, with dizziness, flushings, and palpitations; that iron should be given in phthisis; that mercury is anti-plastic and anti-phlogistic; that arsenic has any value in diabetes; that iodide of potassium promotes absorption of serous exudations and of non-specific connective tissue in hyperplasia; that sulphur and sulphur in baths are of any value in rheumatism; that charcoal, when moist in the stomach and intestines, has any absorptive power, or is of any use in flatulence

by virtue of that power; that dilute acids are 'cooling,' *i. e.*, lower temperature and lessen heart-action in the non-febrile; that colchicum is beneficial in rheumatism; that drinking sulphuric acid prevents chronic lead-poisoning; that iodoform given internally is anything but a poor substitute for iodide of potassa; that croton-chloral has a specific effect on the fifth cranial nerve; that tannic acid (or the plants containing it) is of any value given internally for hemorrhages, except perhaps those of the stomach and bowels, or that it is of any value as a gargle in chronic pharyngitis,

or that it is an astringent to mucous surfaces or blood-vessels; that turpentine is a stimulant to the heart and nervous system; that musk is a nerve or heart stimulant (it belongs with turpentine to nerve depressants); that ox-gall is of the slightest therapeutical utility; that hydrocyanic acid in ordinary medicinal doses is either a local or general sedative (it is rather an irritant); that quinine in either large or small doses is a stomachic, except in convalescence from malarial attacks; that hydriodic acid has any specific effects other than those possessed by the iodides."

HYGEIA.

A GODDESS came upon the earth
Who had, 'twas said, diviner birth
Than other dwellers of that age;
She knew some secret arts, and kept
Her lamp alight, while others slept,
And read from Nature's broadest page.

Like all true prophets in their time,
No matter what the day or clime,
She met with calumny's abuse;
Her truths were heard with rank distrust,
Her grandest deeds despised as dust,
Her gifts deemed scarcely fit for use.

With Ignorance she waged hot strife,
Old Superstition sought her life,
And manacled her strong, white arms;
But Persecution never yet
Hath caused its victims to forget,
Or filled their souls with weak alarms.

And so through all the summers fled,
While other deities lay dead
Hygeia kept her place on earth;
And all the world unites to praise
Her grace and beauty in these days,
When health is deemed a gem of worth.
MEDORA CLARK.

A PLEA FOR THE SUPERFLUOUS GIRL.

BY the census of 1880 the number of males of the United States outnumbered the females by several thousands. In the Eastern States the females greatly predominate, and in the Western States the males. Hence the social equilibrium as to the geographical distribution of the sexes is greatly disturbed. This results largely from the emigration of the young men from the East to the West. Some of the superfluous girls East have no opportunity to follow, and others do not wish to leave homes of comfort for a Western life, believing as they often do, that the people of the West are civilized but not enlightened.

If the equilibrium of the sexes could be restored, the excess of the female in the East would vanish, and the superfluous girl become the honored wife, and the

superfluous boy would then come to the surface quite able to take care of himself.

Many thousands of young ladies have to support themselves by manual labor. Universities with vast endowments have been founded for the education of young women, to fit them for teachers, but are universities of caste, practically speaking, as none but those having a competence can attend them, on account of the great expense. So our poor young ladies, after acquiring the rudiments of English in the public schools, are thrown upon their own resources, and quickly find out that the world has little encouragement for a poor person. Thus unprepared they drift into industrial vocations to struggle against obstacles almost insurmountable. The Government ought to step in here and give its assistance, and provide for their

industrial education before they enter upon their life's work. To educate them for industrial pursuits is entirely feasible. In Paris, in 1866, Madame de Lemonnier founded an industrial school for girls, and the results have been most encouraging. Starting with five pupils, she now graduates annually a thousand from four schools. The pupils are taught wood-engraving, painting on china, book-keeping, needle-work, flower-making, and to make *articles de Paris*. There are also in France, schools of embroidery, cookery, and design.

In the United States at the present time many girls and women are engaged in manufactories, having learned their trades with great difficulty and at a great loss of time. In 1860, in the United States, there were women and girls engaged in manufactories to the number of 270,897; in 1870, 323,770; in 1880, 531,639. Of these, in 1880, 80,000 were employed in the manufacture of men's clothes; 25,000 in shoe factories; 22,000 in making shirts; 17,000 in hosiery; 15,000 in canning fruits and vegetables; 10,000 in preparing tobacco for consumption, and many others in manufacturing artificial flowers, in book-keeping, in confectionery stores, and in making women's clothes. These statistics indicate the importance of industrial training for girls. The course of study could embrace training in all of the above-named vocations, besides shorthand, type-writing, telegraphy, book-keeping, and photography.

The financial support of these schools should come from the general school fund. The present annual school revenue from all sources is about \$200,000,000. This amount is sufficient to support the public schools in legitimate bounds, and also industrial schools for girls. In the smaller cities one or two industrial teachers might be sufficient for a time until the scheme was fully perfected.

In the large cities these schools should be separate and apart from the other public schools. The welfare of the whole people demands these schools. They are more necessary than Normal and Agricultural Colleges. The State Normal Schools prepare those for teach-

ers who have sufficient means to attend them. The "Agricultural" are supposed to instruct for the farm. There are many polytechnic schools that answer in a small way to train the boys for industrial vocations. But to the young lady who must rely upon herself, there is not much encouragement or advantages offered for her industrial training. She must go forth unprepared, to eke out an existence at starvation wages until she becomes a skilled operator. Human nature is weak, especially when need helps temptation, and it is not strange that so many poor girls are enticed to bacchanalian resorts to shine for a brief time, and then to go out in darkness and die without a hope.

Much is said in these times of "educating up." This is the mistake: The State has "educated up" in the higher circles, and not "down" in the lower circles of society where practical education is most needed. Too much cant and too much sophistry characterize the sayings of some educators. They ascend into the dry, thin atmosphere and descant learnedly on the *absolute* and the *abstract*, but do not design to descend to the level of common humanity and grapple with the hard problem of how to ameliorate the condition of the great mass of struggling people. There has been too much "educating up"; now let there be a little "educating down" among the people. One of the first steps should be the establishment of industrial schools for girls, in which each pupil will be taught some suitable handicraft. By using a portion of the school money in this behalf would add efficiency to the present school system, thinning out the middle grades that are now overcrowded. The times are ripe for action in this direction. Give the superfluous girl a chance in the beginning of her career by educating her so that she may become skilled in some useful and necessary vocation, and then she will take care of herself by her industry that will command an equivalent remuneration. Give the superfluous girl a chance.

D. H. PINGREY.

NOTES IN SCIENCE AND AGRICULTURE.

Minor Applications of Electricity.—Many ingenious applications of electricity were shown by the Novelty Company at the late Philadelphia exhibition. A boat four inches long, containing its own battery power, was run at fair speed for forty minutes, while a locomotive which obtained its electric power by connection with the brass rails, could run indefinitely. There was a machine-shop, with electric forging-hammers, planers, etc., and a full outfit of vertical and horizontal engines. Among the practical applications were an electric engine tell-tale, by which the steamer pilot could know at a glance the position of all the levers in the engine-room, and gas-burners which could be lighted or turned out, singly or all together, by touching push-buttons placed in various parts of the house. A pendent to each burner will, by a pawl attachment, turn on and light the jet if it is not lighted, or, if already in use, will, by the same downward motion, turn the gas off. A hand gas-lighter was shown and is now offered for sale. This contains in a small space an induction coil and battery to furnish the spark, and it is said to work satisfactorily. An improved burglar-alarm was also shown, which rings a bell in the servant's rooms at any hour, and at the same time turns off the alarm from any desired portion of the house, leaving the remainder still protected. The Telemeter Company had on exhibition various instruments to record continuously the temperature of any confined space, and to give warning by ringing a bell whenever the temperature passes a given point by a degree or more in either direction. One modification of this instrument registers the steam pressures in boilers, and a second records the pressure on city water mains. Such an instrument, placed in the condenser pipe of an ocean steamer, will predict the approach of ice-bergs.

Statistics of the Deaf and Dumb.

—The numbers of deaf-mutes in the world are roughly calculated to be from 702,000 to 900,000, and of these 63 per cent. are said to be born deaf, the other losing their hearing by different accidents. The number of deaf-mutes in Great Britain amounts probably to about 20,000. To meet the educational want of these, there are on the face of the globe 367 institutions, containing 47,474 inmates of both sexes, and employing over 2,000 teachers. Australia has 2 institutions, Austria-Hungary 27, Belgium 10, Brazil 1, Canada 6, Denmark 4, France 67, Germany 30, Great Britain and Ireland 49, Italy 35, Japan 2, Luxemburg 1, Mexico 2, Netherlands 3, New Zealand 1, Norway 7, Portugal 1, Russia 10, Switzerland 11, United States 55, Bombay 1. The causes of deaf-mutism are, according to the Abbe Lambert and other authorities, damp atmosphere, uncleanness, bad air in

dwelling, certain occupations followed by their parents, such as laundresses, excavators, miners, weavers, and all who have to work in damp and badly-ventilated places; the age of the parents, either when one or both are too young, or in cases where the mother is older than the father (the opposite does not matter), developing in rarely the first, but often the second and third generation of deaf-mute progenitors, scrofulous and nervous temperaments, marriages of consanguinity, a fault in the construction of the ear, fright, grief or ill-treatment of the mother before the birth of her infant, awkwardness of accoucheurs at the birth, exposure to cold directly after birth, and innumerable maladies to which children are subject during teething, convulsions, fevers, and many other causes, some of which have not been fathomed. Drunkenness in one or other of the parents is also a predisposing cause. On this point a Swiss collector of statistics, M. Merkle, says that he found fewest deaf-mutes by half in the wine districts, and the most in the districts where spirit (*eau de vie*) was the favorite drink of the inhabitants. Canon Moufang, of Mayence, says that more than one-fourth of the deaf-mute children admitted to the institutions are the issues of the marriages between relations, and the editor of the German organ for the deaf and dumb gives the following statistics upon the same subject: "In Berlin the greater proportion of deaf-mutes is found among the Israelites, where consanguineous marriages are frequent, and the smaller number among the Catholics, to whom such marriages are forbidden. The proportions in that city are, among the Jews, 1 in 675; the Evangelicals, 1 in 1,790; and the Catholics, 1 in 5,179."

The Meaning of Exactness.

—The late Professor Clifford said on this point:

"The word 'exact' has a practical and a theoretical meaning. When a grocer weighs you out a certain quantity of sugar very carefully, and says it is exactly a pound, he means that the difference between the mass of the sugar and that of the pound weight he employs is too small to be detected by his scales. If a chemist had made a special investigation, wishing to be as accurate as he could, and told you this was exactly a pound of sugar, he would mean that the mass of the sugar differed from that of a certain standard piece of platinum by a quantity too small to be detected by his means of weighing, which are a thousand-fold more accurate than the grocer's. But what would a mathematician mean if he made the same statement? He would mean this. Suppose the mass of the standard pound to be represented by a length, say a foot, measured on a certain line; so that half a pound would be represented by six inches, and so on. And let the difference between the mass of the sugar and that of the standard pound be

drawn upon the same line to the same scale. Then, if that difference were magnified an infinite number of times, it would still be invisible. This is the theoretical meaning of exactness; the practical meaning is only very close approximation; *how* close depends upon the circumstances. The knowledge, then, of an exact law in the theoretical sense would be equivalent to an infinite observation. I do not say that such knowledge is impossible to man; but I do say that it would be absolutely different in kind from any knowledge that we possess at present."

A New Diffusion Lantern.—The London *Journal* notes that an attempt has been made by Mr. A. P. Trotter to construct lanterns which shall diffuse and distribute powerful lights, such as that of the electric arc, without incurring the loss entailed by the use of opal glass. This was done with certain lamps fixed at the Health Exhibition, by a special modification of prismatic lenses (such as are used for lighthouses) adapted for ordinary lanterns. The general shape of the lanterns is that of the more improved street lanterns for powerful gas-flames—an inverted cone, closed at the top by an opal glass cap in the form of a much flatter cone. The glazing of the latter, however, instead of being with plain glass, is with specially moulded panes, bearing on them a number of prisms at $\frac{1}{4}$ -inch pitch. The prisms are formed on both sides of the glass, those on the front being horizontal, and those at the back running vertically. The effect is to break up the light-source into a multitude of images of itself, care being taken that the angle of the prisms does not give a chromatic effect. Each pane so formed, for a 2 ft. 6 in. lantern, is 14 inches long, tapering from 8 inches wide at the top to 2 inches at the bottom; and ten of these go to form the lantern. It is claimed that the absorption of light by such a lantern is only 10 or 15 per cent., as against 40 to 60 per cent. with ground or opal glass.

Casting the Glass for the Lick Telescope.—In 1880 a contract was made with Messrs. Alvan Clark and Sons to furnish an objective of thirty-six inches clear aperture. This was six inches greater than the glass they had just arranged to make for the Russian Government, and thus the telescope would fulfil the condition of being the largest and most powerful ever made. The result has proved the old rule, that the larger the glass the more difficult it is to make it. In this connection there is a curious contrast between our present experience and that of the opticians in the early part of the century. At that time the making of the crown-glass for the double lens offered comparatively little difficulty; it was the flint-glass with which the trouble was found. The latter contained lead, a substance of great specific gravity, which persisted in settling toward the bottom of the pot in which the glass was melted, and thus producing a difference between the two sides of the glass which was fatal to its per-

formance. But this difficulty has been so completely overcome that all the trouble now arises with the crown-glass. The method of making the best flint was long supposed to be a secret in the hands of a Swiss named Guinand and his family; but it is now believed that the supposed secret involved nothing more than the very simple device of continuously and vigorously stirring the molten glass until it became too cool and stiff to permit the heavier material to settle. However this might be, Feil, of Paris, who has been most successful in making large disks, supplied a satisfactory flint in a reasonable time. But so much delay was met with in casting the crown-glass that it has not yet reached the hands of the optician. The cause of this failure is one so simple that one can not but wonder that it should offer any trouble after being once detected. We call to mind that when the founder has succeeded in casting his lump of glass, weighing several hundred pounds, the clay pot in which it is contained is broken away. The outside portions of the glass itself, being impregnated with the clay and other impurities, have to be cut away. This is a most tedious process. If any ordinary cutting tool were used the glass would be apt to fly in pieces. It has to be sawed by a wire working in sand and water. The process of cutting away the outside is one, therefore, involving weeks, if not months, of labor. When it is done, the mass must be pressed into the shape of a disk, like a very thin grindstone, and in order to do this the lump must first be heated nearly to the melting-point, so as to become plastic. But when Feil began to heat his large mass it flew to pieces. In successive attempts he took more and more time for the heating, but broke a dozen or more pieces before he at last succeeded. In February, 1884, he reported that a glass was actually moulded without having been broken, and would soon be ready for shipment.—*Harper's Magazine*.

Why Birds Sing.—An observer writes on this subject in the *Popular Science Monthly*: "The majority of ornithologists agree in ascribing an erotic character to the songs of birds; not only the melting melodies, but also those of their tones that are discordant to the human ear, are regarded as love-notes. Darwin finally, saving some reserves, came to accept this view. To be able to speak critically of the love-song, one should pay especial regard to the love-life of birds. It would be to throw water into the sea to add to what ornithological writers have advanced concerning the exceeding vital worth and cosmical significance of love. Nevertheless, I venture the opinion that the origin of the song-habit is to be found in other sources as well as in this important factor, among which is the joy of life, manifested in an irresistible determination to announce itself in melody; and that the song is more perfectly brought out in proportion as this feeling is more highly developed in the organization. Birds in freedom begin to sing long before pairing, and

continue it, subject to interruptions, long afterward, though all passion has been extinguished; and domesticated birds sing through the whole year without regard to breeding-time, though no female or companion ever be in sight. Such birds, born in captivity, never feel the loss of freedom, and, if they are well taken care of, are always hearty and in good spirits. The bird sings, to a large extent, for his own pleasure, for he frequently lets himself out lustily when he knows he is all alone. In the spring-time of love, when all life is invigorated, and the effort to win a mate by ardent wooing is crowned with the joy of triumph, the song reaches its highest perfection. But the male bird also sings to entertain his mate during the arduous nest-building and hatching, to cheer the young, and, if he be a domesticated bird, to give pleasure to his lord and the providence that takes care of him, and in doing so to please himself. Lastly, the bird sings—by habit, as we call it—because the tendency is innate in the organs of song to exercise themselves."

A Little too Positive.—A paragraph in the *Iron Age* illustrates the fact that in this day of progress scientific deductions by the most profound investigators are not always to be implicitly trusted, as a member of the geological section of the American Association for the Advancement of Science, at its late meeting, found to his chagrin. It seems that Professor Williams, of Cornell University, read a paper on a geological topic, which was discussed by Profs. Hall and Claypole. The latter, in support of Prof. Williams, declared that the *spirifer disjuncta* and the *spirifer mesostrialis*, which are shells supposed to belong to different geological periods, exist side by side in the same rocks. Prof. Hall, who is State Geologist of New York, and is one of the foremost geologists of the world, asserted that Prof. Claypole's statements were erroneous, and very excitedly offered to eat his hat if such a rock were shown him, and give his coat and boots to the person making the exhibit. Prof. Williams took the first train to Cornell, and from that place expressed a box to Prof. Hall, which arrived before the adjournment of the Association, and when opened was found to contain a rock in which the two *spirifers* were undeniably present. It is not known whether the discomfited professor has actually made a meal of his hat, but he has been called upon to surrender his coat and boots to the triumphant discoverer of the rare, but not impossible, combination.

On Tree-trimming.—The owner of a place on Sibley street appeared in front of the house the other morning with a step-ladder and a saw and began the work of trimming up his shade-trees. While he was at the first limb a pedestrian halted and queried:

"Going to trim your trees, eh?"

"Yes."

"Um. I see. First-rate time to trim trees. Um. Exactly."

He hadn't got two blocks away before number 2 came along and called out:

"Going to trim your trees, eh?"

"Yes."

"Ah! I see. Ought to have waited a month later."

The limb was off when number 3 halted, stood for a minute with his hands in his pockets, and then asked:

"Going to trim your trees, eh?"

"Yes."

"Ought to have done that last month."

No. 4 said that April was the proper month. No. 5 wouldn't trim a tree except in May. No. 6 thought November the best time of the year, and so it went until every month in the year had been named, and there were five or six individuals to spare. Before the first tree was finished the seventeenth pedestrian halted, threw away the stub of his cigar, and loudly demanded:

"Going to trim your trees, eh?"

The man hung his saw to a limb, got down off the ladder, and, spitting on his hands, he walked close up to the inquirer and said:

"Supposing I am! What are you going to do about it?"

"Oh, nothing," answered the other, as he dodged around a pile of brick; "I was simply going to ask you if you used tar or porous plasters to cover the scars."

The citizen got his saw and ladder and disappeared in the house, and the remainder of the work will be done at night.

Names that Mislead.—The Providence *Journal* calls attention to some curiosities of misnomer. Black lead is not lead at all, but a compound of carbon and a small quantity of iron. Brazilian grass never grew in Brazil, and is not grass; it is nothing but strips of palm leaf. Burgundy pitch is not pitch, and does not come from Burgundy; the greater part of it is resin and palm-oil. Catgut is made from the entrails of sheep. Cuttle-bone is not bone, but a kind of chalk once enclosed in the fossil remains of extinct specimens of cuttle-fish. German silver was not invented in Germany, and does not contain a particle of silver. Cleopatra's Needle was not erected by the Egyptian queen, nor in her honor. Pompey's Pillar had no historical connection with Pompey in any way. Sealing-wax does not contain a particle of wax, but is composed of Venice turpentine, shellac, and cinnabar. The tuberose is no rose, but a species of polianthes. Turkish baths did not originate in Turkey, and are not baths, but heated chambers. Whalebone is not bone, and is said not to possess a single property of bone.

Over-feeding Cattle.—In answer to an inquiry, the *Prairie Farmer* says on this subject: "Many times cattle are fed too much and are injured. But after all it is not so much in the quantity of food, in the majority of cases, as it is in the character of the food. We again call attention to the fact that our cattle get little real valuable exercise. Now.

to keep them filled with concentrated food, under such circumstances, is to invite disease; and if the food is almost exclusively or largely of a fat-forming character, as corn or meal, the danger is greatly increased. What we want is bulk and a well-balanced food. If we are fattening them, of course, we are forcing the fat side, and the animal should be in such good condition when we begin, that we can get through with the process of fattening without breaking the animal down. The fact that if a cow or steer that has become sick from eating too much grain, is put on a restricted diet, and fed roots, mashes, cut and mixed feed for a time, will likely come out all right, unerringly points to the proper way to feed for health. If we will provide roots as a part of the daily diet of our cattle, and cut and mix our feed, it will be found that they will do well enough, if their surroundings are right. We desire again to invite attention, right here, to the great value of feeding powdered charcoal occasionally. It is a great absorber of gases, and is in itself a blood purifier in a mild form. It will aid digestion, and indigestion is the common trouble with cattle or other animals that eat too much. As long as the digestion is good, there will be no serious difficulty. And the reason that meal in excessive quantities, or other fat-forming foods, in like quantities, are injurious to digestion is that they are very dry, and the digestive apparatus needs more moisture."

Rapidity of Thought.—Professor Donders, of Utrecht, recently made some interesting experiments in regard to the rapidity of thought. By means of two instruments, which he calls the noematachograph and the noernatachometer, he promises some interesting and important results. For the present, he writes that a single idea requires the brain to act .067 of a second for its elaboration. Doubtless the time required is not the same for all brains, and that by means of these instruments we may obtain definite indications relative to the mental calibre of our friends. What invaluable instruments they would be for nominating caucuses for officers, for trustees of colleges, for merchants in want of bookkeepers, for manufacturers needing machinists and expert assistants; in short, for all having appointments of any kind to make.

For the eye to receive an impression requires .077 of a second, and for the ear to appreciate a sound, .149 of a second are necessary. The eye, therefore, acts with nearly double the rapidity of the ear.

To Examine a Horse.—A good horse will always show well standing at rest. The man showing a horse for sale who keeps the animal constantly stepping about, to show off, is to be looked upon with suspicion. The time to examine a horse is when he is at rest. It is then that his weak points will be shown. If the horse "flies up" at some object on the ground, nearsightedness

may be suspected. If brought suddenly into the light from a dark stable, and the light oppresses him, his eyes are weak. His gait and speed should be tested by actual service. At rest, if the horse is sound, he will stand square on his limbs, without moving any one of them, the feet being placed flat on the ground, and all his legs plumb and naturally placed. If one foot be thrown forward, with the toe pointing to the ground, and the heel raised, or if the foot be lifted from the ground, and the weight taken from it, disease or tenderness may be suspected.—*U. S. Vet. Journal.*

Careless Misdirection of Letters.

—Every visitor to the city of Washington likes to take a peep into the dead letter department of the post-office, though it is not very flattering to our national pride to be told that nearly 11,000 letters and packages were received there daily last year, making over 4,000,000 in all. This looks as if there were a great many very careless or very stupid people in the world. Of these letters, 175,000 had insufficient postage, and on 280,000 the address was illegible. More than 400,000 came from abroad, and were re-mailed to the countries from whence they were sent. In 35,000 photographs were found, and in others money, amounting to \$32,647. The total value of drafts, checks, and money-orders reached the enormous sum of \$1,300,000. Ninety-seven per cent. of the money was returned, and this is the case with every letter or package, so far as possible.

Free Seeds.—The Agricultural Bureau at Washington, of which George B. Loring is the head, distributed last year nearly four million packages of flower and vegetable seeds, all going free to the people who received them. The seeds were of all sorts, from field-corn and potatoes to the rarest flowers; 128 varieties of the former, and 131 of the latter. The distribution continues the year round. One hundred and sixty women and 58 men and boys are constantly employed in putting them up, and one wagon in carrying the packages to the post-office.

A Highly Elevated Railroad.

—The Pike's Peak Railway, which will be in operation probably next year, will be the most notable piece of track in the world. It will mount 2,000 feet higher than the Lima and Oroya Railway, in Peru. It is now in operation to a point over 12,000 feet above the sea level. The entire thirty miles of its length will be a succession of complicated curves and grades, with no piece of straight track longer than 300 feet. The maximum grade will be 316 feet to the mile, and the average grade 270 feet. The line will abound in curves from 500 to 1,000 feet long, in which the radius changes every chain.



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THE UTILITY OF PHRENOLOGY.—No. 2.

OUT of the relation of the mind to the body grows the importance of studying physiology, and to the phrenologists is due the improved definition of certain fundamental principles of the highest importance, bearing on the physical powers natural to men individually. These principles comprise the doctrine of the Temperaments that is set forth in every treatise on Phrenology that possesses practical value. Health, activity, endurance, are dependent upon Temperament, and a knowledge of the law of Temperament enables an observer, therefore, to determine the working limit of one's capability with much exactness. A knowledge of this law goes much farther than this, since it enables the observer to advise persons with regard to the correction of faults or biases of constitutional habit. Most people own to some physical peculiarity or diathesis that affects the health in one way or another, or renders it easily liable to disorder; in many the affection seriously impairs the mental integrity, and gloomy forebodings vex their thought. There are thousands in our public institutions who might have been saved from falling into the morbid

states that drove them to insanity* or vice or crime, had they received advice from a skilful phrenologist, and carried into practice the suggestions given by him for the amendment of their health.

No class of teachers realize more acutely than phrenologists the importance of a strong and vigorous body in the enterprises of men, and it is the first step in a systematic delineation of character to note the primary elements that constitute the physiology of the subject. What of the digestion, the respiration, the action of the heart, the complexion, tone of the skin, muscles, nerves; the quality of the voice, the attitude in standing and sitting? These are data of the Temperament, and supply material for the physical diagnosis that is an essential introduction to the study of the character. Very often the most valuable counsel is given by an examiner on the care of a subject's health. And such counsel is found particularly appropriate when parents bring large-brained, supersensitive, precocious children to him. They usually expect him to dilate upon their girl's or boy's wonderful intelligence, but find in the end that they received what was far better than an admiring description of possible achievement. On one occasion, a well-known examiner was invited to view the head of a four-year-old prodigy, and startled his parents by saying: "This boy must dig, or die,"—and then proceeded to give them the totally-unexpected advice that he must be comfortably clothed at all seasons, fed with nourishing food, put to bed with the setting sun, and given every opportunity possible for out-of-door exercise, while efforts to develop his intellect, draw out his smartness, or stimulate his natural disposition to study, should be suspended entirely. The wisdom of the

phrenologist's advice was discerned, and it was put into practice, with the happy consequence of imparting strength and harmonious development to a boy who would probably have survived the previous treatment of his doting parents and admiring friends but a few years. He has grown into manhood, and is a useful and trusted member of society.

A year or so ago, a gentleman called at our office to consult us with regard to changing his occupation. At the first glance, we felt warranted in telling him that his nervous system was jaded and worn, and his digestive functions were so much weakened that he must be suffering from dyspeptic troubles. We advised him to set about the restoration of his health, through repose, judiciously selected food and drink, and moderate exercise, and explained how imprudent habits of eating and working disturbed the mental balance and had rendered him dissatisfied and out-of-sorts.

He accepted our admonitions in good part, and followed them with much earnestness, and not long ago came again to us to say that his health had greatly improved, and he was doing well in his business; for all of which he was indebted to our timely aid. Whether or not life is worth living, it is said jocosely, yet with much truth, depends upon the *liver*. There are thousands who drag along from year to year, believing themselves to be out of harmony with their pursuits, their neighbors and friends, and practical failures in body and mind, who owe their wretchedness to disturbed relations of body and brain that have been produced by errors in their every-day habits. A few words opportunely given by a phrenologist would have saved the great majority of these miserables from their melancholy condition.

A person may possess a predominance of the Motive temperament that imparts tenacity, energy, hardihood, and muscular action; but he may be led to over-exertion, imprudent exposure to cold or heat, to dietetic abuses, thinking meanwhile, as many thus constituted do, that they "can stand anything." So, too, one endowed with the Vital temperament in good measure may in his flow of joyous, exuberant feeling acquire habits that tend to the development of congestive and inflammatory diseases—fevers, rheumatism, carditis, etc.—disorders to which the Vital temperament is particularly disposed.

An understanding of the simple hygienic rules appropriate to such persons and their reasonable observance would keep them in good health and promote their success in their several spheres. It has always been a wonder to us that the law of the Temperaments is not made a subject of study in the medical colleges. Being a primary factor in the science of Hygiene to which but passing attention is given in the ordinary medical course, one can not expect to obtain a practical and comprehensive knowledge of that important subject without it. Some years ago a stranger about fifty years old consulted the writer with regard to his health, and as a preliminary to the counsel given a brief analysis was made of his temperament and the probable influence it had upon his habits and life. He listened with great earnestness to our remarks, and after a while burst out, "I would give a thousand dollars to be able to read a man's condition as you have mine." He was a physician with a large practice in San Francisco, and having become exhausted by close attention to his calling, had come East for relief and change. He was astonished, as many other physicians

have been, by the diagnostic capability that a knowledge of the temperaments furnishes the careful observer. While Phrenology may be said to have a special regard to the mental constitution, it necessarily takes in the body, and jealously considers its correlative state, and therefore a large part of its work as an educational and reforming agent in human society is the improvement of the health of the people. This it seeks to do by a clear exposition of the laws of physiology and hygiene, and by showing their application to individuals.

DEAF-MUTISM TRANSMISSIBLE.

IN its appropriate place the reader finds a paragraph furnishing in brief the statistics of deaf-mutism, by which it appears that upward of 550,000 of the world's population are born without speech and hearing. Eminent authorities, among them the Abbé Lambert, include among the causes of this sad abnormality of constitution the influence of heredity, the parents being one or both deaf-mutes. Prof. Graham Bell, who is known for his success in teaching unfortunates of this class to speak, uttered an opinion on this subject, in which he expresses apprehension lest the permitted intermarriage of deaf-mutes might produce a race characterized by their peculiar defect. A report has been lately published under the auspices of the Pennsylvania Institution for the Deaf and Dumb, in which statistics are marshalled relating to the lives and occupations of persons who were once pupils of the institution. In this it is stated substantially that so far as danger of persons congenitally deaf transmitting their defects to their children is concerned, much greater danger is to be ap-

prehended of defects of hearing as resultants of consanguineous marriages in which neither parent is deaf. While the data of the report appear to sustain this inference, and while we are ready to admit the disastrous consequences of persons marrying who are related to each other by ties of blood, we feel it incumbent upon us to discourage the union of those who are defective in one or more of the senses. We would not have the blind marry the blind, the deaf join hands with the deaf, or the mute with the mute. Much less would we favor the union of those who like deaf-mutes are lacking in two important elements of physical and mental integrity, and therefore necessarily wanting in facultative balance.

Our old friend, Dr. Randall, of Woodstock, Vt., lately informed us of a singular case of heredity well known to him. In a family of nine children, seven had inherited a minute abscess of the scalp from their father. The two children not so marked have transmitted it to several of their children. Cases of transmitting marks of a pathological type, however, are very common, but as compared with a defect of the senses are certainly of minor importance; therefore it may be reasonably concluded that their psychological impressions, or that obscure nervous influence that so affects the foetal germ as to reproduce them, must be of a less powerful character than a condition that always prevents one from free association with others. Taints of blood, defects of sense, deformities, are often known to leap over one or two or even more generations. The Abbé Lambert alludes to this fact of atavism with regard to the reappearance of deaf-mutism.

In this matter respect should be paid

to the old principle of like producing like, the force of which is strengthened by the double impression physically produced when both parents are suffering from the same infliction.

ANTI-PHRENOLOGICAL JOKES.

FIRST TRAVELLING PHRENOLOGIST :
"Can't you lend me a dollar?"

Second Travelling Phrenologist : "Gracious! Is that you? Why, you look all broken up. Been sick?"

F. T. P. : "No; but I have had very bad luck."

S. T. P. : "I should say so; never saw you look so seedy. Didn't you draw at your last town?"

F. T. P. : "Yes; I had a big audience during the lecture; tried to read character by the *bumps* as usual, but made so many terrible blunders that the people made me give their money back, and then they mobbed me."

S. T. P. : "Made blunders? I can't understand that; you never failed to read *bumps* before. What was the matter?"

F. T. P. : "It seems the town had a new roller-skating rink, and everybody was learning."—*Exchange*.

This is the way the newspapers make merry sometimes at the expense of Phrenology. The fun is evident, especially because it is related to untruth; yet we wonder that the funny man on a newspaper can not invent a good story bearing on phrenologists that will have some elements of true wit. The best witticisms are essentially true, they displaying ludicrous phases of what are recognized facts. We think that there is no department of science which contains so many odd and curious sides, so many peculiar relations that may be turned to humorous account, as Phrenology. The skilful phrenologist often

finds opportunity for exercising his faculty of Mirthfulness when examining a subject, and at the same time reading an impressive moral lesson. When, however, the attempt is made to bring the subject of Phrenology into ridicule by a statement that is lacking in truth, the humor is exceedingly far-fetched and unworthy. The *bump* "racket" (to use a much-used term) is played so frequently that it appears to be the only motive at the command of the newspaper joker. We suppose that there are some self-styled phrenologists that have a lingering confidence in "bumpology"; but we are not acquainted with any of them, and heartily approve the disposition of people to run them out of town. Like travelling quack doctors and mountebanks of every description, they are only audacious blunderers. Were there any truth in "bumpology" the alleged effect of a craze for roller-skating would be very facetious.

Phrenology has always invited efforts on the part of punsters and practical jokers, and we suppose that it always will; and a really good joke, although at the expense of Phrenology, would be enjoyed by every candid disciple of the system. When Dr. Gall was living in Berlin he resided for a time in the same house with the celebrated poet Kotzebue, who profited by the association to learn from Gall the technical terms of the new science, and composed a play entitled, "Cranio-Mania," in which he made fun of the ideas and principles involved. This play was performed at the theatre in Berlin, and Gall attended the first representation, and enjoyed the fun as much as any of the audience.

A story that obtained currency during Mr. Combe's life was published in *Blackwood's Magazine*, and copied from that

into most of the newspapers of Great Britain and America. It stated that Mr. Coinbe had drawn a phrenological character from the plaster mould of a turnip, supposing the mould to have been taken from a human skull. The facts of the case are, that he did receive the plaster cast of a turnip with the request of the sender that he should make some comments upon it, but instantly detected the imposition, and returned the cast to the person that sent it with a parody of the "Man in Thessaly," as follows :

" There was a man in Edinburgh,
And he was wondrous wise ;
He went into a turnip field
And cast about his eyes.

" And when he cast his eyes about,
He saw the turnips fine ;
' How many heads are there,' says he,
' That likeness bear to mine ?'

" ' So very like they are indeed,
No sage, I'm sure, could know,
This turnip head that I have on
From those that there do grow.'

" He drew a turnip from the ground,
A cast from it was thrown ;
He sent it to a Spurzheimite,
And passed it for his own.

" And so, indeed, it truly was
His own, in every sense ;
For cast and joke alike were made
All at his own expense."

Were the phrenologists disposed to intrench somewhat upon professional confidence they could tell many good stories concerning men and women holding good positions in society and letters who have come within the range of their cultivated digits.

DIAGNOSING A CEREBRAL TUMOR.—

A case of localizing disease in the brain by the disturbances exhibited in the mechanical system has been reported from the practice of Hughes Bennett, the eminent English surgeon. A patient, suffering from certain paralytic difficulties, was examined by Dr. Bennett, and

informed that his disease was probably due, in great measure, to a tumor in a certain part of the brain, and that its removal might be followed by immediate relief. The principles guiding this diagnosis were derived from the results obtained by the experiments of Hitzig, Ferrier, and others on animals. These results point to the location of definite centres in the convolutions of the brain, that possess a functional property with reference to certain muscular movements. There has been not a little discussion concerning these motor centres in the columns of the PHRENOLOGICAL JOURNAL during the past ten years, because, as scientific phrenologists, we could not disregard their close relation to the psychological centres that it is the province of Phrenology mainly to consider.

The patient in question was informed by Dr. Bennett that he had one chance for his life through an operation upon his brain,—an entirely novel procedure, it is thought commonly, although in Phrenological literature similar procedures with good results are recorded—and that immediate relief might follow with recovery from the painful malady that had brought him to the verge of death. The man offered himself for the operation, which was performed in the University College Hospital, London. An opening was made in the head of the patient, at the place marked by Dr. Bennett, and a tumor about the size of a walnut found, which was removed without difficulty. The patient rallied quickly after the operation, and is now convalescent. This case is an important addition to the pathological evidences in favor of organic centres in the brain convolutions, and also dates a step in surgery that is of the highest promise.

AN AGENT OF VICE.

IF we ask for any public manifestation of the activity of the lower nature, it could readily be supplied by a reference to the modern theatre, which to-day seems to run chiefly in one direction—that of gratifying the sensuous and sensual sides of character. Take the city of New York—there is scarcely a play-house now in operation here that is presenting a play that possesses a single elevating feature. As a class, the representations are either plotless, or wanting in any arrangement that deserves favorable criticism. They are made up of a series of bald and flaunting scenic effects, interspersed with coarse and vulgar speech and song; and as for true sentiment or dramatic interest, there is scarcely anything of the kind at all.

In one place there is exhibited a loose, incoherent thing, in which the notorious James brothers, whose exploits in robbery and murderous outrage brought them under the ban of the law a few years ago, are introduced. The play is gotten up for their exhibition, and people who have a morbid fancy for the lawless and brutal are invited through advertisement to come and gaze upon them.

We hear of theatrical managers quarrelling over a woman whose unfilial and maniacal rebellion against the restraints of a refined home and the promptings of decency have made her the subject of newspaper gossip. These managers think that if they secure her for certain performances before the public their fortune will be made. The morbid curiosity awakened by the newspaper accounts of her misdoings will secure large audiences. Hence they quarrel as to which shall manage her.

Twenty or thirty thousand people or more, who go to these play-houses every night, are certainly at a loss for amusement at home or elsewhere, and by attendance upon such performances, they are subject to influences strongly demoralizing. Can we not have theatrical representations that will both amuse and instruct the people? awaken their esthetic faculties, stimulate the judgment, and warm into action the tender, sympathetic sentiments? The theatre, properly conducted, can exert a true and refined moral influence; can be made a teaching instrumentality. As it is to-day, it seems to be for the most part an instrument of evil to strengthen the sensual nature; to bring into sad predominance the animal propensities, and thus to ruin the moral integrity of thousands.

SMOKING LIKE A GENTLEMAN.—The well-bred man, on the contrary, the gentleman, the man that smokes only for the love of it, puts but as much of his cigar in his mouth as is necessary in order to draw it, keeps it in his mouth no longer than is necessary, and never fails to remove it when he talks, or passes any one toward whom he would be respectful, especially a lady. Further, our best bred men never smoke in any street at an hour when it is much frequented, nor in any public place where smoking is likely to be offensive to others.—*The Mentor*.

Yes, Mr. Ayres, it is perhaps as you say. A "gentleman" may smoke and yet lose nothing of his gentility, but it is nevertheless true that the habit of using tobacco has an inveterate tendency to weaken a man's sense of the nice and delicate in social intercourse. Like all

other habits of self-gratification it tends to increase personal desire for sensuous gratification, and to strengthen the selfishness of a man. How few old smokers have any regard for the rights of others

when they practice their fumous habit in public places! And usually old smokers burn tobacco wherever smoking is not positively forbidden by an authority that possesses a strong hand.

Our Mentorial Bureau.

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.

2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.

3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.

4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.

5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.

6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE contributions unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal matters will be considered by the Editor if this is done.

PHRENOLOGY AND CRANIOLOGY.—E. S.—To be well informed as a practical phrenologist, a general knowledge of the structure of animal crania is necessary. Ethnology is an important help, also.

UPPER LIP AND CHIN.—E. E. R.—A long upper lip usually accompanies Firmness or Self-esteem. In the latter case it is perpendicular, or nearly so, from the nose downward, and has comparatively little fullness. Such persons may be impatient of control or restraint, yet bear themselves for the most part with calmness. A slightly curled lip indicates ambition, according to the books, and is associated with liveliness of disposition.

A thin, pointed chin may indicate dissatisfaction, discontent, the person being unable to find the gratification of his or her likes and yearnings. Un-

steadiness of character is usually attendant upon discontent.

REVIVAL MEETINGS.—E. G. L.—These are but a form of religious emotion. The spiritual faculties, being highly exercised, exhibit phenomena that are characterized by peculiarities dependent upon the immediate environment. It should be understood that our habits of thinking and acting are greatly affected by our associations; and it matters not the class or order of our thinking, be it social, intellectual, or religious. Men's consciences are often reached by these revival methods, when no other influence could awaken them.

EATING AND SLEEPING.—J. S.—The ideas put forth by the *Journal of Commerce* writer are not new, by any means, and there is as much truth in them as there is in the virtue of our fathers' and mothers' time-honored nap after dinner. After a full meal a period of repose should follow; immediate labor is harmful, or taxes the system excessively. We are of opinion, however, that it is not well to cram the stomach at night: sound sleep does not usually follow a big meal. We can learn much from the habits of animals.

SPIRIT COMMUNICATIONS.—*Question:* If the human mind be universal Nature personified, and magnetism, gravity, electricity, and heat be immaterial substances, as Wilford Hall claims them to be, is it not additional proof of the existence of the faculty of Spirituality in man, and the possibility of supernatural communication? R. O. P.

Answer: Granting the premises, your conclusion is not extravagant; but the premises, as stated, are mere assumptions, and obviously inconsistent. Can substance be immaterial? The question of spirit phenomena was ably considered in the January Number, in "Phenomena of Immortality."

CANDIDATES FOR MATRIMONY.—*Question:* A certain Michigan doctor, who, in general, appears to favor phrenological science, imputes to some of its leading professors wrong views on the nature of marriage contracts; he says that according to the principles of Phrenology, persons should marry their likes, and that by following such a rule more disagreement and unhappiness are likely to be

met with in domestic life, than if the parties married without regard to adaptation. Is this true? N. B.

Answer: There is some mistake about this; we do not know a phrenologist worthy of the name who advocates such a rule; on the contrary, the general principle of marriage is the selection of "opposites,"—that, however, refers more particularly to temperament. In our advice to people who contemplate marriage, we say that they should select those who will compensate their defects or excesses. It certainly would not be fitting for one having large Combativeness to marry a person with a like development of the organ, as its excitement tends to antagonism and so conflict; with regard to Destructiveness, both having it large with a similar temperament there would be collision and bitterness. It is plain that both parties would not be helped in their domestic career if Cautiousness were very large on both sides; and when it comes to considering the intellect, it were better that there were a difference to the extent of one having larger percepts or smaller reflectives than the other; and if both were wanting in the faculties of economy, it is not likely that the house would be conducted in a satisfactory fashion.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

ONE OF OURS.—A writer in the *Christian Register*, of Boston, who names himself queerly, and yet perhaps appropriately enough, "Asked-of-God" (we have good reason for suspecting him to be the editor of the *Christian Register*), relates his experience in the early days of his study and practice of shorthand. There are certain intimations in the account that are interesting to the many who, like Mr. Barrows, found the PHRENOLOGICAL office a *via facilis* to useful and remunerative occupation:

"Dickens has inimitably described the experience of the average stenographic student in his 'David Copperfield.' Traddles never could make it go. Copperfield succeeded only after untiring labor. It is a study which requires agility rather than weight of brain, deft fingers, and unremitting application. Asked-of-God often thought of the printed lie on the tract wrapper: 'Shorthand learned in fifteen minutes.' But was there not added the reservation, 'All that is necessary afterwards is practice'? Finally, the mountain was tunnelled sufficiently far to get some gleams of daylight. There was some hope of emerging at the other side. Asked-of-God had tunnelled it with his lead pencil, and used up a good many quires of paper in the process. Studying the art at first simply to advance the kingdom of God by taking down the sermons of the minister, it then presented itself as a means of livelihood, and

as a stepping-stone to higher things. When, by dint of some labor, he had acquired a moderate degree of speed, he took up one morning a New York daily. An advertisement for a shorthand writer attracted his attention. He sent an application to Box 730, New York Post-office. How did his eyes happen to strike just that advertisement, which proved to be packed so full of consequence? He has often since pondered this question. Opportunities which we have seized, and which prove fruitful to us, often seem to have miraculous elements in them, just as the extraordinary draught of fishes seemed miraculous to the disciples. Yet all that was necessary was to cast the net on the right side of the ship.

"After waiting day after day in vain for some notice of his application, and forgetting almost that he had made one, the incipient stenographer was attracted one morning by the ringing of the door-bell. The letter which the postman brought invited Asked-of-God, if not already engaged, to call at 338 Broadway. The call was made, a proposition followed, and finally an engagement was effected. For nine years, beginning at the tender age of nine, Asked-of-God had earned his bread and a thin coating of butter with one firm, and he might have been there still, if nothing had diverted the course of his life. One of the most difficult steps he has ever had to take was this, occurring at the age of eighteen, when he forced himself to break away from a clerkship in a great manufacturing establishment, under the shelter of kind kinsmen and with an assured prospect of a permanent position, to enter upon a new and untried field of life. Once taken, the resolution was adhered to with unwavering determination.

"Every one has his Golgotha. The place which Asked-of-God had taken was literally a place of skulls. Who that has walked up Broadway has not seen them in the window-case, accompanied with plaster busts carefully mapped out on the surface to show the topography within? It was not only a place of skulls, but a place of brains and kind hearts. Without discussing here the merits of Phrenology as a system of mental science, which Horace Mann so highly commended, Asked-of-God simply wishes to record his gratitude to the New York firm which has been for so many years its champion in this country. Many a stenographer has been turned out from this establishment under Mr. Nelson Sizer's tuition, and no young man ever went there without feeling sensible of the high moral tone of this house and its interest in social and philanthropic reforms. Many a young man has confessed with gratitude the intellectual awakening which he there experienced. No pressure was ever brought to bear to change the religious convictions of the employés. The members of the firm were connected with evangelical churches. They are not responsible, therefore, for the heresy which overtook one of their young reporters. They are only responsible for encouraging him to think for himself. This is always a dangerous practice

for one who wishes to remain within conventional boundaries. The only safe way to secure fixedness in religious belief, and conservatism in everything else, is to see that men and women think precisely as their ancestors have done."

TO THE YOUNG.—I wish that I could impress upon the minds of the young the beauty of a harmonious life. I fear one reason why they shrink from considering earnest questions in life is their dislike to long faces, and a feeling that they will be excluded from all "good times."

No! No! my young friends, that is a great mistake. All *real good*, innocent pleasures and amusements are included in the happy, sunny way that leads to truth, kindness, charity, and all goodness.

Which, my young friends, is the happier, you would prefer, when in the quiet of your room, your soul standing before its tribunal: That which follows good deeds and harmonious living, or that which follows the feasting of the physical senses, while the soul has been robbed of its birthright of purity? These "Judgment days," as they pass, tell us in words too plain to be misunderstood where and how true, healthful happiness is found.

Do not neglect these "Judgment days." They will quicken the moral perceptions, and by revealing our weaknesses to us, will enable us to grow stronger, if we try. Then the way "Home" will not be so long or so thorny, so full of wasted opportunities, of sorrows for the yesterdays, and of tears of repentance.

I would that my pen could write words that would arouse the young to honest *reflection*, that would soon be followed by self-accusation; that, in time, would bring forth fruits of endeavor in the right direction.

Until we *long* for purity and goodness, we miss them, for we are like those "who, having eyes, do not see, and having ears, do not hear."

Pause, my young friends, and earnestly desire that your eyes may be opened to spiritual things. Do not let us waste time in riotous living, but work out our salvation hopefully and constantly; only stopping to aid others, by kind word or helpful hand, in the upward climb. I desire to meet with more young people who *dare* to do right because *it is right*, and not because it is expected of them. I hope for the young of *this* generation to be earnestly and thoughtfully grounded in the principles of truth, honor, and justice—firm and unshaken as the "everlasting hills," with heart and soul open to all the revelations of Nature and God. We want strong moral natures to hand down to the unborn generations.

MRS. KATE WESTON.

PERSONAL.

PROF. BENJAMIN SILLIMAN, of Yale College, died at New Haven, January 14th, aged sixty-eight. Prof. Silliman was the son of Prof. Benjamin Silliman whom Edward Everett styled the "Nestor of

American science," and who was one of those who welcomed Spurzheim when he came to America. Born on Dec. 4, 1816, at New Haven, he graduated at Yale College at the age of twenty-one. In the following year he was appointed an instructor in chemistry, mineralogy, and geology at Yale, and was associated with his father in the editorial management of the *American Journal of Science and Arts*, which the elder Silliman had founded twenty years before. Eight years later, in 1846, he became professor of applied chemistry at Yale. In connection with this chair he established the Yale Scientific School, which afterward developed into the Sheffield Scientific School, a work in which he was assisted by the late Professor Norton. In 1854, on the retirement of his father from the professorship of general and applied chemistry in Yale College, he succeeded to the chair. In 1869 he was appointed State chemist of Connecticut. He was the author of several textbooks on chemistry and physics, which attained wide popularity, as well as of other scientific works.

EX-VICE-PRESIDENT SCHUYLER COLFAX died suddenly in the Omaha Railroad station at Mankato, Minn., on January 13th. He had just arrived at Mankato by the Milwaukee road, and walked from the Milwaukee to the Omaha station, a distance of three-quarters of a mile. The wind was extremely cold, and the thermometer 30° below zero. The physicians, who arrived soon after Mr. Colfax breathed his last, believed that the air of the warm, close room after his exposure, caused an attack of apoplexy. Mr. Colfax was in his sixty-second year, having been born in New York City, March 23, 1823.

CHARLES OAKLEY, the oldest native-born resident of New York City, died last week of old age in Norwood, N. J. Mr. Oakley was about ninety-eight years old, and was born in what was then the country on the boulevard near Central Park, and lived there all his life until a year ago. He kept his health and his memory up to the day of his death. He leaves nine sons and daughters, a number of grandchildren, great-grandchildren, great-great-grandchildren, and even a great-great-great-grandchild, which very few centenarians can match.

DR. MCCOSH, in his baccalaureate sermon at the commencement of Princeton College, enlarged upon the true test of the practical value of a doctrine. He quoted from Hare the sentiment that "to form a correct judgment concerning the tendency of any doctrine we should look rather at the forms it bears in the disciples than in the teacher, for he only made it; they are made by it."

In a recent Number of *The Journal of Inebriety*, Dr. Napier shows that farinaceous foods are preferable to all others in the treatment of alcoholism. Hygienists have insisted on this for years, as the fact is palpable that vegetarians do not become drunkards. Macaroni, beans, dried pease, fresh celery, lettuce, and lentils antagonize the appetite for alcohol.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

If you must deal altogether with vulgar minds,
life is reduced to beggary.

It is with talents as with virtue; one must love
them for their own sake, or entirely renounce them.
—GOETHE.

SUFFER not your thoughts to dwell on injuries
you receive or provoking words that are spoken to
you.

A MAN is relieved and gay when he has put his
heart into his work and done his best; but what he
has said or done otherwise shall give him no peace.
—EMERSON.

BE noble! and the nobleness that lies
In other men, sleeping, but never dead,
Shall rise in majesty to meet thine own.

—LOWELL.

IN every small town there is a man who is always
loudly complaining of what the people suffer from
bad government, but who, if he had his way,
would be a very despot. —D.

THE threads our hands in blindness spin
No self-determined plan weaves in;
The shuttle of the unseen powers
Works out a pattern not as ours.

—WHITTIER.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

PEOPLE who go to the mountains in the summer
enjoy high living.

"WHAT are pauses?" asked the teacher of a
primary class. "Things that grow on cats," piped
the small boy at the foot.

ETHEL—"Oh, mamma, I've got such a pain!"
Mother—"Where, dear?" Ethel (a refined child)
—"In my sash, mamma."—*London: Judy.*

A MILWAUKEE druggist in advertising his porous
plasters states that their object is to hold the back
stiff while the pain crawls out through the holes.

A GERMAN physician defines the main difference
in the effects of whisky and beer to be: "Viskey
makes you kill somebody else; mit peer you only
kills yourself."

AN Irishman wrote to the wife of a sick brother:
"If Jamie isn't dead yet, remind him of the twinty
shillings he owes me on the pig; and if he is, tell
him not to give himself any consurrun about it."

GUEST—"I sha'n't come here again. Those sau-
sages were quite mouldy, and not fit to eat." Land-

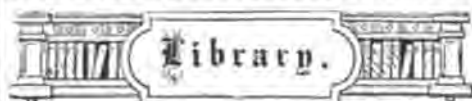
lord—"Beg your pardon, these very sausages ob-
tained a first prize at the health exhibition *last year*
but one."—*Humoristische Blätter.*

"I PRESERVE my equilibrium under all circum-
stances," she was heard to say in a pause of the
music to the tow-headed youth who was her escort.
"Do you?" he answered softly. "Mother cans
hers." Then the music resumed.

A CORRESPONDENT asks: "Please advise me
what a bald head denotes. I find some people
grow bald faster than others." We have always
labored under the impression that a bald head de-
noted an absence of hair.

BOARDING-HOUSE KEEPER—"Why, how deftly
you carve the beef, Mr. Smith. You must be an
adept." Smith (with a grunt of exertion). "Yes'm,
I am; I'm a wood-carver by trade."

"DON'T you think you have a good mamma, to
spread such nice large slices of bread and jam for
you?" said an old lady to a little boy, who was en-
joying his tea. "Yes," was the reply, "but she
would still be better if she'd let me spread on the
jam myself."



*In this department we give short reviews of such
NEW BOOKS as publishers see fit to send us. In these
reviews we seek to treat author and publisher satis-
factorily and justly, and also to furnish our readers
with such information as shall enable them to form
an opinion of the desirability of any particular vol-
ume for personal use. It is our wish to notice the
better class of books issuing from the press, and we
invite publishers to favor the Editor with recent pub-
lications, especially those related in any way to mental
and physiological science. We can usually supply any
of those noticed.*

EDWIN ARNOLD AS POETIZER AND AS
PAGANIZER; or, "The Light of Asia" Exam-
ined for its Literature and for its Buddhism.
By William Cleaver Wilkinson. Price, 15 cts.
Funk & Wagnalls, New York.

This is an exposition of the main facts in the life
of Buddha, and the claims which his religion make
upon mankind. Mr. Wilkinson believes that Mr.
Arnold's poem has had a weakening effect on the
faith and conscience of Christian people, and he
lays bare the discrepancies between the facts and
the fictions in reference to Buddhism. His dealing
with the literary qualities of "The Light of Asia"
is bold, yet calm and refined. He recognizes the
strength of popular sentiment, and literary senti-
ment as well, with which he has to contend, but is
not moved to treat his subject with lenience on that
account. Whether or not one agrees with his con-
clusions, one can not help reading with admiration;
for the conscience of the writer is felt on every page.
The spirit displayed is at once generous and severe,
the points made are sharp and at times very amus-
ing. It is a work of value for students of compa-
rative religion.

A PRACTICAL SYSTEM OF BOOK-KEEPING by Single and Double Entry, as applied to the various departments of business. By J. W. Van Sickle, LL.D., Principal of Van Sickle's Practical Business College, Springfield, Ohio. Published by the author.

There are books and books on this subject. Why not? The millions of business enterprises in this country require each a man or boy who knows something about keeping accounts in a methodical shape, and the demand is therefore constant for manuals that will instruct old and young in the forms that best exhibit the relations of debtor and creditor. The above-named author has given the world of trade the result of his experience as a teacher of the science of accounts in a neat, convenient volume, of moderate cost. A brief examination shows that it possesses the merit of good arrangement, proceeding from the simplest forms of commercial transactions to the more complex in a graduated series, meanwhile unfolding the philosophical principles of the science in a clear and comprehensive manner. A great variety of information is furnished with reference to usages and practices in every-day business, besides suggestions applicable to incidental occurrences in the life of a mercantile house.

SECOND ANNUAL REPORT of the Bureau of Ethnology to the Secretary of the Smithsonian Institution, 1880-1881. By J. W. Powell, Director, Washington, D. C.

This elaborate volume contains a wealth of data relating to the American aborigines. In the opening we find a brief account of the operations of the Bureau for the fiscal year. A series of papers follows, illustrating the methods and results of the researches prosecuted under the direction of the Bureau. "Investigations," says Major Powell, "have been pursued in the four great departments of objective human activities, viz.: arts, institutions, languages, and opinions; the design being to prosecute research in a systematic manner. It is believed that the facts in each field of research throw such light upon each other field, that one can not be neglected without injury to the others."

Prof. Morton was among the first to introduce order into the examination of aboriginal history and custom; but for the most part since the publication of his work ("Crania Americana"), investigators have followed their own devices in studying the American races and American archaeology. The Smithsonian Institution, through its Bureau of Ethnology, has caused researches made under its auspices to assume a direct and methodical form; and the two volumes that have appeared indicate a decided improvement in results. The data that have been obtained appear in that systematized way that their bearing can be grasped intelligently. In the new volume the Zunis, as might be expected, occupy a large space. An elaborate paper by Mr. F. H. Cushing on Zuni Fetiches is worth attentive consideration. The admirable illustrations that accompany it show the care of the observer

in gathering his facts. Myths of the Iroquois is the subject of a paper by a lady, Miss E. A. Smith.

Animal carvings from the mounds of the Mississippi, by Henry W. Henshaw, is another decidedly valuable contribution to the early history of an existing race, or is an accumulation of the remains of a defunct people, according as one may view the case.

The advancement made in mechanical art of the higher grade by some of the Southwestern Indians is well indicated in the paper by Washington Matthews, entitled Navajo Silversmiths. Then we have a paper discussing art in shell, of the ancient Americans, by Wm. H. Holmes, that supplies good material for the study of æsthetic development on our continent in times prehistoric. How those early people lived; their social and domestic habits; their pastimes; their manner of hunting and of war, can be read from the designs they traced on shell, bone, and stone.

Mr. James Stevenson, whose researches in the Pueblos, in the mounds of the Southwest, have occupied much of his attention for several years, adds an extensive catalogue obtained from the Indians in 1879. This catalogue contains two thousand eight hundred specimens, a large proportion of them being articles of pottery. A collection from Zuni is illustrated with many pieces, and indicates no mean progress in plastic art. The same may be said of the other collections to a degree; those of Wolpi and Taguna being particularly noteworthy, next to Zuni. The Indians' skill in basket-making may be said to rival that of civilization, while the quality of their woven-work is worthy the silk-weaver's admiration. Major Powell is entitled to much credit for his arrangement of this valuable work, and the Editor of the PHRENOLOGICAL is pleased to acknowledge his indebtedness for the copy recently sent to him.

PUBLICATIONS RECEIVED.

THE CHRISTIAN AT WORK, weekly, abounds in a variety of information, religious and secular, suited to family reading. J. N. Hallock, publisher, New York.

QUARTERLY JOURNAL OF INEBRIETY, published under the auspices of the American Association for the Cure of Inebriates, is a magazine dealing with one of the most important topics related to modern civilization. Independent and aggressive, it handles the subject of alcoholism with a true purpose of social benefit. Specialists of the first standing contribute to its pages. Subscription, \$2. T. D. Crothers, M.D., editor.

OUTING, AND THE WHEELMAN, an illustrated monthly magazine of recreation. Published by the Wheelman Co., Boston. Bicycling, tricycling, canoeing, tramping, etc., etc., receive full attention in this beautifully printed monthly.

WESTERN RURAL AND AMERICAN STOCKMAN. A progressive weekly for the farm, field, and fireside. Milton George, editor and publisher, Chicago. \$1.60 per year.

THOMAS' MUSICAL JOURNAL, a liberal monthly. J. H. Thomas, agent, Catskill, N. Y.

THE CULTIVATOR AND COUNTRY GENTLEMAN. One of the oldest visitors of our rural firesides, now in its fifty-ninth year. Published by Luther Tucker & Son, Albany, N. Y. Subscription, \$2.50 in advance.

HARPER'S YOUNG PEOPLE. This illustrated weekly is growing rapidly in interest, and commands an extensive circulation abroad. Its text and illustrations please the little ones. Subscription, \$2 a year. Harper & Bros., New York.

THE BROTHERHOOD OF THIEVES; or, A Picture of the American Church and Clergy. A letter by Stephen S. Foster. Price, 25 cts.

FARM AND FIRESIDE. Published fortnightly, widely circulated. Subscription, 50 cts. Published at Springfield, Ohio.

LITERARY WORLD. Published fortnightly. Contains reading, notices, and criticisms of new publications, together with selections from the more prominent. E. H. Heins & Co. \$2 a year.

LE PROGRÈS MÉDICAL, JOURNAL DE MÉDECINE, De Chirurgie et de Pharmacie. Weekly. Editor-in-chief, M. Bourneville. Paris, France. Subscription, \$4 a year.

THE POPULAR SCIENCE MONTHLY for February contains papers of much interest on: The Sight and Hearing of Railway Employés; Importance of Scientific Education; Physical Training of Girls; Cholera, its Home and Travels; Why Birds Sing; etc. D. Appleton & Co., New York, publishers. Subscription, \$5 a year.

FIRST ANNUAL REPORT of the General Council of the Charity Organization Society of the city of New York, April 1, 1883. This pamphlet declares to the casual examiner the good result of organized beneficence. Some capital tracts relating to the subject accompany the Report; for instance: "How to Repress Pauperism and Street-Begging," by Robert T. Payne, Jr. "Duties of the Friendly Visitors." "Official Places of Private Relief." Organization is fundamental to all effective work, secular or religious.

HARPER'S NEW MONTHLY MAGAZINE for February contains a wealth of excellent illustrations drawn from travel and scientific observation. For instance, Atfield House and the Marquis of Salisbury; Gen. Richard Montgomery; The Lick Observatory of California, and the description of the town of Pullman, are particularly noteworthy for their striking designs.

NORTH AMERICAN REVIEW for February has some discussions related to current talk, political and social. Those on—How shall the President be Elected? Holmes' Life of Emerson, The Certainty of Endless Punishment, and Shall Clergymen be Politicians? indicate the general spirit of the Number.

BLACKBOARD TEMPERANCE LESSONS, No. 2, by Mrs. W. F. Crafts. A graphic list of Temperance designs, which can be made very serviceable, especially in giving instruction to young people with regard to the moral and physical effect of intemperance. Price, 10 cts. J. N. Stearns, publishing agent, New York.

THE MANIFESTO, a monthly published by the united societies of the Shakers. The general spirit of this publication shows clearly that life among the Shakers has its picturesque and sunny phases. It is well sustained, being now in the fifteenth volume. Published at Shaker Village, N. H.

REPORT ON THE BOARDING-HOUSE FOR BUSINESS WOMEN, conducted by Miss Sarah H. Leggett, from May 1, 1878, to May 1, 1884. A successful enterprise started with a benevolent motive, and carried on with excellent results.

NINTH AND TENTH REUNION of the Alumni of Nicholls Academy, Dudley, Mass. Received from our old friend and contributor, Rev. Lucius Holmes, who favored the reunion of 1884 with a historic poem.

CHRISTMAS IN NARRAGANSETT, by Ed. Everett Hale, author of "The Virtues of a Shell," etc. This is Number 130 of Funk & Wagnalls' (New York) "Standard Library," and is a sequence, one might say, of Mr. Hale's recently published "Christmas in a Palace," that having been well received by the public. The book is a compilation of a dozen entertaining stories woven together, the unity being preserved from first to last with happy effect. Mr. Hale appears to be well constituted for telling short stories. Price, 25 cts.

COMFORTING THOUGHTS spoken by Henry Ward Beecher in Sermons, Addresses, and Prayers. Arranged by Irene Irvington, published by Fords, Howard & Hulbert, New York. Whatever may be said with regard to Mr. Beecher's collisions and coalitions in politics, it is certain that in his pulpit relations he is very happy in the expression of words of cheer and comfort. His illustrations of moral traits are generally most graphic and beautiful. The compiler of this little volume has selected with much taste the paragraphs that make it up.

THE SANITARY NEWS, which treats of healthy homes and healthy living, shows up the errors of plumbing and drainage that abound in our midst. Published in Chicago. \$2 a year.

VALEDICTORY ADDRESS,

BY REV. W. K. BURR, M.A., PH.D.,

At the closing exercises of the Session of the American Institute of Phrenology for 1884.

RESPECTED PROFESSORS AND FELLOW-STUDENTS:—The time for parting has arrived, and the relationship of teachers and pupils no longer exists. Our sojourn here has been pleasant and profitable. We have been engaged in the study of one of the noblest of the sciences; a science which tends to adorn, ennoble, and dignify humanity; a science which has for its object the expansion and the elevation of the immortal mind, that mind which stands, like the Roman Janus, looking forward and backward; with outstretched arms it spans the universe; it delves in the hidden treasures of the past, and brings to light the covered-up wisdom of the ages. It even pierces the gloomiest recesses of a sorrowing world, and extends on into the ages of eternity.

Phrenology teaches this divine truth, and we rejoice that it so beautifully accords with the teachings of the Bible—that Book which stands as a monument, whose top pierces the highest Heaven, and whose base is deeply laid in the mansion of the dead. Yes, Phrenology with unwearying finger is continually pointing upward, and inspiring us with a disposition to

"Live for those that love us,
For those that know us true;
For the Heaven that smiles above us,
And the good that we can do."

A very important lesson we have here learned is that of Self-culture; in all the stages of life, from the embryo state on through childhood and youth, through manhood and the declining years, to the last lonely reach in life's rugged journey. Lessons like these are worth more than all the gold of Ophir or the cedars of Lebanon; and they who follow them will live in accordance with the laws of our being, and by so doing will shine brighter than the richest diamond that ever sparkled on earth.

We have also learned the relationship between mind and matter. Oh! what a lesson, and yet how few understand its significance. This is a lesson in which language becomes bankrupt, as it were, in unfolding the length and breadth, the height and depth of its very meaning. It is the mind that raises man above the brute creation, that allies him to angels, and brings him near to God. And in our researches we have found that the moral faculties as well as the intellectual have their seat in the brain, and that by proper cultivation we can develop the mind, and justly stand forth in the glory of manhood, the beauty of the world, "the paragon of animals."

Respected professors, to you we now turn. Your fame as profound scholars and able instructors had reached us ere we came to this institution of learning, and the many lessons you have here inculcated

shall be treasured up in the halls of memory as a priceless heritage of our college days. Gentlemen, beloved Professors, long may you live to teach this noble science, and lead the embattled host on to victory. We may never meet you all again, but guided by the same beacon-light which has cheered and led you onward thus far in life's journey, we trust we'll meet in Heaven.

With this expression of our gratitude, with this appreciation of your worth, with this token of our kind regard, we bid you an affectionate farewell.

And now, beloved members of the graduating class of '84, a few words to you and we have done. Our mingling here together has been characterized with brotherly kindness and affection. We have been as a band of brothers and sisters of the same fraternity, each trying to make the other happy. And in our study of Phrenology—the comprehensive science of human nature—we have been drawn nearer together, and feel that a tender chord is being severed when we part. But we shall go forth from this place stronger men and women, and therefore better equipped to grapple with the stern realities of life. I shall often think of you, and revert with pleasure to the scenes of these college days.

I trust we shall often meet each other in the years to come. My best wishes go with you, praying that each of you may have a successful career. Long may you live to do your duty here on earth; to cheer humanity onward; to scatter flowers on every hand, and thus make life beautiful and bright. And one of the grandest achievements is to grow symmetrically, and thus continue to grow gracefully on to the last lonely reach in the journey of life. By so doing you will shine as the stars of the firmament, to the glory of God, the Father of us all, and be an honor to your Alma Mater and a blessing to mankind. And when you are dying, Hope will lift her finger to the portals of the sky, breathing unspeakable words of the glory and grandeur of that better world where we shall dwell in a blissful communion, and where our glory undimmed by the flight of time shall shine forth with redoubled splendor.

And now in conclusion,

I wish you all the happiness
That earth can here bestow;
Kind friends, to cheer you onward too,
While journeying here below.

I wish you days of sunshine bright,
Free from life's storms and blasts,
And then again to crown it all,
I wish you Heaven at last.

Fellow-students, farewell.

For a Circular containing full particulars of the course of instruction, terms, etc., address the Secretary of the Institute, or

FOWLER & WELLS CO.,
753 Broadway, New York.

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QUEEN ELIZABETH OF ENGLAND.

ELIZABETH TUDOR AND CATHERINE DE MEDICIS.

AN HISTORICAL STUDY.

WE very much doubt if two women ever lived whose *tout ensemble* of character, disposition, temperament, and personal appearance bore greater similarity than these two queens. When we consider the wide diversity of their birth and training, and the essential distinctions in the habits and ideas of the two peoples over whom they ruled, this resemblance is wonderful. We wish to review the careers of these eminent female sovereigns of the sixteenth century, to analyze and compare the prominent features of each one's character, noting the broad and general similarity, and no less the instances in which this juxtaposition shows an unlikeness. For there are dissimilarities of course; wonderful as are the resemblances, it would be more marvellous still if there were no distinctive features of contrast.

Elizabeth and Catherine were contemporaries, or nearly so, for though the latter was born fourteen years earlier, yet they became possessed of sovereign power at about the same time, and during a period of twenty-five years their public life ran parallel. It is a singular fact that at this time nearly the whole of Europe appears to have been governed by women—England by Elizabeth; Scotland by Mary Stuart; Spain by Isabella of Parma; Navarre by Jeanne d'Albret; Portugal by the Infanta Eleanor; and France by Catherine de Medicis. Among this galaxy of female rulers, Catherine and Elizabeth, if not the best and the ablest, stand out by all odds as the most successful, the wielders of greatest influences, the mistresses of vaster interests, the most prominent, the most powerful of the sovereigns of the world.

Catherine inherited both French and Italian blood; her father was Lorenzo de Medicis, Duke of Urbino and master of Florence; her mother was Madeleine de la Tour d'Auvergne, of the blood royal of

France. She had all the softness and facility of the French woman, and the duplicity and natural finesse for government of the Italian. Her youth was passed amid the violent factions and the popular storms of an Italian republic, and she became early accustomed to political intrigues, secret poisonings, conspiracies, and midnight assassinations. At the insurrection of Florence, in 1528, she several times narrowly escaped death. The rebels having seized her, conveyed her to a convent; one of them proposed to suspend her from the walls, exposed to the fire of the artillery, and another wished to give her up to the brutality of the soldiers; but she escaped all these dangers, to become the greatest intrigante and the most accomplished plotter of her age.

This willowy, dark-eyed Italian girl was only sixteen when she was married to Henry of Valois, Duke of Orleans, and she was only two years older when she became the Dauphiness of France. Mere girl as she was, she readily appreciated alike the difficulties and the advantages of her position. A king whose leading passions were dissipation and magnificence, a queen who shrank from publicity of all kinds, and who had neither inclination to upbraid, nor energy to resist injustice; a husband weak, coarse, and indolent, a powerful and insolent favorite, a licentious nobility—such were the elements out of which Catherine de Medicis had to construct a future for herself.

Catherine was admirably fitted by nature and training for the part which she enacted. She was beautiful and talented. "She was a woman of immense mind and superb magnificence," says De Thou. Brantome expatiates voluptuously upon her personal charms. John Michieli, the Venetian ambassador, who lived at her court, gives us this picture of her, which no doubt is correct: "The queen mother is a woman of forty-three, of affable man-

ners, great moderation, superior intelligence, and ability in conducting all sorts of affairs, especially affairs of State. As regent and head of the government she holds everything in her hands, public offices, benefices, graces, and the seal which bears the king's signature. In the council she allows the others to speak ;

deal of exercise a-foot and a-horseback ; she goes a-hunting ; and last year she always joined the king in his stag-chases through the woods and thick forests, a dangerous sort of chase for any one who is not an excellent rider."

Ambitious and intriguing beyond the wont of women, she also possessed a



she replies to any one who needs it ; she decides according to the advice of her council or according to what she may have made up her mind to do. She has great designs and does not allow them to be easily penetrated. As for her way of living she is fond of her ease and pleasure ; she observes few rules ; she eats and drinks a great deal ; she considers that she makes up for it by taking a great

power of dissimulation which enabled her to disguise her real sentiments under a mask of fascination that few were able to resist. Though haughty and imperious in spirit she had sufficient command over her words and actions, and even her very looks, to conceal her most serious designs under a playful carelessness of manner, by which those who surrounded her were duped into a belief that she was oc-

cupied by the passing pleasures of the hour. For twenty long and weary years she so far controlled herself as never to reveal her real feelings toward the mistress of her husband. A woman who could school herself to such mental discipline was worthy of the sovereignty she afterward secured.

The daughter of Henry VIII. and Anne Boleyn, the temper of Elizabeth Tudor recalled in its strange contrasts the mixed blood within her veins. Her impetuous will, her energy, her frank address, her fierce outbursts of temper, she inherited from her father; her sensuous, self-indulgent nature, her love of splendor and of pleasure, her vanity, and her frivolous caprices, she drew from gay, volatile Anne Boleyn. Like Catherine, the period of her youth was passed in revolutions, disgrace, and danger. She was an infant when her mother's white neck was severed by the fatal sword-stroke. Her father dishonored and disinherited her. Her sister, Queen Mary, consigned her to the Tower, where for long weeks she expected any moment to be summoned to execution. That politic caution, that mendacity, and the no small degree of dissimulation and artifice which she showed at times were doubtless nurtured by those trying years of adversity and danger.

Compare the two portraits of these queens. Singularly alike as they were morally and intellectually, their resemblance in face and figure is still more remarkable. Both had figures of middle height; though exceedingly majestic neither were tall. There are points of contrast. Catherine had dark eyes and Elizabeth gray; the Tudor queen had a more voluptuous cheek and chin, and the Medicis a more languishing eye. As they grew old, Elizabeth lost flesh, while Catherine was inclined to a troublesome increase of adipose tissue. But phrenologically there was similarity. Approbativeness was large in both, so were Construction, Continuity, Firmness, and Self-esteem. Ideality was prominent in both. The reflective and perceptive faculties

were well marked, and their back-heads in the social region were also well developed.

They were their fathers' daughters, so to speak. Both inherited the vigor and strength of men, though these masculine qualities were combined with the softness and grace of the feminine character. Perhaps there was less of this charm of softness in Elizabeth, but she had several female foibles which Catherine had, especially her vanity, her levity, and her passion for finery. Catherine was always subdued, always dignified, always a lady. Elizabeth had little womanly reserve, and no instinct of delicacy veiled the voluptuous temper which broke out in the romps of her girlhood, and showed itself almost ostentatiously through her later life.

Catherine was a thorough Medicis. She did not exhaust her hatred in vain complaints or passionate sarcasm, but like the tiger was content to watch until she could make her spring deadly. Still, notwithstanding her extraordinary self-command, she failed in concealing at all times the real hypocrisy of her character. This is evident from the fact that she never addressed any individual as "my friend" without alarming their apprehensions. "Ah, madame," exclaimed upon one occasion a gentleman of her household whom she had so named, "I would far sooner you called me your enemy, for the title you have just bestowed upon me convinces me that I have forfeited your favor, so well do I understand your nature."

Elizabeth would have boxed the ears of a courtier who addressed her thus, and perhaps sent him to the Tower for the offence; but Catherine only laughed at the frank expostulation; and it is a curious fact that with a heart as callous as ever beat in the bosom of a woman, she was remarkable for her addiction to laughter, in which she frequently indulged to the most uncourtly excess.

Elizabeth was every whit as hard and bitter as Catherine, but she never restrained her feelings in her later years. The blunt, frank Tudor spirit of her fath-

er spake in her harsh temper, her round oaths, and other unladylike manifestations of anger. She boxed the ears of Essex, and swore at him like a trooper before she sent him to prison. Catherine would have smiled at him with her Italian eyes, called him, "my friend"; but none the less certain would have been her punishment.

Elizabeth did not escape the imputation of a wanton. The pleasure-loving daughter of frail Anne Boleyn joined to her free temper much of the coarseness of "bluff King Hal." The "virgin queen," they called her after the time-serving flattery of courts, but she was not morally pure. Her intrigues and jealousies were the mockery and laughter of the court. Personal beauty in a man was a sure passport to her liking. Scandal was not quiet even in her own day. But without any restraint herself, her court was spotless. No indecorum, no levity, no intrigue was allowed her maids of honor. She ruled over them with a high hand, and punished every indiscretion ruthlessly.

Catherine, on the other hand, had no special passion for young men, and no taste for amorous intrigues. She always preserved the dignity of her sex; and the most depraved courtier dared not have lisped a rude jest in her ear. But her court was a sty of sensuality and filth. The ladies of her household were selected for their beauty and accomplishments, while as for their moral attributes no further detail is necessary than that of the mere fact that they were distinguished by the sobriquet of the "Light Brigade." She never interfered with the conduct of her attendants, and her power was secured in a large measure by the blandishments of her sirens. Thus her immediate circle became a hot-bed of vice and intrigue, rendered only the more pernicious by the specious gloss of wit, brilliancy, and splendor.

Although living at a time when men were being lifted into nobleness by the new moral energy which seemed suddenly to pulse through the whole world,

when honor and enthusiasm took colors of poetic beauty, and religion became a chivalry, both these women were strangely insensible to any fine impulses of fervor, magnanimity, or religious feeling. The finer sentiments of the men about them touched them simply as the fair tints of a picture would have touched them. The noblest aims and lives were only counters on their boards. Catherine made her market with equal indifference out of the heroism of Coligny or the bigotry of Guise, the virtue of Jeanne of Navarre or the folly of Henry de Bourbon. No womanly sympathy bound her to even those who stood nearest to her life. She loved her son Henry, indeed, but for all others she had neither love nor gratitude.

Power was what she worshipped, and it mattered not who was up or down so long as she held the reins of sovereignty. She had no religious convictions, and loved the Protestants as well as she did the Catholics. The massacre of St. Bartholomew, which was really Guise's plot, was a political conspiracy in which that nobleman wished to secure vengeance on Coligny, whom he believed to be the murderer of his father. Catherine really had little to do with it.

Elizabeth, like her rival, had not a particle of enthusiasm or magnanimity. She was the only soul in her realm that did not beat back a hearty response to the patriotism of the Dutch. Those who served her never won even her thanks. Walsingham spent his fortune in saving her life and her throne, and she left him to die a beggar. Sydney threw his young life away in her service; she had neither tears nor honors for his memory. No other two women that we know of were such complete automatons morally. They were more circumspect than enterprising, and supplied the want of a vigorous chief by the craftiness and cunning of their sex. Neither did wrong for the pleasure of committing evil, nor good from a natural principle of virtue; for their merits and vices depended mostly on moments and circumstances. Elizabeth's most repre-

hensible act, her inhumanity to Mary Stuart, was prompted by spite and jealousy it is true, but her signing of her rival's death warrant was simply a political exigency. She would have signed away her father's life if need be, just as coolly, just as ruthlessly, to have attained the same object.

As if by strange irony it was to this very lack of womanly sympathy that these women owed some of the grandest features of their character. If they were without love and enthusiasm, they were void of hate and prejudice also. They cherished no petty resentments; they never stooped to envy or suspicion of the men around them. They were indifferent to abuse. Their good humor was never ruffled by the grave charges that were stirred in every court in Europe. They were exceptionally bold and fearless. Catherine intrepidly assisted at the siege of Rouen in 1562 by encouraging the soldiers in the midst of the fight, heedless of the balls and bullets which flew around her. Elizabeth went out more than once at the head of her troops against the rebels, and faced attempted assassinations with unflinching courage. Their cold, critical intellects were never swayed by enthusiasm or by panic either to exaggerate or underestimate their risks or their power. Of political wisdom in all its larger and highest sense, neither of these women possessed any. Their idea of statesmanship lay in watching how things turned out around them, and in seizing the moment for making the most of them.

Both were exceptionally successful in the accomplishment of their plans, and the consummation of their ambitions. Fortune favored them to the last. They held their power firmly to the end, and their power commanded respect. Yet both died despised and unlamented. In her final moments Catherine was left alone; friend after friend went silently out from her presence, and her nurses and attendants grew weary and wished that both their patient and themselves were at rest. With her face to the wall, vainly sighing for a prolongation to her

miserable life, Catherine de Medicis passed from earth in the seventy-first year of her age.

Elizabeth's last moments were fully as sorrowful and tragic as Catherine's. She was aged and feeble, and had survived all her old servants and ministers. She knew she was surrounded by venal, interested men, who only waited till the last gasp had left her frail, care-worn, wrinkled body, to crowd round her successor; with all the bitterness of impotent rage and jealousy she felt this, but she "queen'd it" to the last with a sullen dignity. The picture of Elizabeth, the renowned and feared, the idol at home, the terror abroad, lying on her palace floor, with her finger in her mouth, seeking no support from religion, no consolation from affection—friendless, helpless, hopeless, comfortless, and thus gradually wasting into death, is such a lesson on the nothingness of power, and the miscalculations of selfishness, that history affords not one more terrible and impressive. As if to crown the strange parallel of their lives, Elizabeth's age scarcely varied a month at the time of her death from that of Catherine's.

FRED MYRON COLBY.

THE CAR OF TIME.

EVER onward o'er the pathway
 Moves the gilded car of Time,
 Never stopping, never ceasing,
 Never lessening or increasing,
 But with even motion pressing
 Forward o'er the track sublime.
 As we view the combinations
 Of this mighty magic car—
 View the grandeur of its gilding;
 See the wonders wrought in building;
 We behold the hand that's holding
 Every shaft and gleaming bar.
 Keeping all this mighty grandeur—
 All these burnished bands of steel,
 All the gold and ruby lustre,
 As the sunbeams flit or cluster
 Over Time's correct adjuster
 And each swift revolving wheel
 In exact and perfect order
 As along the track it flies,
 Holding all of Beauty's dower
 In its vast, almighty power
 Through all time, the year, the hour,
 And each blessing sanctifies.

HATTIE J. RAY.

SHAKING HANDS VARIOUSLY DESCRIBED.

THERE are few things of more common occurrence than shaking hands; and yet I do not recollect that much has been speculated upon the subject. I confess, when I consider to what unimportant and futile matters the attention of writers and readers has often been directed, I am surprised that no one has been found to *handle* so important a subject as this, and attempt to give the public a rational view of the doctrine and discipline of shaking hands. It is a subject on which I have myself reflected a good deal, and I beg leave to offer you a few remarks on the origin of the practice, and the various forms in which it is exercised.

I have been unable to find among the ancients any distinct mention of *shaking hands*. They followed the heartier practice of hugging or embracing, which has not wholly disappeared among grown persons in Europe, and children in our own country, and has unquestionably the advantage on the score of cordiality. When the ancients confined the business of salutation to the hands alone, they *joined* but did not *shake* them. Although I find frequently such phrases as *jungere dexteras hospitio*, I do not recollect to have met with that of *agitare dexteras*. I am inclined to think that the practice grew up in the ages of chivalry, when the cumbrous iron mail, in which the knights were cased, prevented their embracing; and when, with fingers clothed in steel, the simple touch or joining of the hands would have been but cold welcome; so that a prolonged junction was a natural resort, to express cordiality; and as it would have been awkward to keep the hands unemployed in this position, a gentle agitation or shaking might have been naturally introduced. How long the practice may have remained in this rudimental stage, it is impossible in the silence of history to say; nor is there anything in the English chroniclers, in Philip de Comines, or the Byzantine historians, which enables us to trace the

progress of the art into the forms in which it now exists among us.

Without, therefore, availing myself of the privilege of theorists to supply by conjecture the want of history or tradition, I shall pass immediately to the enumeration of these forms:

1. The *pump-handle* shake is the first which deserves notice. It is executed by taking your friend's hand, and working it up and down through an arc of fifty degrees, for about a minute and a half. To have its true nature, force, and distinctive character, this shake should be performed with a fair, steady motion. No attempt should be made to give it grace, and still less vivacity; as the few



THE PUMP-HANDLE SHAKE.

instances in which the latter has been tried, have universally resulted in dislocating the shoulder of the person on whom it has been attempted. On the contrary, persons who are partial to the *pump-handle* shake, should be at some pains to give an equable, tranquil movement to the operation, which should on no account be continued after perspiration on the part of your friend has commenced.

2. The *pendulum* shake may be mentioned next, as being somewhat similar in character, but moving, as the name indicates, in a horizontal, instead of a perpendicular direction. It is executed by sweeping your hand horizontally toward your friend's, and, after the junction is

effected, rowing with it from one side to the other, according to the pleasure of the parties. The only caution in its use,



THE PENDULUM SHAKE.

which needs particularly to be given, is not to insist on performing it in a plane strictly parallel to the horizon, when you meet with a person who has been educated to the *pump-handle* shake. It is well known that people cling to the forms in which they have been educated, even when the substance is sacrificed in adhering to them. I had two uncles, both estimable men, one of whom had been brought up in the *pump-handle* shake, and another had brought home the *pendulum* from a foreign voyage. They met, joined hands, and attempted to put them in motion. They were neither of them feeble men. One endeavored to pump and the other to paddle; their faces reddened—the drops stood on their foreheads; and it was at last a pleasing illus-



THE TOURNIQUET SHAKE.

tration of the doctrine of the composition of forces, to see their hands slanting into an exact diagonal; in which line

they ever afterward shook; but it was plain to see there was no cordiality in it, and, as is usually the case with compromises, both parties were discontented.

3. The *tourniquet* shake is the next in importance. It derives its name from the instruments made use of by surgeons to stop the circulation of the blood, in a limb about to be amputated. It is performed by clasping the hand of your friend, as far as you can, in your own, and then contracting the muscles of your thumb, fingers, and palm, till you have induced any degree of compression you may propose. Particular care ought to be taken if your own hand is as hard and as big as a frying-pan, and that of your friend as small and soft as a young maid-



THE CORDIAL GRAPPLE.

en's, not to make use of the tourniquet shake to the degree that will force the small bones of the wrist out of place. A hearty young friend of mine, who had pursued the study of geology, and acquired an unusual hardness and strength of hand and wrist, by the use of the hammer, on returning from a scientific excursion, gave his gouty uncle the tourniquet shake with such severity as reduced the old gentleman's fingers to powder, for which my friend had the satisfaction of being disinherited, as soon as his uncle got well enough to hold a pen.

4. The *cordial grapple* is a shake of some interest. It is a hearty, boisterous agitation of your friend's hand, accompanied with moderate pressure, and loud, cheerful exclamations of welcome. It is

an excellent travelling shake, and well adapted to make friends. It is indiscriminately performed.



THE PETER GRIEVOUS SHAKE.

5. The *Peter Grievous* touch is opposed to the *cordial grapple*. It is a pensive, tranquil junction, followed by a mild, subsaltory motion, a cast-down look, and an inarticulate inquiry after your friend's health.

6. The *prude major* and *prude minor* are nearly monopolized by ladies. They can not be accurately described, but are constantly noticed in practice. They never extend beyond the fingers; and the *prude major* allows you to touch even them only down to the second joint. The *prude minor* gives you the whole of the fore-finger. Considerable skill may be shown in performing these with nice variations, such as extending the left hand, instead of the right, or having a new glossy kid glove over the finger you extend.

I might go through a long list, of the *gripe-royal*, the *saw-mill* shake, and the shake with *malice prepense*; but these are only factitious combinations of the three fundamental forms already described, as the *pump-handle*, the *pendulum*, and the *tourniquet*. In like manner, the *loving pat*, the *reach romantic*, and the *sentimental clasp*, may be reduced in their main movements to various combinations and modifications of the *cordial grapple*, *Peter Grievous touch*, and the *prude major* and *minor*. I should trouble you with a few remarks, in conclusion, on the mode of shaking hands, as an indication of character, but I see a friend coming up the avenue, who is ad-



THE PRUDE MAJOR AND MINOR SHAKE.

dicted to the *pump-handle*. I dare not tire my wrist by further writing.

EDWARD EVERETT.

A MOUNTAIN PREJUDICE.

RECENTLY I stopped a couple of days in a flourishing New England village, and while there was told that a certain woman well known there was very much interested in Phrenology. Although it was not exactly "proper," I went to her house without getting any one to introduce me, and introduced myself. After she became assured I was no "tramp," she was free to converse. Her husband soon came in and took part in the conversation. I learned they had been "converted" to Phrenology by hearing some lectures delivered by a

graduate of the Phrenological Institute in New York City. Conversation turned upon the ignorance existing in regard to this central and very interesting science and its unpopularity. I confessed that I did not so often refer to it as I would, lest I should impair my influence in another direction, and one that also had in certain relations its own unpopularity.

It seemed keenly sad to them and to me that anything so good, so true, so needed, should not be floating on the highest wave of popularity. They were younger in the cause than I, and their

feelings even more lively than mine. I had become just a little callous to the ignorance, indifference, or injustice of the world toward our favorite science. I made some explanations, which, along with the statement of prospects, may constitute the substance of what I have now to write.

Heaven encourage and sustain that great host of most excellent people who wonder and mourn because precious truths are not enthroned as they should be in the midst of communities! Their prayers are heard, their sighs and sympathies recorded, and the cheerful help they proffer as they have opportunity secures an angel-blessing to themselves.

1. It has been seemingly one of the misfortunes of this world that its inhabitants should have been so much interested in matters a great way off, and of but little practical utility. Horace Mann said he knew the stars before he was aware of the number of bones in his own body. We can see that he should have been taught physiology, and in a practical way, before his attention was laboriously turned to the heavenly bodies. What a struggle has been made to reach the North Pole! It will probably be reached, yet it is not a paramount and pressing concern. Phrenology discourses of ourselves, of all around and about us, of our naked souls, the origin of desire and thought; suggests plain lessons, everyday duties, self-regulation, and it may be, self-denial. There is no mountain to climb, no frightful cave to explore, no ambitious struggle with our fellows, with beasts, or the elements of the external world.

2. Again, Phrenology pays no regard to station, insignia, personal renown, or any adventitious circumstance. It gives the worth of a man, be he ever so poor or obscure. It is as exact as measurement,—as unrelenting as square and compasses with one in the most fashionable or renowned circle. Like a Japanese bathing pool, all are there in unclothed reality. To the supreme lover of truth, to one intent on being clean, to the native Apollos

and Venuses, a deep animation, a spontaneous playfulness may be in marked contrast to the delaying shudder of many others. My friends suggested that not a few suspected they had not very well formed heads and did not want to have it known—it would not be for their immediate and selfish interest. Some were in high places favorites, and would rather not have the full light turned upon them personally. It seemed startling and revolutionary to have no screen, no disguise, no help from fortune left to one.

3. I think Mr. George Combe has somewhere discussed the obstacle to progress in science arising even from pride of learning. In mathematics themselves the old professor is tempted to oppose a fresh view, a shorter method. All who have written upon the mind after the manner of the metaphysicians and their disciples, are liable to be in feeling a little disgruntled at the approach of a new process of studying mentality, and especially of one so plain, so unromantic as the phrenological. There is a pleasure in indulging the imagination. There is a glow to self-esteem in being permitted to represent man according to the heated ideal of an enraptured speaker or writer. The humble method of observation, the analysis of accumulated facts from real life seem like repulsive drudgery in the comparison.

4. Kingdoms have their foes, so have republics. The same may be affirmed of churches, of parties, of moralists, of capitalists, of every school of thought almost, and of general society itself. Like frightened children, we are afraid to take a step in the dark, or go where we have not been before. We do not know what may spring upon us. Reason with such a child, try to render it brave, assure it again and again there is nothing to harm—that there is an important and urgent reason why it should answer your request, its heart still palpitates and it complies, if at all, in an agitated, distressed way. It wonders if it will ever see its dear father and mother again, but the parents are confident it will return in triumph.

5. Mrs. Lydia Maria Child wrote an interesting work in three volumes on the progress of religious ideas. She had occasion to delineate—in the first volume, I think—the ancient and oriental notions of the debasement of matter. That plausible, yet wrongful, view of the material universe has in some measure perpetuated itself and almost indelibly impressed our very ante-natal being. The nearer matter comes to us, the more we shrink. We seem to prefer a vegetable to an animal organization, and many times an animal to a human, so far as the physical being is concerned. We treat a flower as if it were nicer than a child, and a poodle dog as if it were choicer than a baby. Modern theology is helping us, so is science and art. At times affection and passion bridge over all distances. Where there is no violation of moral law, we may often admire passionate love, not as the blinded little heathen *deus*, but as a real celestial discernor. All the necessary functions of a living body involve deep, sublime, acute, and mysterious operations. “We are fearfully and wonderfully made.” The brain, with its white and gray substance, its convolutions, its position, with the life-functions now generally accorded to it, ought to be contemplated with unshrinking admiration and interest. There is a delightful tendency that way—but how much to overcome! That which is rational and true in the premises is, however, ever augmenting.

6. Yes, here is an illustration found in a very able paper, of January 1, 1885, showing how people are beginning to judge of one another:

“Horace Greeley’s personal appearance was always a subject of remark from his boyhood. Rollin C. Mallary, a member of Congress from Vermont, who was an able champion of the American System, used to narrate a visit of his to the printing-office of a country newspaper at Poultney, Vt., his place of residence. His attention was attracted to a young compositor, who was rather awkwardly ‘sticking types,’ and who, though full grown, was evidently the youngest apprentice in

the office. His legs ran a good deal more than ‘a foot’ through his pantaloons; the sleeves of his coat scarcely reached below his elbows, his hair was very white and flaxen, and he was, on the whole, in the aggregate, taken separately and together, the greenest-looking specimen of humanity we ever looked at, and that is saying a good deal, for ‘we keeps a looking-glass.’ ‘That boy,’ said Mr. Mallary, ‘will make a remarkable man; I can’t hold an argument with him on Masonry or anything connected with politics.’ As Mr. M. was considered one of the ablest men in Congress, his remark caused me some surprise; and we not only ‘made a note of it,’ but took another look at the ‘devil’ (printer’s we mean), and could not but trace in the expansive forehead ‘a mind formed in nature’s finest mould and wrought for immortality.’ It was years afterward that we became aware of the fact that the boy was Horace Greeley.”—*Christian Leader*.

“The expansive forehead” attracted the writer’s attention, and he saw “a mind formed in nature’s finest mould and wrought for immortality.” Such observations in the method of the scientific study of man will multiply. This method reaches over the whole field of human and animal life. A man undertook to tell me something disparaging to Phrenology drawn from vivisection upon a rabbit. I happened then to have the skull of a rabbit, a mink, a fox, and of what was a very intelligent dog. I placed them before him, with a “free lecture” upon their significance. I also showed him an illustration of the “facial angle,” from the serpent upward. We both having a leisure moment went over the wondrous scene of man, in the light of phrenological science. He finally admitted there was “something in it.” I thanked him for the concession, but told him that by and by he would admit more; that vulgar prejudice would give way, denominations lose hostility, lectures in our medical and other colleges cease to throw out insinuations creating a mountain prejudice, and writers getting tired over

an article, no longer close off with a crack of the whip at the expense of a science which contains more promise of saving and vital good to the human race than any mind on earth can conceive.

I am toward the end of this writing, but I would give the reader the benefit of one or two more illustrations from the weekly newspaper already named.

"One can not withhold admiration from the spirit of simplicity and openness with which Emerson avowed his utter inability to understand 'arguments,' in his reply to the paternal admonitions of his instructor, Henry Ware. 'I delight in telling what I think; but if you ask me how I dare say so, or why it is so, I am the most helpless of mortal men.' This is the way it seems to others. Emerson began by simply talking right on and continued at that till nearly the close of his life. The anxiety which most men feel about the effect of what they say seems not to have troubled him. Toward the last he appeared to be agitated by some apprehensions of this sort."

I have seen Mr. Emerson, and noticed that Causality was much less than his percepts. Would it not have been well for him, for his instructors, and finally for the world, to have known that? Several ministers figured, it seems to me, rather unbecomingly in the last political campaign. The most eminent one now wishes to be forgiven and is making apology. He has an ardent temperament, more perceptive power, Ideality and Comparison than Causality. Were I one of his congregation, I should forgive. Men of large Causality, the safest, deepest of men, are not yet sought after to fill pulpits, nor for other conspicuous places. They are too deliberate, too broad, too just to suit the present rush; and will be unsought until they are truly understood.

The extract above was from the particular pen of Dr. Atwood. I wish to select two more "Editorial Briefs."

"Probably we shall have some day a more elaborate and pretentious 'life' of Emerson than this by Dr. Holmes, but it will be unnecessary. Biographer and sub-

ject were never better matched. Emerson belonged to that strain of New England character whose ethnology and psychology Dr. Holmes has studied with sympathetic interest for half a century. Besides, character, and in particular literary character, is the department wherein the 'Autocrat' displays his keenest, finest sense. Moreover, it was required in the biographer of Emerson that something should preserve him from idolatry. This would be impossible in one Boston born and bred, unless his Maker had granted him a dispensation. Dr. Holmes' humor guards him against that danger."

"Those who have studied Emerson's features will recognize at once the fidelity and felicity of the portrait drawn by Dr. Holmes: 'His face was thin; his nose somewhat accipitring, casting a broad shadow; his mouth rather wide, well formed and well closed, carrying a question and an assertion in its finely finished curves; the lower lip a little prominent; the chin shapely and firm, as became the corner-stone of the countenance. His expression was calm, sedate, kindly, with that look of refinement, centering about the lips, which is rarely found in the male New Englanders, unless the family features have been for two or three generations the battle-field and play-ground of varied thoughts and complex emotions, as well as the sensuous and intuitive port of entry.'"

Now I have not yet seen this "life" of Emerson, which must be a very interesting book, but when we get that "more elaborate and pretentious life" I will venture to say that in addition to a description of nose, lips, and chin, which I would not have left out, we shall have his size, weight, build, temperament, and the configuration of his head. IMPERSONAL.

"WHAT shall I do to gain eternal life?"

Discharge aright

The simple dues with which each day is rife,

Yea, with thy might,

Ere perfect scheme of action thou devise

Will life be fled;

While he who ever acts as conscience cries,

Shall live, though dead. —SCHILLER

A SUCCESSFUL PERSON.

IT is said that when Solon, one of the ancient wise men of Greece, was asked by Cræsus, whom among all the men that he had seen he considered the most happy; thinking of his own vast treasures of wealth, greatness, and magnificence, he doubted not but that the answer of Solon would be, "Cræsus, thou art the man." But to his astonishment he named only a common soldier, whose life had been blessed with domestic peace, and closed with a gallant and honorable death upon the field of battle. This man's life was filled with comfort and had a glorious ending; therefore he was deemed the happiest of men. "For," said Solon, "no man while he lives is happy." While a man lives he can not know what disaster may overtake him. And might we not say that no man while he lives is a success? What the world frequently terms successful may be in reality only a very successful failure.

Once there was built a magnificent ship, apparently strong, beautiful, and complete. And when it set sail out upon the great ocean an admiring crowd applauded it as a grand success. But the ship was under the command of a careless captain, and when a storm arose it was tossed near a rocky shore, when an unsound timber that could not withstand the waves' fearful dashings gave way, and soon there sprang a leak, and because of that one weak place the noble vessel went down.

The people of this world are somewhat like vessels on the ocean, and oftentimes a wrong principle, or a weak and vacillating will, causes a soul-wreck. Although there are vast differences in the general make-up, size, quality, and capacity of individuals, some being like great, brilliant ships, the greater number are common-sized steamboats; and there are some little iron-bound steam tugs that carry a valuable and precious weight, and they ply in a straightforward course right through all difficulties, fearless of danger.

In these human vessels, if there be on board a thoroughly sound principle as captain, and a pure, strong purpose or will as helmsman, with a daily acquired cargo of good and useful knowledge, there can not be a total and final failure; for always bounding over the storm-tossed billows of ignorance, and steering clear of the shoals of wrong, there can be no real wreckage.

Sometimes a person is termed a success when he has attained the topmost round of fame; or, when a man has acquired vast stores of wealth, the world exclaims, "What a successful man!" But he is now in mid-ocean, sailing over smooth waters. Just wait for the termination of his journey over the sea of life; until the man is dead, then who will say he is a success?

In the parable of the rich man, who would pull down his barns and build greater to hold his increasing goods, he accounted himself a splendid success; but Omniscience said to him, "Thou fool." This man had stored up much goods, but he hadn't laid up any years with them. Where self alone is the sole object of life there can be no true success.

When over eighteen centuries ago the divine man was dying upon the cross, the jeering bystanders hooted his life a failure; but heaven and earth have testified such a death and previous life to be more than an earthly—a divine success. 'Tis not that there is wrong in riches and honors, but much good, if held in a proper, subservient place. Yet the world's estimate is frequently false and transient.

To be a successful person requires neither honors, fame, nor wealth; but if all would aim to be successful *men* and successful *women*, successful in mind and heart attainments, and in honest, kindly manners toward one another, there would be fewer life failures. And when they died, at more funeral services could the eulogium be pronounced, that "This man is a success."

LISSA B.

THE MAHDI, OR FIGHTING PROPHET OF THE SOUDAN.

THE capture of Khartoum, the stronghold of the Soudan, by the Arabs, and the death of General Gordon, have drawn more attention than ever to the man who leads the fight against British occupation. The generally received account of this zealous chief, and certainly obstinate defender of his country, is the following:

Mahomet Achmet, otherwise known as the Mahdi, is a native of the province of Dongola. His father was Abdullahi, a carpenter by trade, who in 1852 left Dongola and went to Shendy, a town on the Nile south of Berber. At that time his family consisted of three sons and one daughter, called, respectively, Mahomed, Hamid, Mahomet Achmet (the Mahdi), and Nurel-Sham (Light of Asia). At Shendy another son was born, called Adullah. As a boy, Mahomet Achmet was apprenticed to Sherif-ed-deen, his uncle, a boatman, residing at Shakabeh, an island opposite Senaar. Having one day been punished by this uncle, he ran away to Khartoum and joined the free school, or "Medressu," of a fakir (learned man, head of a sect of dervishes), who lived at Hoghali, a village east of and close to Khartoum. This school is attached to the school of Sheikh Hoghali, the patron saint of Khartoum, and who is greatly revered by the inhabitants of the town and district. The fakir, although he keeps a school and feeds the poor, derives a very handsome revenue from the gifts of the pious. He claims to be a descendant of the original Hoghali, and through him of Mahomet.

Here he remained some time studying religion, the tenets of his Sheikh, etc., and after a time he left and went to Berber, where he joined another free school kept by a Sheikh Ghubush, at a village of that name situated nearly opposite to Mekherref (Berber). This school is also attached to a shrine greatly venerated by the natives. Here Mahomet Achmet remained six months for the purpose of completing his religious education.

Thence he went to Aradup (Tamarind Tree) village, south of Kana. Here in 1870 he became the disciple of another teacher or priest, Nur-el Daim (continuous light). Nur-el Daim subsequently ordained him a sheikh, or fakir, and he then departed to take up his home in the island of Abba, near Kana, on the White Nile. Here he began a course of asceticism by making a subterranean excavation, into which he made a practice of retiring, to repeat for hours one of the names of the Deity, and this accompanied by fasting, incense-burning, and prayers. His fame and sanctity by degrees spread far and wide, and Mahomet Achmet became wealthy, collected disciples, and married several wives, all of whom he was careful to select from the daughters of the most influential Baggara sheikhs and other notables. To keep within the legalized number (four), he was in the habit of divorcing the surplus and taking them on again according to his fancy.

About the end of May, 1881, he began to write to his brother fakirs, and to teach that he was the Mahdi foretold by Mahomet, and that he had a divine mission to reform Islam, to establish a universal equality, a universal law, a universal religion, and a community of goods; also that all who did not believe in him should be destroyed—be they Christian, Mohammedan, or pagan.

An ancient prophecy was brought forward, or invented, which seemed to point to Mahomet Achmet by positive signs of race, tribe, date of birth, and personal appearance as the prophet by whom the power of Islam was again to be raised to its former glory, the Sultanate restored to the orthodox line of descent, and the power of the "infidels" crushed.

Gradually he collected the tribes about his banner, and for more than two years his army slowly advanced northward, gathering strength as it went, and easily overpowering its enemies.

Not long ago, and soon after General

Gordon had arrived at Khartoum, it is said that the Mahdi indicated a strong desire for peace, but his most powerful allies, Osman Digna among them, declared themselves for war to the last, or until the English retired from their country.

armies that put to flight the Egyptian forces with scarcely an effort, and has fought protracted battles with desperate courage against the flower of the British army, opposing spears and scimitars to the most improved repeating rifles and Gatling guns, would have been impossi-



EL MAHDI.

The story of this Arab leader partakes much of the flavor of an Oriental romance. In some points it bears a striking resemblance to the history of the great founder of the Moslem faith. That a petty sheikh, a fanatical priest, should be able to instigate a war of most formidable proportions, to gather and maintain

ble had not the "Prophet's" schemes been aided by the most intense religious fanaticism and by political circumstances outside his control; it being even probable that at Constantinople there lurks much sympathy for his movements in the very palace of the Sultan.

The portrait of the Mahdi is said to be

authentic, being engraved from a photograph sold in Cairo. It represents a man of the Arab type, whose habits are contemplative and ascetic. The head is evidently large and well developed in the anterior parts, especially the reflective region, and the temperament inclines much toward the melancholic side of the Bilious. Such a cast of expression naturally belongs to the bigot, or the enthusiast, or the monomaniac.

From an Italian correspondent, Mr. Noble, of Turin, we have received the

following brief but characteristic description of this doughty son of the desert:

"The Mahdi is a man of forty years, of a medium stature, extraordinarily meagre; dark complexion, eyes and beard black as coal, with his cheeks furrowed with three vertical incisions each. Dressed with a large cotton shirt, with the head covered with a turban, his feet fitted with wooden sandals, he continually husks with his meagre hands, like those of a mummy, a rosary with ninety grains, corresponding to the number of the divine attributes."

THE CHRISTIAN RELIGION—ITS HISTORY AND DIVISIONS.—No. 4.

THE GREEK CHURCH.

WE have, in a former article, spoken of the contest for superiority that existed in the early days of the Church between the bishops of different sections, and have seen how one after another retired until only those of Rome and Constantinople remained in competition; and how in the fifth century the Roman bishop was declared to be the superior, whose authority all others were commanded to admit and respect, and from whose decisions there was no appeal.

This forced allegiance was never satisfactory to the Eastern Churches, and, together with difference of belief on several points, led to a dismemberment of the Church, the one part being known as the Roman Catholic, Latin or Western Church, and the other as the Greek, or as the Greek-Eastern or Oriental Church; or, as it prefers to be called, "the Holy Orthodox Catholic or Apostolic Church."

Differences in points of doctrine and belief date from a very early period; indeed, there were differences among the first disciples. In the eighth century a controversy about the worship of images resulted in considerable territory being taken by the Greek Emperor from the jurisdiction of the Roman pontiff, and with the bishops residing thereon placed under the protection of the bishop of Constantinople. In succeeding centuries many attempts at reconciliation were

made, which, had only questions of belief been involved, might perhaps have been amicably settled, but in connection therewith there were always questions of governmental supremacy. When in 1453 the Turks took Constantinople, the Greeks were much incensed because the Romans failed to assist them in protecting their territory, and from that time union became impossible.

To show how minor things serve to make divisions in religious bodies we have only to note some of the reasons for the severance of the Greek and Roman Churches that were given in a circular letter issued by Photius in the ninth century. In this letter he names five enormities of which the Romans were guilty: they fasted on the seventh day of the week or on Saturday instead of Sunday; during the first week of Lent they allowed the use of milk, eggs, and cheese; they insisted on the celibacy of priests; they held anointing ineffectual unless done by bishops; and, what may have had more show of reason for complaint, they had added to the creed the word *filioque*, claiming that the Holy Ghost proceeded from the Son as well as from the Father. In after years most of these differences were overlooked, and it seemed probable that harmony would be restored; but temporal differences prevented.

From time to time new points of differ-

ence arose, such as the use by the Romans of unleavened bread at Eucharist; permitting bishops to wear rings on their little fingers like bridegrooms, and priests to shave off their beards; immersing in baptism but once instead of three times; not abstaining from the use of things strangled and from bloody meats, using lard, and allowing invalids to eat flesh on fast-days, and many others of no more importance.

There were many attempts to unite the Greek Church with some of the early Protestant Churches, notably the Lutheran, but without avail. In the seventeenth century a patriarch, Cyril Lucaris, framed a confession of faith that was decidedly Calvinistic, but it was rejected by the Church and led to a doctrinal declaration signed by most of the leading patriarchs and bishops, so definite and so at variance with Protestantism that all hopes of union were abandoned.

A declaration was adopted by a synod held in Jerusalem in 1672 as the creed of the Greek Church, and in 1722 was published, by order of Peter the Great, as the belief of the Russian Church under the name of the *Russian Catechism*. From this creed or declaration of belief we deduce as follows:

The Greek Church receives, with the Roman Catholics, as authoritative the acts and decisions of the first seven councils, and the same ideas relative to the trinity and incarnation, except the double procession of the Holy Ghost. It accepts as a rule of faith not only the Bible, but the traditions of the Church, and the testimony of many of the fathers, but denies the supremacy and infallibility of a Pope. It admits and administers the seven sacraments, viz.: baptism, confirmation, eucharist, penance, extreme unction, holy orders, and matrimony, but differs somewhat with the Romans in regard to them. For instance, in baptism, the candidate is immersed three times instead of once. Confirmation is administered and communion allowed to all, even to children, immediately after baptism, and may be administered by priests as well as by bishops.

In the eucharist it is held that the bread and wine are transformed into the blood and body of Christ, and their use is a real sacrifice of great benefit to those who properly partake. Leavened bread is distributed in the communion.

As regards penance, the Greeks have confessions and hold that priests have power to absolve penitents from the effects of sin, and that penitential works may be performed instead of undergoing physical suffering. While admitting the principle on which the granting of indulgences is founded, they approve of its practice. They deny the existence of such a place or condition as that called by the Romans "purgatory," or an intermediate state of punishment by fire, but believe prayers for the dead have efficacy that will inure to their benefit at the time of the general judgment.

Extreme Unction, called by the Greeks the Holy Oil or Oil of Prayer, is administered ordinarily by two or more priests conjointly, but seven are required to unite in its most solemn form. The prayers or words recited differ but little from those used in the Roman Church.

They hold marriage as a sacrament, but differ widely with the Romans in many things regarding it so far as the clergy is concerned. Bishops must be unmarried, and are consequently chosen from the monastic instead of the secular clergy. The latter, including priests and deacons, may not marry after they have been admitted to holy orders, but their having married before is no bar to their advancement. Married priests are required to live apart from their wives when actually engaged in church service. Second marriages of clergy are not allowed, nor more than three by laymen. Adultery is the only reason for annulling marriages.

The Greeks differ with the Romanists in many matters of belief not connected with the sacraments. In respect to the efficacy of good works, they go even further than their Western neighbors, and hold fasting in especial esteem. They have four principal fasts in the year, viz.: the six weeks before Christmas, fifteen

days before Assumption, the forty days of Lent, and from Pentecost to the feast of St. Peter and St. Paul. All Wednesday and Friday are fast-days.

The principal act of worship is the celebration of the Mass, which every one is expected to attend every Sunday before sunrise. Festivals are numerous. Two peculiar to this Church are the Orthodox Sunday, on which day a curse is pronounced against all heretics, and the 6th of January, when water is consecrated in commemoration of the baptism of Jesus. Instrumental music in churches is forbidden, but singing is universal. No seats are provided for worshippers, who stand during services, supporting themselves by a kind of crutch. In prayer during Pentecost they kneel, but stand at other times, facing east. Prayer for intercession is offered to the Holy Mother and to saints, and shrines and relics are honored. No graven image other than the cross has a place in their worship, but they hold paintings in high regard, offering prayer before them, and decorating them in the most elegant, extravagant, and costly manner, and the use of the sign of the cross is universal.

The forms and ceremonies of the different branches of the Greek Church vary considerably, but in all they are very showy and imposing, rivalling in some respects those of the Western Church in splendor and magnificence; and in the maintenance of them they are quite as zealous as in defending their points of doctrine. The liturgy in use by them is quite dissimilar to that of the Romanists, which latter is claimed to have been originally constructed by St. James—known as the Antioch or Jerusalem Liturgy—while that of the Greek Church is derived from the one said to have been introduced by St. John or St. Paul.

Before the conquest of Constantinople by the Turks and the consequent ascendancy of Mohammedanism, the Greek Church covered an immense territory, extending from ancient Greece so far east as to embrace parts of Mesopotamia and Persia, and on the south Egypt and Arabia, and

Russia and other parts of Europe on the north. With that conquest its strength and numbers waned. Wherever the Turks ruled, blight and death began. The Patriarch of Constantinople lost his power. First the Russians renounced their allegiance and became obedient to a Patriarch of their own. Other secessions followed, and at present the Greek Church is included in three distinct branches—that within the Ottoman Empire, or the original Church, of which the Patriarch of Constantinople is the head; that in the kingdom of Greece; and the Russo-Greek Church above spoken of. Besides these there is a body known as the United or Papal Greek Church, located principally in Russia, Poland, Austria, and Southern Italy, who acknowledge the supremacy of the Roman Pope, receive as true the decisions of the later Councils and the double procession of the Holy Ghost; while they make use of the discipline of the Greek Church, use its liturgy, follow its rites and ceremonies, and admit marriage of the clergy.

Besides these three general divisions the Greek Church is still further divided into ten groups or branches, all in a measure independent, while at the same time they all acknowledge Constantinople as the chief patriarchate. These groups may be designated as follows: I. That at Constantinople, the head of which is designated as "Most Holy Archbishop of Constantinople, New Rome, Ecumenical Patriarch," and who supervises 136 bishops. II. Alexandria, with 5 bishops, presided over by the Blessed and Holy Patriarch of the Great City of Alexandria, etc., who resides at Cairo. III. The Church of Antioch, whose 17 bishops acknowledge as their superior the blessed and Holy Patriarch of the City of God, Antioch, Syria, Arabia, and all the East, Father of Fathers and Pastor of Pastors. IV. The Church of Jerusalem, with 14 bishops, whose chief is called the Blessed and Holy Patriarch of the Holy City of Jerusalem, of Palestine, etc. V. The Russian Church, with 66 bishops, governed

by the most holy synod directing all the Russias, which is composed of three metropolitans, one archbishop, two other clerical and two lay members. VI. The Church of the Isle of Cyprus, with 4 bishops, under the Blessed and Holy Bishop. VII. The Church in Austria, with 11 bishops, governed by a patriarch. VIII. That of Mount Sinai, with a single bishop. IX. That of Montenegro, also with a single bishop. X. The Hellenic Church in the kingdom of Greece, with

24 archbishops and bishops, governed by the Holy Hellenic Synod of Athens. These ten bodies recognize a Supreme General Council, but it is so long since the Council has been summoned—presumably 1,000 years—it is not really agreed upon what conditions it should assemble to give it full power. The number of adherents to the Greek Church is variously estimated, and may reach seventy-five millions, more than two-thirds of whom are in Russia.

L. A. ROBERTS.

MARK HOPKINS, M.D., D.D., LL.D.,

EX-PRESIDENT OF WILLIAMS COLLEGE, AND PROFESSOR OF MORAL AND INTELLECTUAL PHILOSOPHY.

WHEN asked to write a brief sketch of the noble man whose benignant character is not quite fully enportraited in the above picture, without hesitation, with great pleasure, and not a little pride, I answered yes. Since, at first thought, it appeared as if any person might write a very creditable paper in regard to one upon whom so many of the gods had set their stamp. Besides, he has always been one of my best friends, and I was glad to have the opportunity of doing honor to one whom above all other men I love and revere.

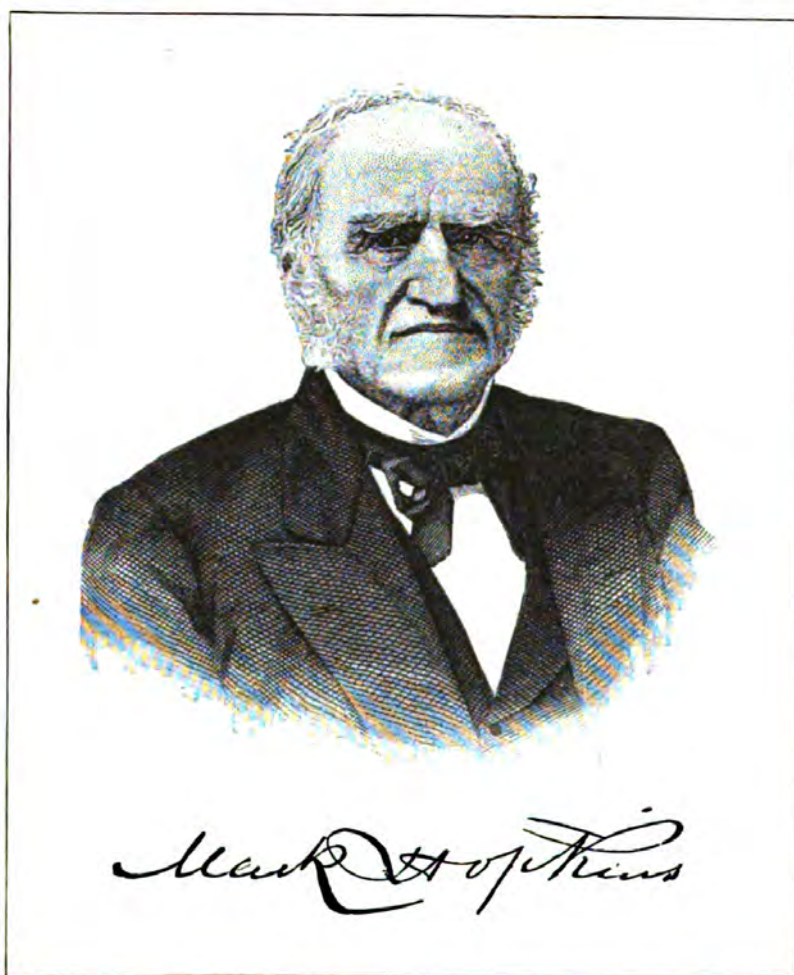
But the more I contemplated the assumed task the more I appreciated my incompetence to present in a short or in a long paper an adequate photograph of the character of him who has for many years been and still is one of the greatest and the best of men. My pen has not the cunning to set forth conspicuously as they ought to be presented those various traits that should be examples and instructive models for the reader's use and satisfaction. It is not difficult to describe pure gold, to rate its density, illustrate its color, etc., so as to convey a correct idea of its qualities. But when we would describe living things, the peculiar flavor of a rare fruit, or the super-exquisiteness of a new variety of flower, in what language, in what dictionary is to

be found the expressive words adequate to the occasion? Or where is the chemist so expert that he can formulate a telling distinction between the most delicious fruits, and those to a slight degree inferior, and so point out their causes that we can always duplicate the former and never have the latter?

Still more difficult is it in case of the still more complex "make-up" of man, to specify the individual limitations of the best, and to picture with words their characteristics and the causes of them, set off with such a background and contrasts as will bring them out distinctly, delightfully, and instructively. Besides, as the choicest flowers and fruits constantly diffuse through a wide space an impalpable, indescribable aroma, wrought in Nature's laboratory, and as yet beyond the skill of the most refined chemistry to imitate, so does an influential atmosphere surround, attend upon, and so to speak unconsciously radiate from the master spirits of our race. True, a sufficiently observing eye may perhaps fathom this influence and its causes, but it is as yet more felt than known. A dog by virtue of his instinct, as we say, distinguishes a kind-hearted man, trots by him without fear, while the creature will keep more than a cane's length distant from the surly and the impetuous man. When

a thorough education includes a thorough training of all our organs adapted for observation, as a fundamental or basic study and practice all through our lives (in the way now well or partially shown in all Kindergarten schools), then shall we learn better than we now can what lies within and what beyond the compass

inference is proved to be correct, by the fact that he is now eighty-three years of age. (The picture was taken about a score of years since.) It also promises a still more advanced and useful life than he had yet attained. The breadth of the head in front of the ears, the long distance from the bridge of the nose to the



of human acquisition. Then shall we be able doubtless to define wherein and why the subject of our paper excels others, or at least most other men.

For example, it is easy for an expert to draw the inference from this portrait, and to tell the reasons why the original of it had long-lived ancestry on both sides, and that from them he also, fortunately for the world, inherited a long life. This

orifice of the ear, the relative low position of the orifice, and the distance between the eyes, each and all confirm the deduction that the central portions of the contents of the lower parts of the cranium are large, and as those portions rule (chiefly) the longevity of the man, so is it dependent chiefly upon their size.

Whoever has with discernment observed aged people has noticed that in

them, without exception, the measures specified are large. Nor do these materially increase from the age of twenty-five or thirty. So that if these measures are then noticed, long-lived ancestry may be inferred, and inquiry will confirm the deduction, and time will prove the probable long life of the person. Some features do diminish or become more prominent with age, but those mentioned practically remain the same.

Whoever has also observed men with discernment will have noticed that with such measures as this portrait shows there is always associated a long trunk and a chest having a large circumference—allowing plenty of room for large contents of the trunk, namely, the blood-making organs; while the whole length of the head, from the crown to the chin, indicates long limbs, both upper and lower, so that the original must be a tall man, and well formed and not obese.

The other features of the portrait, with a single exception, equally indicate a probable high longevity. A large nose is not an ornamental appendage to the face of youth, but is indicative of good, long-lived lungs, and an ability of course to receive a large quantity of air. No better inheritance can be bestowed by one's ancestry; nothing will make a man or woman more lively and lovely in character.

The high cheek bones speak also of good lungs, while the broad jaw indicates good digestion, limited, as is shown by the slenderness of the chin and the short upper lip, to refined food, which is also indicated by the very decided nervous temperament conspicuous in every feature.

The color of the eyes and the color of the complexion, very easily seen, are indicators of much that we wish to know about a man in whom we feel a deep interest; but they can not be shown by a picture in only two colors, black and white. These colors, however, may by the observant person be inferred.

It would be so absurd to suppose that the original of this picture had brown

eyes, that the mere mention of them in that connection excites a mental smile. Nor would it show good training to suppose them to be blue.

Did any one ever see either brown or blue eyes in such a constitution? Could they be produced or continued in such a constitution? If yes, how? It could not be done. What color then must those eyes have? Hazel (not hazel-nut color), by some named gray,—a blue and brown mixed; and in this case will be found the most beautiful specimens of the perfectly blended blue and brown that I have ever seen.

Mark that the pure blue and the pure brown-eyed are the conspicuous indications of the two great type temperaments, so that the perfect blending of the two colors in the eye indicates the blending of the two great temperaments throughout the rest of the body. The color of the eye is chiefly dependent upon the thickness or thinness of the minute blood-tubes of the iris; in the blue eye they are thick, in the brown eye they are thin, indicating liability to apoplexy of the brain, liver, kidneys, etc. Blue eyes indicate the possibility of paralysis, but not the probability of apoplexy.

Hence, a hazel-eyed man can appreciate the emotions, etc., of both the blue and the brown-eyed; and it has been observed that all presidents of colleges who have been remarkably successful in managing students have been hazel-eyed.

In this role Dr. Hopkins has doubtless the right to be named the best; at least the palm of superiority can be disputed only by the friends of the late Dr. Nott, of Union College.

Dr. Hopkins knew a student at sight, sympathized with him, and let him know it. It is more than forty years since I first saw him; yet I remember the day and the hour as well as if it was yesterday.

I had been brought in contact with men of high and low degree more than one boy in a thousand has been. I had not studied human nature by any book, rule, or direction; had never read or heard of anything of the kind, but for

nearly a score of years I had been observing men, ignorant and educated, and had found that there was a very great difference in folks naturally and by the result of education.

When I went to college I had already been on the ground for examination and admission, and had seen, I think, three professors, who did not impress me profoundly, but now I had brought a note of introduction and a package to the president from a friend of his. I therefore at once called on him, who welcomed me with a warm hand, and as I remained standing with hat in hand ready to leave as soon as he had read his friend's message, he bade me be seated, saying that he wished to talk with me a little. He asked me when I was born, where I had studied, and what general books I had read, and what I liked to read best. When I had told him, he asked me if I had seen Dunglison's *Physiology*, then just published. I replied: No, sir. He pointed it out in his library, near to which I was sitting, and bade me take it out and look it over. He saw, I suppose, that I was delighted, for he said at once: "Perhaps you would like to read it; if so, take it along, and when you have read it come and get the other volume."

I had come in feeling homesick, and that I had not a friend within forty miles, but I went out light-hearted, feeling that I had a true friend in the president of the college, who I felt knew me better than I did myself, and would always be a sure "reliance in time of trouble"; and if the determination was not absolutely formulated, it was in fact resolved within me that no act of mine should cause him trouble, and that whatever would please him I should do, and for two reasons: first, because I felt that it would be right; and second, because to please him would gratify myself. I at once, in plain words, recognized in him the greatest and best man whom I had ever met; nor have I since had occasion to rate him as second.

Other students have by scores given me a like narration of their experience. Many a one has said to me: "Whenever

I have followed Dr. Hopkins' advice I have invariably succeeded; when I have deviated from it I have so far failed."

I did not then know that he was an M.D. before he became president, and wondered at his interest in and familiarity with physiology. But when I had learned more about his history, and had become pretty well acquainted with the educational world, I thought I saw the cause of his peculiar and great success to be dependent upon the thorough study of the physical structure of man.

The reasons why I here affix several of his titles to his name (for which his modesty would chide me unless I give the reasons), are two: first, to show the relations of his success to his medical studies; and second, because there is no other man of whom I know entitled to all these honors by having truly earned them. He graduated at Williams, at the head of his class (of which the Hon. Harvey Rice, now the oldest man in Cleveland, Ohio, was a member), and of course was then entitled to A.B. He studied medicine and taught one year; then was tutor at Williams two years; then studied medicine, and taught two years, and graduated at Pittsfield as M.D.; and took, after giving a master's oration, the degree of A.M. at Williams College, where he was then chosen professor of Rhetoric and Moral Philosophy. After having honored that chair for six years, he was elected president. In 1837 Dartmouth College gave *éclat* to its discrimination by conferring upon him the title of D.D., which act was imitated by Harvard College in 1841. What the object was in "gilding gold and painting the lily," I can not conjecture, unless it was that the Hub-y College thought that its gilding was a little finer than the New Hampshire metal. In 1857 the laggard Regents of the University of New York State honored themselves by conferring upon him the climax of LL.D.

Mark well, that none of these degrees were sought or bought, but were each and all earned or deservedly conferred, and not through any hidden motive. Nor

does he on holiday occasions even wear them as appendages of honor of which he is proud, but signs his name as seen above, plain "Mark Hopkins," perhaps thinking that there are others as well as he who are entitled to flaunt their theatrical affixes, while no other man on earth is entitled to the plain distinction that alone he uses.

It should not be overlooked that, as hinted in the statements about his teaching, he worked his own way through his course of education, also occupying a complete period of time. These are not small items in the success that he attained, and especially fitted him to sympathize with others and give them advice in regard to self-development.

There is nothing so unfortunate to youth as to be entirely relieved from self-dependence. The character of the stock from which a person comes is of course of vital consequence; but the perfect culture of what is inherited is an item of no less importance. Both must be good in order to attain the best results; and the push of necessity is essential to the highest development of the best inheritance. Blessed is he who must. All the essentials were coincident in the subject of this paper.

Neither of these matters are appreciated as they ought to be, either for the personal or public welfare of our citizens. The human brain may be named, without the possibility of its being gainsaid, the highest, most valuable, and the most expensive of agricultural productions. Horses, cows, sheep, hogs, fowls, etc., are understood to be such productions, as much as are grass, grains, corn, potatoes, and other vegetables, and the fruits which those animals eat, and by means of which they grow. Do we not feed upon all these things, and grow, and live by means of them? Have we not hearts, and blood, and brains, as all those animals have? can not we, as they do, live upon the vegetables only? Are we not with all our pride, made of the same materials as the vegetables, all selections from the earth and air? Wherein do

we differ that makes us hold our heads so lofty?

The plant for its perfection is like ourselves dependent upon its ancestry, its inheritance. So far have we nothing of which to be proud. The plant for its perfection is, in the next place, dependent upon its cultures—namely, upon what it is fed and how, and upon the water and air, and temperatures with which it is supplied; all not by any volition of its own, but solely through the bounty or selfishness of another living thing. Alas! how many men and women are merely plants—only that they will yield no fruit. Might not the land on which has been grown the food that such persons have eaten, better have run to waste—has it not in fact been worse than barren, much labor in culture having been bestowed upon it in vain? How different when proper culture of the brains as well of the plants, is made effective?

Merely to produce the brains is vegetation, to develop the brains by culture is human. The animals may have their brains developed, but not by their own volition. Animals are perfected solely by the culture of man. He by his devices makes the blood to flow this way and that, and to cease its active flow in another part of the brain, and thus modifies the temper and other capabilities of the animals. This he does not with the direct intent to vary the circulation of blood in the animal's brain, but he works by ways made known by experience to modify the animals, such as by cross-breeding, peculiar feeding, by emasculation, etc., etc.

So does he bestow culture upon himself without knowing, or at least without appreciating the true *modus operandi*. If he wishes the left fingers which are weak and awkward upon the keyboard of the piano to become as agile as those of the right hand, he proceeds to exercise the left hand, as he says, forgetful or not knowing that the exercise of parts of the right brain that influence the muscles of the left fingers need exercise and development as a precedent to the exer-

cise of the muscles, and that the increased flow of blood is not merely through the muscles exercised, but also through the nervous parts of the head from which the impulses to muscular activity go out, and after awhile when the channels of the blood flowing through those nervous parts have become permanently enlarged, and the blood flows freely through them, the exercises that at first were tedious and fatiguing become pleasant and inspiring.

All human culture is of this order. By certain studies and methods of study, the ready flow of blood for long, continuous periods through desirable parts of the brain, and its diversion from other parts of the brain are secured. Then is fulfilled the saying, "As the twig is bent the tree's inclined"; and also that other one, "Train up a child in the way in which it should go, and when it is old it will not depart therefrom."

In this matter of culture then, and in the capability of self-culture by a course of training, does man stand above all the animals if he chooses.

Of course the free flow of the blood or the large size of the blood-tubes, through which it is desirable to have the blood circulate, is to a certain degree, and often to a great degree, a matter of inheritance.

But, if the best channels are small naturally, and the bad channels large, so much the more important is it that the culture begin early and continue long. It is the dull boys as well as the bright ones that need culture, and the most discreet culture.

Much has been said and more thought about the best methods of culture. One thing is certain, a long period is not only needed, but essential; and all the various classes of studies must be pursued, deliberately and understandingly, and all the virtues must be studied and practiced.

The course which has produced a Mark Hopkins can not be greatly wrong, and whatever varies much therefrom can not by much be right.

The other day I saw in a paper a brief statement of the effects that different col-

leges produce upon their students, the writer evidently being necessarily familiar with those of all our colleges. He says:

"Williams College men always bear the stamp of Mark Hopkins, clearly discernible. There is not only clearness and solidity of their thinking, but the movement of their thought has a sort of free-and-easy swing to it; they show a sort of mental suppleness and an ability to take large views of a subject, and to observe the bearings of it in relation to other subjects."

Dr. Hopkins in his inaugural address said:

"I desire, and shall labor, that this may be a *safe* college; that its reputation may be raised still higher; that the plan of instruction may be carried out more fully; that there may be health, cheerful study, kind feeling, and pure morals; and that in the memory of students college-life may be a verdant spot. . . . This would we do as the friends of science, of a pure literature, and of the freest inquiry."

The grand culture of more than two thousand students has been in great part the work of his hands, and all over this our glorious land are the results telling, and will forever continue to tell in blessings to our fellow-men.

If such is the result of one man's inheritance and culture, shall we allow a single well-born youth to be overlooked, and to fail to receive that culture that every one must realize is essential? It follows then that to be sure that no one shall be overlooked, all such should be well cultured. But where in all New England are now the opportunities afforded such as were enjoyed at Williams when the subject of this paper was a student there? The other day a writer in the interest of Harvard tried to show that there the expenses were not necessarily more than \$50 more than at Williams, and that there they were \$375 per year. This is doubtless exaggerated, but it is true that *dudes* have a better standing in all colleges than they used to have, while a pocket full of money will cover a multitude of sins.

Has not Mark Hopkins still the vigor and the influence to make one college an institution of true principles, good enough for the richest, and cheap enough for the poorest? The commonwealth has had the opportunity of seeing and feeling that all the endowments that it ever gave to Williams College has been more than compensated by the mighty influence of only one of its students, to

say nothing of the labors of such students as S. Trenæus Prime, David Dudley Field, the lamented Garfield, and a score of others well worthy of mention if space allowed.

As Williams was started as a free school, why can not, why will not the old commonwealth now establish it as a free college?

T. S. LAMBERT, M.D.

THE CURRENCY QUESTION FROM THE POINT OF VIEW OF THE LABORER.

Money is a necessary evil.

IF the two producers concerned in a typical exchange operation (who, relatively to each other, are consumers) could deal directly with each other, make an immediate swap of their surpluses, the unproductive trader who comes between them and levies tribute on both would find his opportunities for getting gain without earning it greatly reduced. But direct exchange or barter, in an advanced state of civilization, is practically impossible; hence the function of money, which is a certificate of deposit, showing that the holder has added certain value of commodities to the general stock, which he is entitled to draw out at any time, being free to choose through the whole list of articles subject to price.

A monetary currency is, in fact, so desirable, so indispensable to the march of development toward a high ideal of general well-being, that all peoples agree in confounding money with the value of the commodities whose exchange it facilitates, and are willing to sink a painfully enormous amount of labor in buying from mother earth those metals whose chief value is in their scarcity—worth working for because it takes so much labor to get them. Men are willing to waste labor digging gold, which will neither feed nor clothe them, instead of raising wheat or cotton, for the reason that gold, being so difficult to obtain, and yielding itself only to a certain amount of labor, is naturally adapted to subserve the purposes required of a medium of ex-

change. The most important quality desired in money is that it should be uniform in value. The farmer when he parts with his wheat wishes to feel secure that the certificates of value for which he exchanges it will retain their present buying-power (which he knows pretty nearly) right along—to-morrow, next week, next month, next year. That a currency should be nearly unvarying in exchange-*efficacy* or purchasing-power, from year to year, means, in other words, that its volume must be subject to none but the natural fluctuations produced by the growth of population and the movements of international trade. Whenever gold and silver mining pay better proportionately than other fields of labor, more labor will be attracted to them, and thus, as the world's history has proved, the purchasing-power of gold is kept at a point so little varying as to make it by far the best general medium of exchange known.

What constitutes the essential quality of money, then, is that natural, world-wide, insuperable scarcity of the material of which it is formed, which prevents the possibility of any sudden enlargement of its volume and consequent depreciation of the purchasing-power of that already current as vouchers for the commodities which have been exchanged for it.

Is it possible to construct an artificial valometer that shall fulfil the requirements of trade equally well with gold?

We can safely say that it has never yet been done: the paper money of France

and England is simply a gold certificate; ours is the same as commonly used. Issues of paper currency based on real estate or Government bonds, are not, by virtue of their security, money, but vouchers for specific commodities, while money must represent all commodities. A mortgage represents value, but is not money; for it calls for a single article, while money calls for any article its holder chooses. No one mistakes paper money for anything but a gold certificate—it is worth the amount of gold it will bring, and no more.

Why does universal accord deny to paper promises, secured by indubitable real estate or governmental obligations, the character of money, and estimate it invariably by the amount of gold it will bring rather than by the amount of the values upon which it is a lien? For the very obvious reason that its volume, and, consequently, its value, is liable to change by human interference, while gold does not seem to be much influenced by this cause. Undue diversion of labor to gold-production soon rights itself. The volume of the metallic currency is not subject to the whims of populations, can not be regulated by vote, nor be made the football of opposing interests. Paper representatives of commodities can not be money, because they are specific, and because there is no natural, fatal bar to their over-issue as there is in the case of the precious metals. In short, there is not thus far any positive money but the metallic, and paper symbols are current solely as vouchers for gold; viewed in any other light they are mortgages, and a mortgage can no more be money than the particular commodity which it represents.

The people who believe, or affect to believe, that paper may be money, otherwise than as the symbol of gold, belong to one or more of three classes: The antinomians—the chaotic minds who have great faith in luck and trick and little in the existence of any immutable natural laws; the speculators—the numerous class who have, or hope they

have, a genius for legal fraud, and hope to gobble speedy fortunes out of the ups and downs of a market that responds to the incessant overturnings of a variable currency-volume; and the innumerable debtor-class—not only those who have debts which they hope to get rid of easier by the aid of depreciated paper made legal tender, but all those financial desperadoes who hope to become debtors—who hope to get property without paying for it, in consequence of the general extension of credit naturally resulting from monetary dilution. Here we see that there are always powerful interests conspiring to make current as money that which on sober examination we must admit is not money.

The hope and interest of the laborer is not in chaos come again, nor in any idiotic attempt to subvert natural laws, nor (least of all classes) is it his policy to promote a state of affairs which facilitates general gambling or enhances the natural advantages of capital. For all that is gained in commercial gambling is value that the laborer has created; and all legislative or factitious aid afforded to capital is at his expense. The laborer is the man appointed of Fate to the ultimate liquidation of all obligations; he with his two hands digs out of the ground, first or last, the value wasted in every extravagance, folly, or crime, by whomsoever committed. What the laborer demands (if he knows his own interest) is that each should enjoy the value he creates by his labor, and this is only approximable when prices are as uniform as supply and demand will let them be, and the movements of trade are steady and calculable—a condition of things which is sadly disturbed by the alternating fever of expansion and torpor of contraction. The laborer is not capitalist or speculator; what he gets he must pay for; he is foolish to expect anything else; he, of all men, expects nothing from Fraud or Fortune, and is an idiot to lend himself to the schemes of those who do.

Capital is called conservative, but

labor, even more than capital, finds its true interest in genuine conservatism—not mossy adhesiveness to the existing status, but a firm and persistent faith in the immutable laws that conditionate all desirable progress, and there is no economical truth more deep-seated in the constitution of the planet than this: That in order to effect equitably the exchanges necessary to the civilized state, an inflexible meter of value is indispensable; and that, up to this date, this has only been found in the precious metals.

When the selfishness of the people in mass becomes sufficiently tempered by foresight, and reason assumes its proper empire over blind, unbalanced, unprofitable greeds; when the people become capable of regulating an artificial currency with as steady a hand as nature regulates the metallic, *then* it will be worth the breath to talk of paper money non-redeemable in gold, but as yet it is quite premature. The mental and moral general average which makes gold-digging profitable makes paper money impossible. The toil, the misery, the sordid degradation, which mankind undergoes in their frenzied struggles to wrest the glittering yellow worthlessness from the miserly rock, is the penalty they pay for their puerile unsteadiness, their piggish rebellion against the naturally ordained limits

to their lusts, and their lack of loyalty, not only of class to class, but of each to his own true interests. If we could all feel absolutely assured of the perpetual integrity of the controlling majority, absolutely assured that the common valometer would never be lengthened or shortened for the inequitable advancement of class interests, *then* we might hope to employ on useful purposes the labor now wasted in the gold mines.

Paper money is a voucher for specie. What is specie? A voucher for labor. If we are ever to have paper money not founded on a specie basis, it must be a certificate of labor performed. I see no reason why there may not be, when the people are fitted for it, a paper currency founded directly on labor. Make the dollar mean not a certain weight of gold, but a day's work. Of course this would not be construed as fixing the wages of labor at all. The dollars, or parts of a dollar that each should get for his labor, would be regulated by natural laws. Call a day's work one dollar or ten dollars, it makes no difference as long as the dollar represents only labor; things would adjust themselves to one as well as the other. Gold simply *proves* by its presence that a certain amount of labor has been performed; and it is a too expensive voucher, which I would we were honest enough not to need. G. E. TUFTS.

THE INTELLIGENCE OF ANTS.

THE good people of the olden time were wiser than they knew when they imagined each field and forest and valley to be inhabited by a strange, diminutive, fantastic race of people; when they peopled each glade and hollow and ravine with fairies and goblins, sprites and elves, gnomes and brownies.

Strange little people they were, according to the old traditions, living down in the depths of the dark old forest, or up on the mountain side, warring and loving, hoping and fearing, joyful and sorrowful, just like men and women.

When we wander amid the shades of a forest, where the rabbit loves to gambol and the squirrel stores his nuts, and the wild birds build their nests, we little imagine that we are surrounded by a civilization more ancient than that of Greece, or Rome, or Assyria.

Yet here around, about, and beneath us there dwells a mighty people, small indeed in size, and strange in form, yet great in works and countless in numbers.

A frugal, industrious race they are; fierce in war, yet tireless in the pursuits of peace.

We in our contempt may call them insects, yet who can tell but that they may feel a similar scorn while engaged in the contemplation of the human race.

We are apt to regard with contempt all organisms which do not resemble our own in form and structure. We regard with peculiar contempt all of the members of the insect world. But when we find a race of insects possessed of almost all the arts, institutions, and even the vices incidental to a high state of civilization in the human race, we are forced to confess that intelligence does not depend entirely upon size or form.

Yet such is the case with the insects called ants. Over all the earth they live, encircling the globe with a broad belt, extending from the semi-frigid regions of the North to the southernmost parts of South America and Australia, swarming over almost boundless tracts of prairie and forest, encircling watercourses, and even penetrating into the heart of the largest of the cities of men. Like the ancient States of Greece, each of their cities is a nation, and each nation is confined within the environments of a city.

The reasons for assigning to ants an intelligence almost equal to that of man may be stated under the following heads:

Their large, yet distinct communities and elaborate habitations. Their regular governments. Their roadways. Their possession of domestic animals. Their tender care of their young. Their wars and frequent pitched battles, in which they exhibit both co-operation and individual initiation. And last, but not least, their ownership of slaves.

It may be said that the possession of slaves should not raise any animal in our estimation; but I hold that a certain high degree of intelligence must be present in both slaves and masters before the institution of slavery can exist. It is interesting, however, to observe that in the case of ants, as in that of men, slavery has a constant tendency to degrade the masters.

Sir John Lubbock, after enumerating several species which exhibit this influence in regular gradation, says:

"In *anergates*, finally we come to the last scene in this sad history. We may safely conclude that in distant times their ancestors lived as so many ants do now, partly by hunting, partly on honey, that by degrees they became bold marauders, and gradually took to keeping slaves; that for a time they maintained their strength and agility, though losing by degrees their arts and even many of their instincts; that gradually even their bodily force dwindled away under the enervating influence to which they had subjected themselves, until they sank to their present degraded condition, weak in body and mind, few in numbers, and apparently nearly extinct, the miserable representatives of far superior ancestors maintaining a precarious existence as contemptible parasites of their former slaves."

A writer in the *Popular Science Monthly*, after speaking of the extreme rapidity with which the Amazon ants go to battle, computes that the Amazons of antiquity, to be even with them, if we judge by the relative weights, should have travelled at the rate of fifty thousand leagues per hour,—a speed almost meteoric. Yet this same species, although terrible in battle, have become so dependent upon their slaves that they have even lost the power of feeding themselves, and will starve to death in the midst of plenty unless they have slaves to feed them. Huber placed thirty of them in a box of earth, with a supply of honey. More than one-half of the Amazons died of hunger in less than two days. They had not even traced out a dwelling, and the few ants in existence were languid and without strength. He pitied their condition and gave them one of their black slaves. "This individual, unassisted, established order, formed a chamber in the earth and preserved the lives of the remaining Amazons."

Lubbock kept a number of them for three months, by giving them a slave for an hour or two each day, to clean and feed them. This experience was, however, almost paralleled by that of our brave Southern chivalry, some of whom found themselves at the close of the late

war without slaves, and almost incapable of making their own toilets or preparing their own food.

In regard to the possession of domestic animals by ants, Lubbock remarks: "It may be truly said that our English ants possess a much greater variety of domestic animals than we do ourselves."

The most important of these domestic animals are the aphides, a species of plant lice which they rear in great numbers and protect with the greatest care. The aphides have been frequently called the cows of the ants, a name which would be most appropriate were it not that they produce a saccharine rather than a lacteal secretion.

The claviger, a little blind saccharine exuding beetle, is also found among them, and being unable to feed itself is fed and cared for by the ants with the greatest attention.

Different species of ants differ as much in nature and characteristics as different nations and races of human beings.

Sir John Lubbock, who is perhaps the greatest living authority upon this subject, characterizes a number of common species as follows:

F. Fusca is extremely timid; *F. Cinerea* has, on the contrary, a considerable amount of individual audacity; *F. Rufa* is characterized by the want of individual initiative, and always moves in troops; *F. Pretensis* worries its slain enemies; *F. Sanguinea* never does so.

The Amazon ants (*Polyergus Rufescens*) are perhaps the bravest of all. *Scabinodis* is cowardly and thievish; during wars among the larger species they haunt the battle-field and devour the dead. *Tetramorium* is said to be very greedy; *Myrmecina* very phlegmatic.

Thus we see that ants, excelling as they do all other families of the social hymenoptera, even approaching man in the development of their intelligence, should neither be despised nor neglected. They furnish a most interesting and instructive study not only to the student of natural science, but also to the philosopher and man of letters. EUGENE F. CARNEY.

ENVIRONMENT VERSUS HEREDITY.—A little boy caught a young robin, so young that its attempts to fly were as yet ineffectual, and took it home. At first it was confined in an extemporized cage, made in one end of a slatted peach-box. In a very few days it was allowed to hop about in the house and on the veranda, under supervision, and interrupted by the children's frequent handling. Its limits were extended to the garden about the house, as it came to be seen that robin made no use of his increasing ability to fly to get away; and in the course of several days he was permitted to go and come pretty much as he would, day and night, he having learned to go to a bar under the eaves of the veranda for his roost at nightfall. He would even fly or hop toward any one of the family, as if expecting to get something to eat or drink in repetition of his daily and frequent experiences; and he would stand still to be caught, and remain perched on the open hand or finger for an indefinite time. While he was learning to take food and water without assistance, he became exceedingly tame; and watchfulness over him was relaxed. He would disappear, but no sooner would the family miss him than he would re-appear all right. He had been in a remote corner of the garden, or over the fence into the stable-yard hunting worms, bugs, or flies. It was feared that some strange cat would yet pick him up, for he seemed to be destitute of the instinctive distrust of man or beast common to wild birds. But after he had repeatedly re-appeared unharmed, this fear was dismissed. At last robin was missing for good. We waited and hoped, but he was never seen again. A strange cat had been seen prowling about the garden, and, no attention having been paid to her, she doubtless improved her opportunity to make a meal of robin. From the multifarious evidence he had given of his tameness and attachment, all the family were satisfied that their extraordinary little pet had met this sad fate. JEAN-JEAN.

Somerset Co., Pa.

A MUSHROOM HEAD.

WE sometimes hear of mutton-heads, cabbage-heads, and dum-heads, but rarely of mushroom-heads, although if we accepted Carlyle's assertion we should think that the majority of people carried a fungoid mass within their brain-pans. Nature in her plant-forms often produces odd resemblances to animal life. The queer profile shown in the engraving is the exact outline of a fungus described by a correspondent of the *Scientific American*. The engraving, in fact, is a faithful drawing of the fungus, which was found at Wellsville, N. Y., growing from the side of a partially decayed hemlock log, with the face side up, which certainly has a strong resemblance to the Duke of Wellington as he appeared in his later years. The shrunken mouth and lips and the prominent nose are all plainly indicated, and it is suggested whether Darwin might not, from



this specimen, have been inclined to accept the idea that the mushroom, rather than the ape, was the real father of mankind.

AN AMERICAN DIANA.

A WRITER for the *Detroit Post* gives his experience as a huntsman while camping near Marquette and Lake Superior. One day he strayed away so far as to take refuge in a cabin situated in a small clearing and near a lake. He continues:

"A trim-built woman of thirty-five or forty years of age stood in a door, dressed in a short gray dress and a russet jacket, neat woollen stockings and stout shoes, and a white and dainty linen collar. She invited me to a seat in the cabin, which was neat and well-kept, and contained many articles of use and ornament not

met with in the log-houses of other settlers. The lady, for such she was, brought out a refreshing cup of spruce beer and treated me hospitably. I told her I would be glad if I could hire her husband or brother to guide me back to my camp, and asked how long I would have to wait until one of them got back. She smiled and said, 'You will have to wait a long time.' She quickly informed me that she lived there in the heart of the wilderness alone; her nearest neighbor being a mile and a half distant. She lived in Chicago at the time of the great fire in that city, and, losing all she had,

went out to service in several places, the last being Marquette, from whence she came to the place where she now lives."

The woman then said that she had not only selected and secured the eighty acres, but had made the clearing and put up the cabin herself without assistance. In reply to his question about loneliness and fear, she answered in this wise:

"She seized a Winchester rifle that hung conveniently to hand on pegs of her own construction, and, stepping to the door, fired, without raising the rifle any higher than her hip, at a place on a tree a hundred feet distant, and put the ball into the small mark.

"'But,' said I, with increased wonder, 'you can not carry that rifle all the time?'

"She slipped her hand down to her side and drew from a buckskin pocket that had been hidden by the folds of her dress, a pistol, not of a toy kind, but a heavy Colt's navy revolver.

"'I can use this as well,' she said.

"'How long,' I asked, after the weapons were disposed of, 'will it be before you get your land?'

"'It will all be paid for this next spring,' she replied. 'I have been here three winters. I calculate on killing enough game to pay my way,' she continued, 'and pay for the land, and I have succeeded. The small game I sell at Marquette, and the large game, such as deer and bear, I ship away.'

"'Bear?' I interrogated with dilated eyes.

"'Why, yes; bear,' she said. 'Wouldn't you like to buy this bear-skin?'

"'But, did you kill that bear?'

"'I did,' she replied, 'and I shot him so as not to spoil the skin. See, here are the two ball-holes in his head. I fired twice. I hit him on this side of the head first, and I waited until he turned the other side, then I fired, and he dropped dead.'"

A few days afterward the writer visited her again. She further unfolded her life. Having just refused \$1,000 for the pine on her land, she was about to engage as

guide to some young hunters. Her knowledge of the habits of animals made her services valuable to parties from cities who were ignorant in regard to securing game.

The amateur hunter finishes his description in these words:

"'Well, as I suppose you came here to settle and to live and die, wouldn't it be better to have a husband to share your labors—some smart young fellow, you know?'

"She laughed merrily as she frankly answered, 'I don't find such smart young fellows. I have seen a good deal in my time in the cities.'

"'How do you live when the winter comes on?'

"'Oh, very well indeed. I can take my axe and in half an hour get fuel enough for one day.'

"Thinking over this practical solution of the woman's rights question as I returned to camp, I confess that the feeling uppermost in my mind was one of greatest respect and highest admiration for this courageous woman. I also found that this feeling was shared by all of the settlers that knew her, and that 'Swede Em,' as she is familiarly called by them, is never mentioned except in terms of praise and commendation.

"There is nothing rude or masculine about this woman. Her pleasant, but resolute, face is bronzed by exposure. She is of medium height and somewhat slight, but her every movement is as lithe and active as a deer's. Her name is Emma Christina Nielson."

KISS ME GOOD-BYE, DEAR.—That is the phrase heard in the hallway of many a home as the man of the house is hurrying away to exchange daily labor for daily bread in the mart of commerce. Sometimes it is the wife who says it, sometimes infant lips prattle the caressing word, holding up a sweet flower face for the kiss that is its warm sunshine of life, and the strong man waits a moment to clasp his treasure and is gone; and all day he won-

ders at the peace in his heart ; at the nerve with which he meets business losses, or bears business crosses. The wife's kiss did it, the baby's kiss did it, and he realizes that it is not wealth or position or luck that makes our happiness, but the influence we bear with us from the presence of those we love.

Kiss me good-bye! O lips that have said it for the last time! would you ever ask again in those pleading tones for the kiss so tardily given? Would we not remember that the relation the flower bears to the universe is as carefully provided for as that of the brightest star; that the little action of a loving heart goes side by

side with the deed of heroic worth; that love is the dew of life; that the parting of day may be the parting of a lifetime.

"How many go forth in the morning
That never come home at night!
And hearts have broken
For kind words spoken
That sorrow can ne'er set right."

Many tears have been shed over kisses—over those "dear remembered kisses after death." Kiss your children, man of business, before you leave home; kiss the mother of your children, and then go about your day's work with a "Thank God" in your soul that you have some one at home to kiss.

THIS OLD WORLD OF OURS.

This is a wise old world of ours;
It's endowed with wonderful powers
Of judgment, feeling, perception, thought.
What a head upon its shoulders broad!
How speedy in detecting fraud
Whenever good gold is alloyed—
The trick in its scales will be caught.
This is a large-headed world of ours.

This is a beautiful world of ours!
Its frescoed skies; its meadows and flowers;
Its forests of fragrant pine and palm;
Its lakes and rivers that seek the sea;
Its billows that beat like hearts set free;
Its mountains that rise in majesty;
Its valleys that rest in peaceful calm.
This is a beautiful world of ours!

This is a critical world of ours—
Praise in its crucible melts and sours.
Few are its compliments; icy cold
Are the words that reach the listening ear
When we bow to catch sweet words of cheer.
Not in this life may we hope to hear
Musical notes from harps of gold,
In this cold, old critical world of ours.

Yet this is a jolly old world of ours,
And mirth gives wings to its flying hours,
While farce laughs aloud in its glee.
On the dance-floor with jubilant feet
Pleasure pursues the eluding cheat—
A phantom ethereal, frail and fleet.
How can we solve the mystery
Of life in this jolly old world of ours?

This is a brave old world of ours;
Its shafts have fallen like rain in showers;
Its bullets and cannon-balls like hail.
Its blood has flowed in rivers of red;
It has quaked beneath the hostile tread
Of armies numbered with nations' dead.
Yet it wears a sword and a coat of mail—
This combative old world of ours.

This is a practical world of ours—
It prefers fruit to leaves and flowers.
Rhetorical speech and eloquence
And poetry may be well enough.
It prizes more substantial stuff,
And nuggets of gold, though in the rough.
Genius must yield to common sense
In this practical world of ours.

This is a very old world of ours—
Its pyramids, temples, tombs, and towers;
Its citles in ruins deep under ground;
Its tablets and parchments and records old;
Its jewels and silver and bronze and gold;
Its mummies wrapped in many a fold—
Speak of its age in types profound,
In this very old world of ours.

This is a fine old world of ours—
Its church-bells ring in ten thousand towers.
Its blessings are like the ocean's flow.
Charity stands at the Christian's door
With a cup and a crust to aid the poor.
Learning delights to impart its lore,
And Love would make it a heaven below—
This brave and dear old world of ours.

GEORGE W. BUNOAY.



THE EDUCATION OF THE FUTURE.

THE education of the future will differ materially from the education of the present and from that of the past. This is a progressive world, however slowly the wheels of progress may, in some directions, seem to move, and progression is in the direction of improvement on that of the past. At times the tendency may seem to be strongly in the wrong direction, but sooner or later a reaction sets in, and improvement reaches a higher plane than ever before had been attained. The education of the present is better than that of the past, and it is safe to predict that the education of the future will be far better than that of the present. It will be better adapted to effect the object of education—that of drawing out and developing the intellectual and moral powers of the pupils, and preparing them for future usefulness. The education of the future will aim to develop the thinking and reasoning powers, and the understanding of the pupil, so that he will be better able to use to advantage whatever powers of mind nature may have given him. The instruction given will be such as will be most useful to the pupil in after years. If he is to be a mechanic, he will be instructed in those elementary branches of science which will enable him the better to understand all the processes connected with his business. If he is to be a farmer, he will be instructed in those sciences, such as chemistry, botany, and biology, which are

closely related to the pursuit of agriculture. All the pupils will be instructed in physiology, in order that each and all may be enabled to care for the health. In short, the education of the future will be a practical and useful one.

THE EDUCATION OF THE PRESENT DEFECTIVE.

The education of the present is remarkably defective, and the more advanced the education, the more defective it is. The more elementary the education, the more valuable and practical it is so far as it goes. Where the instruction is limited to reading, writing, spelling, and arithmetic, none of it is superfluous or impracticable, unless the instruction in arithmetic is carried far beyond the future needs of the pupil. When the pupil advances beyond these elementary studies, the studies pursued are of such a nature as to be of very little practical value to him in after life. A good deal of time is spent upon the study of Latin, French, and other languages, which studies will be of very little use to the most of the pupils. It is claimed that the time thus spent is well spent; that such studies discipline the mind, and are worth all the time required for that purpose. There are other studies, however, which would be equally as useful for disciplining the mind, and would be of practical use in obtaining a livelihood. It is also claimed that the study

of Latin is necessary in order to understand English, there are so many English words derived from the Latin. The study of a handbook devoted to showing the derivatives of English words would teach the pupil in a few weeks more about the Latin roots of English words than he would learn in studying Latin many months. The student who intends to take a college course may find it advisable to study Latin and Greek, but those students who do not intend to go beyond the high-school will generally find that what time they give to Latin is about the same as wasted.

ILL-SPENT TIME.

A great deal of valuable time in our common schools is spent in studying geography term after term. A mass of detail about the productions, exports, imports, and industries of various countries is learned, nearly all of which is sure to be forgotten in a year or two at the longest, because no use is made of it, and it is a burden to the mind to retain it. It is a waste of time to learn such a mass of detail. All the geography needed by the average pupil might be learned in one or two terms, and then some more useful study be taken instead. More time is given to arithmetic than is generally useful. There are series of arithmetics containing four or five different text-books, all of which pupils are expected to wade through. It may be profitable to publishers of text-books to have so many arithmetics used, but it is not profitable to the pupils. One mental arithmetic and one written arithmetic are a great plenty, and these should not be too bulky. It should be borne in mind that all the arithmetic which the most of our pupils find any use for is contained in the four fundamental rules, and the rules of interest and percentage. Two or three years ought to be sufficient time to enable any pupils to learn all the arithmetic that they will need. Grammar is another study upon which much time is wasted. Some pupils will study it for years, and then be unable to write half a dozen con-

secutive sentences correctly, while some who have never studied it at all, will write just as correctly as those who have. With the right instruction a pupil may learn more in grammar in one term than he could in three years by teachers who confine themselves altogether to the text-books without trying to make the pupils understand what is taught them. Thus we see that there is a vast amount of time wasted in our schools upon grammar, geography, arithmetic, Latin, and other studies. By restricting these studies within due limits, time would be saved for other studies which would fit the pupils for usefulness, and aid them in winning a livelihood.

EDUCATION WHICH DOES NOT HELP TO EARN A LIVELIHOOD.

It is too often the case at the present time that pupils who have spent years in going through the common and high schools, and perhaps college, find when they emerge therefrom that all that they have learned has not prepared them to earn a livelihood unless it is by teaching.

But all can not be teachers nor professional men. The great mass of the graduates of our schools must earn their living by engaging in pursuits requiring manual labor. Very little of that learned in the schools, excepting the elementary branches, will be of any aid to the young man or young woman in earning a livelihood. It is not because these several pursuits do not require any knowledge which may be obtained from books. Nearly all the mechanical occupations require for their successful pursuit more or less knowledge of mechanics, natural philosophy, and chemistry. If young men while at school had been instructed in the elements of these sciences, such knowledge would prove of lifelong usefulness to them, and would greatly facilitate the acquisition of skill in many pursuits. The majority of all the young men who leave our schools engage in agricultural pursuits. Now agriculture is a complex science requiring for its comprehension an acquaintance with

chemistry, natural philosophy, botany, and biology. An elementary knowledge of these sciences such as could be obtained during a few terms of study in school, would be a great help to any young man who was to engage in agricultural pursuits. Such a knowledge would be a good basis upon which to build a superstructure of agricultural knowledge. A knowledge of the elements of the different sciences would be of great practical advantage to nearly every pupil in our common schools. Time for such instruction might readily be obtained by restricting instruction in branches commonly taught to the actual needs of the pupils.

EDUCATION OF GIRLS.

The education of girls is even more defective than that of boys. The higher the education they receive, the more useless it is. The study of French, music, and painting is much the same as time thrown away. These are ornamental and fashionable studies, but do not fit the pupil for future usefulness. Instruction in music, to a certain extent, is advisable, but lessons in painting to one who has no artistic ability is waste of time. Lessons in French will be of very little use or advantage to nine-tenths of the girls who take them. The study of chemistry would be none the less useful to the young woman than to the young man. Nearly every young woman expects to be a housekeeper sometime, and house-keeping affords ample opportunity for the use of chemical knowledge. Bread-making is a chemical process, and the woman who understands the elements of chemistry will be greatly aided in unravelling the mysteries of successful bread-making. Her chemical knowledge will assist her in keeping the silverware in good condition, in caring for her furniture, in removing stains and spots from clothing, and in various ways. Cheese-making is also a chemical process, and the farmer's wife who knows a little about chemistry will be a more valuable helpmeet than one who is ignorant of that science. In short, a knowledge of chemistry is of

daily use to the housekeeper, and is one of the best accomplishments.

THE STUDY OF PHYSIOLOGY.

Physiology is another study to which part of the pupil's time might be profitably devoted. Time spent in acquiring a knowledge of the functions of the various organs of the body, and the means of preserving them in a healthy state, is time well spent. The knowledge thus acquired will be of daily use as long as life lasts. Most diseases are preventable, and a knowledge of elementary physiology will be a great aid in enabling any one to avoid diseases. The only efficient means of prevention of disease is to have the people so informed in regard to the care of their bodies that each one becomes a health officer so far as he and his are concerned. The study of physiology, then, may well take the place of some of the less useful studies.

THE EDUCATION OF THE FUTURE WILL BE PRACTICAL.

The education of the future it is believed will aim to make every branch of study pursued of permanent and practical value. No time will be wasted upon that which is learned only to be forgotten or upon that which has only an indirect value. There is enough to be learned that seems almost indispensable to the highest future usefulness of the pupil without wasting time and energy upon that which is less or least useful. The education of the future will not overburden the memory, as the present too often does, at the expense of the understanding and reasoning faculties. It will aim to develop the innate faculties of the pupil, and increase the working force of his intellect. It will endeavor to draw forth the powers of observation, of thinking and reasoning, instead of cramming in a mass of unorganized and indigestible book-learning, which for want of organization will soon slip away and be lost. That the education of the future be made the education of the present, should be the desire of every well-wisher of the rising generation. HENRY REYNOLDS, M.D.

REMINISCENCES OF WATER-CURE.

YES, said our kind neighbor, the three months at the Water-Cure were of incalculable value to me in after years when I found myself at an outpost of civilization with a young family, and not so much as a grandmother to call upon in an emergency. I was thoroughly at home with the wet bandage, fomenting flannels and the enema, but unfortunately there was one important specific included in the therapeutics of hydropathy which had never happened to come under my observation. I refer to the liberal application of cold water in cases of congestion of the brain, and there came a day when I stood in dire need of just that information. It was well for me that an old-school physician of genius and wide experience chanced to be at hand when one of my children, an infant of seven months, after ailing for a day or two, suddenly became unconscious; her heavy head burning hot, her extremities cold, and she knowing no further want of nourishment.

As this condition remained unchanged for some hours, my own head began to throb with the fever of alarm. I had seen men and women insensible in brain fever, and I tried to recall what had been done to relieve the pressure inside. But all that I seemed to see was a wet cloth on the forehead, and later, the back of the head packed in pounded ice, and then,—the funeral.

Fear almost paralyzed me. I had little faith in drugs—for babies, none—but in my despair I sent for Dr. R.

"The child is teething, and the circulation is interfered with," he remarked, after observing her closely, and asking a few questions. "You see the blood in her brain is expanded to congestion by the heat. We will extract that and then the vessels will be able to contract and send it on its way again."

If only it might be as he said!

Then he asked me to get him a quart of cold water, in a narrow-spouted pitcher, if I had one. (The coffee-pot, he ex-

plained, would do just as well.) A wash-bowl also would be wanted for the water to drain into.

"Now, hold her head over the basin," he directed; "not face downwards, tho', for the water might get into her mouth or nose, and strangle her. On one side; that is right. Watch how slowly I pour it, and close to her head. The stream is smaller than a lead pencil, and must be kept constantly moving or it will cause numbness.

"Not the forehead, but the *back* of the head is most important; still, we will give the brow and temples a share—the upper part of the head, too, of course.

"Now we will wait a moment while the cold surface cools the interior. If she were conscious, and old enough to talk," he continued, parenthetically, "you would say to her beforehand, 'The moment it *pains* you, *speak*, and I will stop for awhile.' Then she would not shrink from the operation when you considered it desirable.

"Turn her head over and let us attend to the other side. This process you see will cool the whole volume of blood in the brain, and send it with properly reduced temperature to the other organs. There, that will do for the present," he exclaimed, when at the end of five minutes the coffee-pot proved empty.

"You see, she opens her eyes and is evidently sensible again. Watch her closely during the night. (It was then evening.) Keep her limbs warm, and if her head gets too hot, repeat what you have seen me do, and as often as the former condition returns. I guess you can manage to hold her head in one hand, and the coffee-pot in the other," saying which the doctor rose, took his hat and bowed himself out.

Ah, what music there was in the child's cry for food, after her long fast! How I blessed the manly physician who had given my darling back to me. He had declared to me that he would avail himself of every resource nature placed before him, whether it came from below the

earth or above it, and his common sense had early convinced him that in water, hot, cold, tepid, and in steam, judiciously used, lay remarkable remedial qualities. He was far from despising drugs; quinine, calomel, and opium, he said, were excellent in their way, and for suitable cases, but what could medicine do for a congested brain? Absolutely nothing.

Once only in the night did I find it expedient to have recourse to the simple remedy, and then baby, though feverish, was not in a comatose state. The following day she was languid, but otherwise all right, and the day after quite well.

I never forgot the lesson I had received from the wise physician. In the next ten years not only my husband and our children, but many a neighbor's child, profited by it. What, indeed, was easier than for a boy or girl with a feverish headache to lean the hot head over the edge of bowl or bath-tub, while I, after first wetting the hair, poured two or three quarts of water over it?

I once resorted to this experiment for a young girl, who had brought on chills by letting herself take a succession of colds. After exhausting all other means of cure, I decided to try the effect of three or four quarts of water administered when the fever, which followed the chill, was at its height. And really nature seemed quite nonplussed by this interference with her periodicity, and her next attempt at a chill was a ridiculously feeble one. A repetition of the mild bath broke them up altogether, there being no malaria in the system.

Again on the steamer, travelling east, I was induced to put the lesson in practice, this time for the benefit of a child who was in the last stages of typhoid fever.

Watching from the upper deck soon after leaving San Francisco, I saw every morning a father carrying about tenderly in his arms a little boy of six or seven, whose head hung listlessly over his parent's shoulder. A week passed and then I saw them no more nor heard what had been the matter until when we were on the Atlantic side, when I was told that

the child's mother had secured a state-room on the hurricane deck only a few doors from our own, hoping thus to give the fever-consumed boy a better chance for life than he had in the closer air of the second cabin. But it was too late; the crisis had passed unfavorably.

Among the passengers on that steamer, the *H. C.*, were the — Consul, his wife, and child; and it so happened that at the commencement of the voyage the opportunity had occurred for my being of some slight service to the infant Viking, who was roaring lustily, to the consternation of his nurse, while it was found impossible to discover his mamma among the six hundred individuals enjoying themselves on deck. This perhaps was the reason that led that lady to seek me on the morning of our second day in the Gulf to ask if I would not step into the neighboring state-room and take a look at the Jewish child, whose poor mother was plunged into the deepest distress in view of his fast approaching end.

I confess that I went with her most unwillingly, for I had promised myself on leaving home that I would not so much as mention the words "water-cure" while I was away. However, I could not be openly indifferent to the grief of a fellow-creature, and therefore reluctantly accompanied the lady to the sick apartment. We found the unhappy mother gazing in a quiet hopeless way at the unconscious child in the berth, near which the mother sat. Without speaking otherwise than by lifting her weary eyes to ours, she directed our attention to him. Then, as if to justify her despair, she lifted one of his half-closed lids, and revealed to us the vacant expression of the iris; opened his mouth to let us note how it remained open, and that the spoonful of liquid she put into it remained unswallowed. The most positive and endearing appeals had been powerless, she said, to arouse him from this death-sleep.

"Oh, madam! can you do nothing for him?" she suddenly implored, as if some gleam of hope had just been rekindled in her soul.

"Is not the doctor attending him?" I questioned in a low tone, for that apparently semi-inebriated gentleman sat observing us from a little distance.

"He *did* attend him, but lately he merely looks in and goes away again," she replied, sobbing her anguish. "What can he do? Any one can see the child is past help."

"I might *try* to do something for him," I returned. "But I am not a physician. I don't wish to interfere with one. The poor child is so very low, and if he should die after my attempt, they would very naturally say that I killed him."

"Madam," she urged with sad earnestness, "this lady knows and you know, and alas! so do I, that if nothing is done to save him, he will never open his eyes on this world again. For the last twenty-four hours he has not uttered even a moan,—lying there in that deathly stupor."

I hesitated. It would be a shocking violation of conventional propriety to meddle with a physician. According to a social and professional rule this child should be left to die in the hands of the ship's doctor, who had given him up. I looked at the hollow eyes of the devoted mother and thought of my good Dr. R., and then after much painful wavering came to the conclusion that I ought to be willing to earn contempt and ill-will for the sake of doing a possible good. I therefore told the mother that if she consented I would act as I should if I found one of my own children in the condition hers was.

She replied that she would be most grateful to me if I did do so. Upon this I sent for ice for the purpose of cooling some water. As we were in the tropics that element was too warm to be of any use without it. This being brought and put into a pitcher of water, Mrs. — took the limp form of her child in her lap, the Consul's wife kindly held the basin, and I occupied six or eight minutes in pouring two quarts of it over the unconscious head.

Great was our satisfaction when the

little sufferer was returned to his berth to see him slowly lift his weary eyelids and as slowly droop them again.

In two hours, the heat having returned to the brain, this process was repeated, and with such good results, that the boy, whose sensibilities were being restored to him by this means, and who therefore appreciated the pain caused by the too cold water, unable yet to command his voice, struck his mother on the hand to make her stop hurting him, as he supposed.

It was now evident that he might recover, and, under the circumstances, as there was no other course for me than to take entire charge of him, I therefore at once prescribed tepid water enemas morning and evening, and myself covered the burning abdomen with a wet towel (well wrung out), and just meeting round the body above and overlapping the edges of this I put a dry flannel. The whole would act as a steam bath, and if changed every two hours during the day and removed at night, it would in a day or two relieve the unnatural heat of the bowels, for which nothing had hitherto been done.

As long as we were in southern latitudes the child was to lie outside the state-room under an awning in the daytime. The matter of nourishment was discussed, and I found the mother well informed on this head. I now retired to my room with a great weight of responsibility on my mind.

After this I made my patient a visit night and morning, and on each occasion found in him a greater or less improvement. Having the splendid constitution of his race, he, after the second day, took astonishing strides in the direction of health. This was in a measure due to his mother's judicious firmness in attending to his diet. In five days he could dispose of a good bowl of thin nutriment, and sat up in his mother's arms quite able to watch and enjoy the movement around him.

Notwithstanding the success, I still felt uncomfortable in being the object of so

much observation. My love of approbation was morbid,—I would not have any servant about me who did not like me. The doctor very properly disapproved of me. Indeed I could not blame him. On the other hand, public opinion among the ladies in the cabin ran high in my favor. It is true I did not know this until one afternoon, when I was quite abashed by seeing half a dozen of them come streaming up-stairs from the large saloon carrying babies of various ages, or with nurses carrying them, to request my advice concerning their different ailments.

I had never found myself in such an extraordinary predicament before, and did not know whether to laugh and run away, or to meet their grave deference with such common sense as I could command. I saw very soon that there would be no use in pleading ignorance, for they intimated that if I was equal to the greater, I must certainly understand the less, and they had only a few moments before seen my little convalescent free from fever and impatient of the limit put to his rations. *Their* children were not at death's door; they merely had peculiar looking rashes, or were without appetite, or continually fretful. What would I recommend for the eruption on this infant's head, and for the deranged internal economy of that one?

There was no way of escape, so I of-

fered such suggestions as common sense dictated. Most of the symptoms were doubtless to be attributed to the excessive heat and over-feeding, and would disappear in a cooler climate. I had Sir Astley Cooper at my back for the "scall" head of the two-year-old.

"Wash in castile soap every day and have it clean-shaved once a week. No ointment to be applied beyond fresh mutton tallow," and I gave my authority.

The ladies descended the stairs in amiable mood, apparently well satisfied with my decisions. It was pleasant for me to know that we were within two days of New York, where my reputation would disappear as quickly as it had been made.

Before landing in the great metropolis, the parents of my Jewish patient sought me out among the excited crowd on the lower deck, in order to express more fully their gratitude for the service I had done them.

It was singular that I should fancy I saw my good Dr. R——n smiling at me from the wharf (resemblances are so startling at times), and that for a moment I seemed to see only the huckleberry pastures and gray, dilapidated stone fences of our water-cure at Clapboard Tree Hill.

"The carriage is waiting for you, madam," broke the spell, and the throng of people on Broadway effectually brought me back to the present.

K.

SLEEP AND DEATH.

THE relationship between sleep, "the cousin of death," and death itself, is probably real as well as apparent. The distance which separates them is great, but there are intermediate connections, grades of dissolution as of development. Among these the similar states of trance and hibernation are worthy of special notice. For sleep and for trance one cause—the exhaustion chiefly of nervous matter, but more or less of every organ and tissue—is assignable. The hysterical stupor is the sleep of nerve-centres, worn out with the assault and conflict of stormy

reflex action. Healthy sleep is the rest of physical elements wearied with the same strain applied more gradually. Cases have been recorded in which somnolence, continuing for days without cessation, has resembled trance in its duration while preserving all the ordinary features of natural sleep. Various facts support us in associating the hibernation of animals with the same train of organic or functional changes as the other unconscious states which we have been considering. It comes like a habit; it has, one may say, annual returns; its apparent

cause is the oppression of external cold, and the animals it affects are mostly those which, from their bodily structure or habits, are subject to great periodic variations of temperature. Vital tissue is exhausted, and function is in part suspended, probably because the numbness of cold has taken hold upon the radicles of the outer circulation and of that of the brain-surface which is connected with it by numerous anastomoses. In such a case anæmia would seem to be the cause of the winter sleep, as there is evidence to show that it is also the cause of that temporary starvation of brain which lulls without arresting its action, in the natural repose of each night. We may even re-

gard the lethargy, ended by death, into which man falls when exposed to great cold, as a short and mortal hibernation. The same influence acts upon him as upon the bear or fish, but the power of its shock is greater on his finer and less accustomed senses than on their comparatively coarse organization. So, likewise, in other regions and forms of life, in the weariness, paralysis, atrophy and gangrene of limbs, in the leafless hibernation of trees, and in their decay, beginning in the terminal twigs, the same teaching is evident, that vascular nutrition, in its periodic variations, is the parent of activity and of rest, as its absence is of death.—*Brit. Med. Journal.*

CONSTIPATION.—A FEW NOTES.

THE evils of Constipation are so numerous that the pathologist of great experience would find himself at a loss to group them within the compass of a few pages. Dr. Da Costa says that the inactive state of the intestines, that has received the name of constipation, may be a symptom or accompaniment in the majority of all the affections of the body. It is so common among people of all classes that it seems to be regarded by the majority as an irregularity of the bowels, involving little or no danger whatever, and when it becomes an element of discomfort, a purgative of some sort, easily procured, is thought all that is necessary to "set things right." We are frequently asked to give some advice on this subject, and when we say that we regard constipation as too serious a matter to be trifled with, after the common manner, our statement awakens surprise. One exclaims, "Constipation a disease! pshaw! I have been bothered with it for years, but am not hurt by it. A dose of Brandreth's or Ayers' pills, now and then, is all I need." No, we reply, you need to use proper means for the regulation of your digestive organs, so that their old activity shall be restored. Persistent constipation is a symptomatic disease,

in which the whole intestinal tract participates, and there is usually associated with it congestion of the liver, or spleen, or kidneys, with alteration of the arterial and lymphatic circulations. If we think for a moment of the nature of constipation, that by it waste products of digestion are retained in the intestines, that interfere with the normal secretions of the mucous membrane, and produce congestion of the intestinal coats, we can not wonder that the matter, taken into the thoracic duct through the absorbing vessels, is far from normal in quality, and not convertible into good blood. The retention of effete matters, in fine, by making the blood impure, lays the foundation to disorders in every part of the body, and head and heart languish because of their insufficient nutrition. Thousands of people are subject to a mild form of constipation, and think it a constitutional condition that is not to be remedied, whereas a modification of their habits of diet and life would remove the trouble and save them from the inevitable and serious maladies that will follow, however late it may be, in the train of this disorder.

Intestinal inactivity may be due to systemic causes; for instance, impaired power in the bowel itself to propel its

contents, a nervous influence due to mechanical causes ; or it may depend upon a deficiency or faulty composition of the intestinal secretions, but the chief causes are vices of diet, improper food, and irregular or immoderate eating.

A very large proportion of the common articles of food is difficult of digestion. The ordinary white-flour bread of the bakers, or as made at home, is soggy and putty-like when new, and dry and chippy when old ; in either case, unfit for the stomach. Then pies and puddings are, for the most part, masses of half-cooked material promiscuously blended with spiced meats or a jumble of stale fruits. The biscuits and muffins, pancakes and waffles, hot from the stove, are usually saturated with butter or gravy when they make the acquaintance of the œsophagus, and even worse in their effects than the pies that are eaten cold. Tea and coffee are enemies to digestion, both as diluents of the gastric fluids, and because they produce unfavorable chemical alterations in the food elements.

The sufferer from chronic indigestion can not find relief so long as he persists in swallowing such stuff daily, and therefore the first step necessary toward his cure is the correction of his dietetic errors. He must rigidly adopt a régime of great simplicity at first, and be very abstemious in its use. A celebrated Paris physician who was very successful in treating cases of chronic dyspepsia, was in the habit of limiting his patients to a diet of a few hard-baked crackers and a little sour wine.

Let the victims of constipation use such foods as bread made of whole-wheat meal, oat-meal or corn-meal, porridge, or simple gruel, crushed-wheat mush, with moderate additions of fruits, the ripe and mellow sorts, or dried fruits stewed with but little sugar. Fresh green vegetables may be used in their season, but without greasy sauces, and discretion must be observed as to their effects. It should always be remembered that the flesh-producing foods contain more moisture than the fat-producing

foods do. For instance, bread made of whole-wheat flour is more moist than bread made of superfine or white flour ; oats and barley contain more moisture than corn-meal. If patients were fed as here indicated when they show signs of a disordered system, the drug business would not be so good. Such foods as are here recommended contain the proper nutritive elements, and are naturally in the proper shape to nourish the system and to give it vigor.

We are of opinion, and we think that every candid physician of large experience will agree with us, that chronic constipation can not be removed by drug medicines. If it were ever permanently helped in this way it is not within our knowledge ; and yet every drug-store is full of proprietary remedies "specially prepared" for the difficulty.

The majority of the patients in the hygienic institutions of the country are victims of chronic dyspepsia, who have gone through a course of protracted treatment with the aid of the druggists.

In trying an improved diet one must resolve to be moderate in his eating, masticate slowly, and be regular in taking meals. He must avoid cramming his stomach in response to the craving of a morbid appetite, and also be very temperate in drinking—water. Milk in most cases is not permissible at first.

Massage or manipulations are useful toward promoting healthful action of the sluggish or atonic bowels, and out-of-door life temperately indulged in is an adjuvant the importance of which should not be overlooked. EDITOR.

INFLUENCE OF PLACE ON FAMILY PERMANENCY.—Almost every person of mature years who is extensively acquainted among city families, can recall many instances among his acquaintance where the elder members of the family born and reared, perhaps somewhat roughly, in the fresh, healthful atmosphere of the country, and transferred to the city at a mature

age, continue hale and hearty at seventy or more years, with a numerous progeny, who reared in the city fall much below their parents in general health and strength; and in the third generation are so feeble and delicate that half of them die off before their grandparents. If such families be looked into closely, it will be found that there is a fair proportion of sons among the children of the first generation, fewer among the children of the second generation, and a large surplus of girls in the third generation; so that in the fourth, or at most fifth generation, the males have all died out of the family, and the family name becomes extinct. The exceptions to this in the birth of an occasional son in the later generations may generally be traced to some specially advantageous condition of the mother, either herself fresh from country life, or

if descended from a contemporary city family, that she has enjoyed some special opportunity for the restoration of her family health and strength. There is a consoling thought in the fact that if life in the city, with its impure air and excitements, can reduce the health and strength of the race, a return of even the weakened ones to a more favorable condition of existence can again in a generation or two restore the race to its pristine vigor, so that though the transgressions of the fathers and mothers may be visited on their children, the children may modify the infliction, and by a judicious regimen and training eradicate from their lineage the hereditary maladies, and need not, perforce, transmit to their offspring the physical ills they themselves inherited—at least not to their full extent.—*From "Controlling Sex."*

PATENT CATARRH REMEDIES.

SO many people are afflicted with "catarrh" that the venders of drugs and patent medicines derive large profits from the sale of so-called remedies specially prepared for it. Dr. T. F. Rumbold contributes a paper to the *Weekly Medical Review*, in which he declares with much emphasis against catarrh medicines in general, and explains clearly enough his views with regard to their pathological effects. He says:

"Most of these 'cures' are composed of ingredients that produce a cooling and anodyne effect on the inflamed and irritated mucous membrane, thus relieving the sufferer, for the time being, of the disagreeable heat of the parts and of the annoying ever-present distress. It is this deceiving property of these 'cures' that induces the victims to continue the applications and make subsequent purchases.

"If the 'cure' is a liquid, as Sanford's Radical Cure, Syke's Cure, Pond's Papillon Cure, Lane's Cure, or a powder that is to be put in water and used as a wash, as Sage's (?) Catarrh Remedy; Jordan's Cure; Wie de Meir's Cure, Tousley's

Cure, Herman's Catarrh Cure, etc., cubebs or camphor, or other agents of a cooling nature, will form a part of their composition. The effect of both cubebs and camphor is positively injurious, the user taking cold on even slight exposure, and after a few repetitions of these 'cures' symptoms of cold will be experienced without any exposure.

"If the 'cure' is a liquid that is to be used in the form of a vapor, as the Campho-Carbolate Catarrh Cure, or is inhaled from an instrument, as Cutler's Inhaler, it will contain tincture of iodine, carbolic acid, chloroform, etc. The vapor of the tincture of iodine is quite irritating to the already irritated mucous membrane, and will cause a profuse secretion of mucus, which is conclusive evidence of irritation. This can be readily proved by inhaling it alone. Carbolic acid always produces congestion whenever its strength is sufficient to induce a benumbing sensation, and this is its strength in the liquid accompanying the Cutler Inhaler. It is seen that when these agents are inhaled in combination, and especially if chloroform

is also a part of the compound, the sensation of irritation that the iodine produces is not experienced, because the anæsthetic property of the carbolic acid covers it, as it were; consequently the victim is severely injured without being made aware of it.

"In fact, so very deceptive are most of these 'cures,' that, instead of being warned of their baneful effects by their employment, almost every individual who uses them for the first time experiences, as I have said before, a sensation of relief, and they are greatly elated at their good fortune in finding a cheap, sure remedy.

"Unfortunately, the pleasant sensations arising from the cooling effect of the cubebs and camphor and the anodyne effect of the carbolic acid are very short-lived, for the reason that the injury done by the first application, that is, the irritating effect of the iodine, the congestion following the carbolic acid, and the colds resulting from the cubebs, annul some of the pleasant sensations produced by the second application; or, in other words, the injury resulting from the first application is added to the irritation occasioned by the disease, so that the pleasant sensations that are induced by the second application are not sufficient to overcome both irritations and leave the victim feeling as markedly improved as from the

first application. This result follows each succeeding application, so that the latter applications are made, not because of the relief experienced at the time, but because of the remembrance of the great relief experienced after the first applications. The pleasant sensations become less and less with each succeeding application, until the injurious effects are greater than the pleasant effects can overcome, then a slight inconvenience is the result. This result will soon be increased to intolerance if the 'thing' is 'pushed' regularly for a few weeks or months, at which time the victim's condition is most pitiable indeed, as has already been described.

"Frequently, before the 'cure' is used until the victim is made painfully aware that each application is doing him positive harm, he will observe that immediately after the transient pleasant effects have passed away his unpleasant catarrhal symptoms are increasing; that is, he takes cold more frequently and more severely; his headaches last longer; his difficulty in breathing is greater; his gagging and his efforts at clearing his throat in the morning are more troublesome; his memory is shorter; his irritability of temper is markedly greater, and so on with every symptom occasioned by the disease when it is aggravated by local applications."

TEMPERANCE IN SCHOOLS.

IT is about sixty years since the temperance movement in regard to the use of spirituous liquors commenced in this country, and although a great many persons, leaders in Church and State, have become total abstainers from all that can intoxicate, still it remains a fact that a greater amount of intoxicants is drunk now, per capitem, than was the case before the temperance movement was inaugurated. In view of this state of things, the temperance advocates are led to inquire, why is this the case? To answer this question satisfactorily and intelli-

gently, we must consider how the masses have been educated and trained for the past sixty years. Leading men and women in our cities and large villages have taught the young of both sexes, by example, that it is right and manly to drink ardent spirits as a beverage. And by this mode of instruction the many take to drinking to excess, while the few remain firm to their temperance principles. The many, therefore, from the all-powerful example of leading public men, become moderate drinkers, and finally confirmed drunkards.

The Reform clubs in our country have

done some good work in the temperance field, but they have not laid the axe at the root of the tree of this great evil. They have been satisfied to lop off occasionally a branch, or prune back here and there a new twig of this upas of desolation, while the roots and trunk have been left to flourish and poison its innocent and ignorant victims.

Is there no remedy for the increase of drunkenness in our nation? We answer, yes! It lies in the legitimate and proper instruction of the young in our public schools. "But," says the objector, "this instruction should be given in the family home." We admit this, but how can children be taught temperance or any of the moral precepts at home when, in not a few families, all of the commands of the Decalogue are violated by the parents? The children of such parents, in numerous instances, even in Puritan New England, have no moral or religious instruction at the church or the Sabbath-school.

The only place for them to receive it is at the public school; for in the State of Massachusetts the law requires all children between five and fifteen years of age to attend the public schools twenty weeks annually. The Legislature of Massachusetts will, probably, the present winter, pass a law making it obligatory for teachers in the public schools to give young children scientific instruction on the injurious effects of alcohol on the stomach and nervous system. Such a law was enacted by the Legislature of New York last winter, and is now in operation. By this law, the intellect of children can be reached and informed on this subject, and the faculty of conscience be educated and trained in accordance with phrenological principles, to know and do the right. This method of reaching the moral sentiments, if rightly carried out, will redeem the world from intemperance and crime in all its varied forms.

P. L. BUELL.

DRUGGIST OR PHYSICIAN?

IT is not uncommon to read of the prosecution of some druggist for having compounded a prescription carelessly and caused the death of a sick person. We are of opinion that in some of these cases the physician was more to blame than the druggist, although the latter is one who usually suffers. A case reported in the *Pharmaceutical Record* not long since was one that proved unfortunate for the defendant, a well-known Chicago druggist. Notwithstanding that the evidence and the ruling of the Court on the trial were for the most part in favor of the pharmacist and against the physician, the jury awarded heavy damages to the plaintiff.

It was claimed by the prosecution that the death of an infant was due to an error in the dispensing of a prescription, the assertion being made that morphine was substituted for calomel in some powders prepared in the store of the defendant. The child was but five months old, and was suffering at the time (summer of

1881) from cholera infantum. The prescription called for ten powders, each containing one-fifth of a grain of calomel and four grains of sugar. The child became worse after taking a powder, and the physician charged the druggist with having made an error in dispensing morphine in place of calomel, *which was denied*. The treatment of the case was then changed to that of narcotic poisoning, and during the next six hours *forty* ounces of a strong decoction of coffee were injected into its little stomach and ejected at intervals by pressure on the stomach. Hypodermic injections of camphorated oil were also given. The child died. The medical men testified that the treatment was correct, and one that the powders examined by him contained one-third of a grain of morphine in each. For the defence it was testified that the examination for morphine was unreliable and erroneous. Post-mortem examination showed that *through the medical treatment* one of the lungs had collapsed!

NOTES IN SCIENCE AND AGRICULTURE.

Our Unseen Enemies.—Abstract of a lecture delivered before the Academy of Anthropology, in Brooklyn, February 3, 1885, by N. B. Sizer, M.D. :

"Bacteria" and "Bacilli" are plurals of a Greek and a Latin word, which have almost the same meaning, *i. e.*, "rod-shaped," and are applied to certain low forms of life, which are staff-shaped, and about $\frac{1}{1000}$ of an inch in length, but vary greatly in size in various species.

They abound in all putrescent or fermenting mixtures containing organic matter, and are the *cause* of fermentation and putrefaction. Some are present in, and the cause of, certain of the "zymotic," or "ferment" diseases, such as "malignant pustule," erysipelas, tuberculosis, etc.

"Micro-cocci" are spheroidal bacteria, and very small, never more than $\frac{1}{1000}$ of an inch in diameter, often less.

If we keep out the bacteria, surgical wounds never suppurate, and the discovery of this fact has made hundreds of operations possible, which of old were never thought to be within the reach of art, hence the wonderful success of antiseptic surgery, and the possibility of aspirating an abscess, or any internal collection of fluid.

The disease called pyæmia consists of infection by micrococci, and we find the minute capillaries stuffed with these all over the body. In tropical dysentery the intestinal walls are full of them, and they are abundant in puerperal fever, hospital gangrene, and ulcerative endocarditis.

Bacteria are vegetables, and were first seen by Leewwenhoek in 1675, and their discovery and study has dug the grave of "spontaneous generation." They abound near the earth in the air, but Tyndall found them absent from the higher Alpine summits, showing that they are drawn down by gravity.

They may be collected by drawing air through cotton-wool which allows air to pass, but stops these germs, and other methods are also used. Pasteur and Tyndall have proven that liquids exposed to air which has been filtered from bacteria never *putrefies*. If you admit germs for *one instant*, the fluid putrefies in a few hours.

All dust is full of the spores of bacteria, and these are even found in distilled water, being so small as to pass through sixteen superposed layers of filter-paper. These spores resist drying for a long time, some for many years, as will be shown later.

Bacteria multiply with astounding rapidity, say once an hour. At this rate, the progeny of *one bacterium* will reach 16,777,220 in 24 hours! At the end of 2 days to 281,500,000,000! (over 281 thousand millions), and at the end of 3 days to 47,000,000,000,000 (47 millions of millions). At the end of the week their number will be so great as to be represented in figures by 1 followed by 50

ciphers! which is practically "infinity" for most of us. Their immense number may be easily seen in another way.

An ordinary "bacterium" is a cylinder $\frac{1}{1000}$ of a millimetre long by $\frac{1}{1000}$ of a millimetre wide, therefore a cubic millimetre will contain 633,000,000 (633 millions in a cube $\frac{1}{10}$ inch on each side!) At the end of 24 hours the progeny of one bacterium would fill only $\frac{1}{10}$ of a cubic millimetre, but at the end of the second day, they would fill 442,570 cubic millimetres, or $\frac{1}{4}$ litre, say 1 pint. If we consider the ocean to cover two-thirds of the earth's surface, and to average *one mile* deep, the cubic contents of the ocean are 928 million cubic miles. But it would take the progeny of one single bacterium only 5 days to increase sufficiently to fill the ocean's bed solid to the surface—928 million cubic miles!*

In studying bacteria, we plant them in suitable "culture" materials, and grow them at our leisure. There are many such; perhaps the best is blood-serum, coagulated and sterilized by heat. In using this method we place a few drops of the medium on a microscope slide, 3 x 1 inch, inoculate it by first heating a platinum needle to redness, and thus sterilize it. Then dip the needle in the fluid whose bacteria you desire to "grow," and draw the needle, now infected, across the "culture serum" on the glass. In a few hours, the track of the needle will be covered with colonies of young bacilli, grown from the scattered germs left by the infected needle. Just as we sow strange seed in a hot-bed, to determine its name and nature from the adult plant, so can we propagate bacterial germs to identify them by the characteristics they exhibit when in their perfect growth.

Unless in large colonies, bacteria are invisible, as a rule, owing to their minute size and transparency, and one of the greatest discoveries of medical science has been, that these growths are susceptible of staining, and may thus be rendered very visible, as well as the fact that various forms of them stain in different ways, and may thus be distinguished, the stains most suitable being the methyl blue and violet, the "Bismarck brown," and "Fuchsine." The method is briefly this: a drop of expectoration from a tuberculous patient is spread over a cover-glass, which is then rapidly passed backward and forward several times through a spirit-lamp flame, which coagulates the albumen. A few drops of the dye are put in a watch-glass, and the cover, when cool, is floated thereon, for 15 to 30 minutes.

* It may interest the unprofessional reader to know that "our friends," the blood corpuscles die at the rate of a million at every pulsation of the adult human heart, and of course as many more come into active being. If "Our Unseen Enemies" are born at a similar rate, of course the older ones die as rapidly.—[Ed. PH. JOURNAL.]

All the organic bodies are now stained, and we must bleach out all but bacteria by washing the cover in a 33 per cent. solution of nitric acid in water. After copious washing, thorough drying, and mounting in damar, we see the bacteria darkly stained on a pale background. If desired, the background may be stained a contrasting color, as brown for violet, or blue when fuchsine was used before. In solid organs their sections are cut, then stained as above, and mounted as usual.

In 1880, Pasteur found that these disease-germs can be weakened by certain processes, so that the attenuated virus may be used as an "inoculation" to prevent the stronger disease, just as vaccine-lymph protects from small-pox! He found that if he cultivated the "chicken cholera" bacillus, and put more than two months between each cultivation, the virus became more and more weak, and at last innocuous. This weak cultivation he uses for protection, and has done so very successfully in the case above named, as well as in anthrax and hydrophobia, and it is almost certain that, in the near future, we shall be using "protective inoculation" for scarlatina, diphtheria, and other zymotic diseases. "Anthrax" used to kill a *million and a half dollars worth of sheep* every year in France alone. Pasteur can save all these by his discovery.

Among the most important diseases due to bacilli is anthrax or "malignant pustule," also known as "wool-sorters' disease."

The ancients knew this disease, which is so malignant that sheep that feed in a pasture, *over the graves* of animals dead of this disease, will infallibly die of it in a few days.

People who handle the hides or hair and wool of animals are most affected. Bone-dust used as manure has been known to infect human beings, as the spores are of almost incredible endurance in resisting destructive agents, age seeming in nowise to impair their virulence. Dr. Sternberg, U. S. A., finds them perfectly active after eleven years; even five *months* sojourn in alcohol having a *tonic* effect on them, rather than the contrary. When introduced into the body, they grow with enormous rapidity, and live upon the oxygen of the blood, hence death results from asphyxia, with dyspnoea, cyanosis, and low temperature. This is a curious exception to the rule that vegetables usually live in carbonic acid and exhale oxygen. After death the capillaries are found stuffed with solid masses of the bacilli, in numbers almost infinite, their rapid reproduction causing them to consume oxygen faster than it can be introduced into the body.

Erysipelas appears to be due to a microbe which is inoculable in rabbits, and produces in them the same disease. This organism is found in all cases of erysipelas. Scarlet fever is, as yet, *sub-judice*, but, like erysipelas, peculiar bacilli seem always to be present, and have been successfully used to convey the disease to animals. In diphtheria abundant micrococci are always found, and have been inoculated in fowls with resulting pharyngeal

and tracheal exudations; the animals meanwhile being very ill. Fowls have long been observed to be subject to a diphtheroid disease, often present in them during epidemics of diphtheria.

In glanders a bacillus is present, which causes the disease in horses in inoculation, and this organism is found also on acquired cases in men.

Hydrophobia, that much dreaded disease, has been shorn of much of its terrors by Pasteur, and he has successfully attenuated its virus, and protected thereby the lower animals. Of 100 dogs, he inoculated fifty, and shortly after infected the whole with virus from a case of rabies. His fifty "protected" dogs all remained well; the other fifty *all had rabies!*

In pneumonia abundant micrococci exist, and their inoculation, or even presence in the air, causes the disease, an acute lobar pneumonia, in animals, the lungs swarming with the organisms.

In typhoid fever we find a peculiar bacillus, but as none of the lower animals are subject to this disease, it has not been artificially produced.

In leprosy, the "bacillus lepræ" is well known, and is used to make the diagnosis; but, for a similar reason, the disease has not yet been distinctly inoculated.

In relapsing fever the "spiro-chæte Obermeieri" is found, a very curious "cork-screw-shaped" spiral thread-like bacillus, which always is found in the blood during the fever, but disappears during the remission. They produce in monkeys genuine relapsing fever, and are found in their blood in immense numbers. The "bacillus malaræ" is still in doubt, and deserves at present no extended mention here.

Very great interest attaches to the "bacillus tuberculosis," which is so constantly present that it is used as a means of differentiating the *inflammatory* diseases of the lungs from *tuberculosis*. This organism *always* produces the disease when inoculated into animals. Statistics have lately been published showing that the bacillus was present in 2,417 out of 2,509 cases of supposed tuberculosis, and as it is found in very small and infrequent numbers in *some* cases, it is probable that it was really present sometimes when overlooked, as it is small and the staining is not always well done.

There are several forms of lesions long considered to be tuberculous, as cheesy glands and the like, and in many of these the bacillus has been found, proving what surgeons had suspected a long time, that these sluggish inflammatory foci may be the source of a general tubercular infection, and the practical moral is, that sluggish, enlarged cervical glands ought never to be allowed to remain, as they are a source of danger. They have long been removed for cosmetic reasons, and wisely, as it now seems.

The cholera, or "comma" bacillus, is the sensation of the day, and as Koch has successfully inoculated it, producing in animals

rapid death of cholera, the appearances, both ante and post-mortem, being characteristic, it seems as if the true cause were found. As the subject is new, let us look for more light, and hope for the day when science can control these scourges of our race, as she now does small-pox; where once two out of three persons used to be pock-marked, this is now one of the rarest sights. At a school in London, of the very poorest children, 170 in all, thirty-three had not been vaccinated, and thirty had pock-marks; the other 137 were all vaccinated; one only had an unsatisfactory arm-mark, and he had a few pock-marks. The remaining 136 all had good cicatrices, and none the slightest pitting, thus showing their protection.

N. B. S., M.D.

Tailed Men.—In the "Wonder" books that obtain much currency among the uneducated there are usually some accounts of strange beings that combine human and brute physiognomy. These brute-men, weir-wolves, or what not are but rarely seen, and their historians usually mention some remote Oriental region, or a desolate island in Polynesia, or an inaccessible African thicket as their habitat. Who has not met with stories of men with tails living somewhere in Asia or Africa? Stories that are written with graphic felicity, and quoting the authority of some *nomen inauditum* for their truth. We can imagine with what eagerness a disciple of Darwin might grasp at such a contribution to anthropology as a man with but half a tail were he to offer himself for the deliberate investigation of science. When that interesting little hairy girl Krao was brought from her Asiatic home, some hasty people cried "Behold the missing link! We have it at last." But no vestige of a tail did she show, and familiarity compelled the savants with reluctance in many cases, no doubt, to dismiss the idea that she was nothing more than a bright, teachable little miss, with a phenomenal growth of hair.

Yet there is some ground for the fables about tailed men, and it is furnished by peculiarities of anatomical structure discovered in civilized as much as in savage man. In our late war, among the hundreds of thousands of recruits examined by military surgeons, several cases of what seemed to be a rudimentary caudal appendage were found. Dr. Omstein, the Surgeon-General of the Greek army, has reported that so many cases have occurred among Greek soldiers that he had well-nigh concluded that the Hellenic race is specially prone to the deformity. A reference to the ancient sculpture of that people favors the impression that the Greek artist had noticed the deformity, and produced it in his metamorphic ideals, the satyr for instance.

At a recent meeting of the Berlin Medical Society, Prof. Virchow called attention to this subject by a paper, and reasoned with considerable force that it had not been fairly shown that the sacral appendages were really rudimentary tails. Those cases, he said, in

which the bony column was actually traced down into the tail had been reported by the older anatomists, and, therefore, were to be regarded with some distrust. Most of the caudal processes reported in recent times had been what he would characterize as "imperfect tails," consisting only of connective tissue, and perhaps they were simply of dermal origin. Redner, however, had not regarded this fact as militating against his theory. Virchow cited a case in which there was a peculiar growth of hair over a prominence in the sacral region, but, on close examination, it was found to be simply a spina bifida. "Consequently," he remarked, "we had here to do, not with an atavistic, but with a pathological, product."

A case that came under my notice was evidently that of a cartilaginous extension or projection of the coccygeal terminus, and not separate vertebral substance at all.

Bartels said, at the same meeting, that we must distinguish carefully between tails which contained bones and those which did not. Among the former were to be classed what he called the atavistic tails, but he added that no undeniable example of the latter had yet been found. He thought that there were five varieties of the rudimentary caudal appendage in man: (1) The short stump, without bony contents, representing the remains of the foetal tail. (2) The "pig-tail," also boneless, arising from an actual increase in the size of the original foetal process. (3) The "swollen" tail, due to persistence of the prominence which remained after the disappearance of the embryonic tail (*Steisshöcker*). (4) The bony tail, which was due to hypertrophy of the sacral vertebræ rather than to an increase in their number. (5) "The still doubtful atavistic tail," in which there was an actual increase in the number of the vertebræ.

But we must distinguish in this consideration between the tweedledum and tweedledee of tails—in other words, we should not be misled by appearances. We know how organic changes wrought by disease may be transmitted to posterity. So that it is not difficult to suspect in a case of sacral extension that the hypothetical tail was the result of a pathological condition affecting the tissues of the sacrum in the person in whom the deformity is found, or in his ancestors not very remote.

H. S. D.

A Hint on Patents.—A writer in the *New York Times* encourages inventors thus:

"The United States Patent Office, as a rule, rarely refuses a patent for any device that has not already been patented. Although the law provides that any device offered for patent should be new and useful, yet there are thousands of articles patented that are certainly not new, although the doubt of their usefulness may be waived. To procure a patent, an inventor, or one who claims to be an inventor, files a specification and drawing of his alleged invention, which he may possibly have copied from some old book or de-

vice long in use, and presents these to the Examiners, who pass upon it. A Patent Office Examiner is not necessarily an expert, for he is appointed more from political motives than from any other qualification, and as the fees of the office are the most considerable object, the patent is granted as a matter of course. The consequence is that a deluge of worthless patents and a great many fraudulent ones are spread like a flood over the country, to the great inconvenience of the public. It is in this way that thousands of articles of domestic use and of use in agriculture are patented, notwithstanding that they have been in service for scores of years, and those persons who have been using them for a long time are threatened with claims for royalty, or suits at law to enforce payment if the claims are objected to. In such cases there is no help but to pay the small sums demanded, although in the aggregate these amount to millions of dollars every year. A patent costs, in all, about \$60, and this is all the outlay required to give an unprincipled person the power to tax the public at his will. The patent system has been no doubt of incalculable value, but this irritating and injurious defect in it has grown to such proportions that the whole system is suffering in popular estimation. Probably a change will be effected very soon, and relief will be afforded. In the meantime patience must be exercised, although it is hard to be patient with such an evil."

Magnitude of the Congo.—Mr. Stanley says the length of the Congo River is 2,100 miles, and that the Mississippi and the Nile together would scarcely equal its tribute of water to the ocean. From the mouth of the river a steamer drawing 15 feet can steam up 110 miles, at which point a land journey of 52 miles is taken on account of the rapids. Then another steaming or rowing voyage of 88 miles occurs, which is succeeded by a land journey of 95 miles. After that it is possible to steam up fully 1,060 miles. Along this route thirteen stations have been constructed among peaceful tribes. The quays and people upon them are now well known. The river margins show wide belts of forests, in the shade of which clusters of villages lie nestled; while close at hand are gardens and fields with a profuse abundance of their surface, and stores of mineral wealth, it is believed, within their bosoms. There are spacious lakes also; in fact, a known area of lake waters, in addition to Lake Tanganyika, of 30,000 square miles in extent, which will probably be increased to upward of 40,000 after more definite exploration.

A Machine for Quarrying.—Mr. John Crump, a resident of Philadelphia, has invented and patented a quarrier and stone shaper, a very valuable machine. It has been designed for the purpose of cutting rocks and shaping them as they lie in their natural beds, and its remarkable utility seems to have been fully demonstrated. It consists of what looks like a coarse circular saw driven by steam,

which cuts upward and backward through all kinds of stone with ease and rapidity. The teeth of the saw can be removed and replaced at pleasure, and the entire machine occupies but a very small space. The cutter can be set at any required angle, and if the stone is to be finished before its removal, files are attached to each side of the saw-plate slightly wider than the cutter, thus removing the saw-tooth marks. It is claimed that slate can be quarried by this machine and prepared for the market at from one-third to one-fifth the present cost, besides saving a vast amount of material now wasted by the blasting process.

A Notable Model.—There is exhibited at the New Orleans Exposition a working model of the necessary apparatus for the Eads Ship Railway. It was constructed in London at a cost of \$10,000, and is a remarkable piece of work. It comprises a ship model about six feet in length; the pontoon and apparatus for lifting the ship and the carriage upon which it rests out of the water to a level with the permanent way; about twenty feet of the permanent way and a floating turn-table which is to take the place of an ordinary curve. Owing to the length and rigidity of the carriage, no curve of a radius under twenty miles is possible. There will have to be in consequence five of these floating turn-tables where changes of direction greater than this allowable curvature are to be made. The wheels have double flanges and are attached to trucks, there being four wheels to the truck. Each truck receives its portion of the load, which will never exceed twenty tons, through the medium of four springs which are each warranted to stand a load of twenty tons with a depression of six inches.

The difficulties which had to be overcome were the following: A ship, with or without its cargo, has the greater part of its weight amidship. To counteract this the weight of the ship while on the pontoon is supported by a system of hydraulic jacks. A second difficulty is that it is impossible to locate exactly the centre of gravity of a ship as well as that of the pontoon. But if these two centres are not in the same vertical line the pontoon will tip when floated, the guides will bind and everything will come to a standstill. To prevent this there is an ingenious arrangement of hydraulic cylinders at the four corners of the pontoon, the ones at the diagonally opposite corners being connected, which will equalize the weight and compel the pontoon to preserve an erect position.

Whether or not the proposition of Captain Eads will be carried out to connect the oceans at Nicaragua by a ship canal, his invention is a very remarkable one.

At a Recent Meeting of the Berlin Medical Society, photographs were shown by Professor Virchow of the gigantic plane tree in the island of Cos, under the shade of which Hippocrates is said by tradition to have held medical consultations. The tree stands in the market place of the town of Cos, and the branches are supported by marble pillars.



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THE UTILITY OF PHRENOLOGY.—No. 3.

EDUCATION.

THE primary work of life is education ; its motive is preparation for the duties and incidents of manhood and womanhood ; its object is *success*, a term meaning by common acceptance the acquirement of money or fortune sufficient to render one independent of personal labor for the support of himself and family. To be sure, this is a limited definition, as all definitions of interests affecting humanity are that are drawn from the sensuous and worldly point of view. We may insist that there is a success to be striven after higher than wealth and social position, a success which is moral and interior, directly affecting the personal consciousness, elevating and ennobling the humanity in one's-self, and rendering the faculties of the physical and psychic nature more receptive of truth and beauty, light and joy. But we will not deny that material wealth bears some relation to this moral expansion, and that it can be made a powerful auxiliary to such expansion. Indirectly, rather than directly, it does further the moral interests of society because the means that wealth employs in

moral channels are for the most part so employed from motives of expediency, and often accidentally ; whereas the prime object of wealth should be moral benefit to the individual and to society, and the relation of material and moral things should be so close that reference to the wealth of a community would imply its wealth in things mental as well as physical.

The primary work of Phrenology is the determination of the constitution of mind in the individual ; but scarcely less important is its office in the development and training of the faculties in childhood. The late Professor C. Otto, of the University of Copenhagen, wrote : " I not only consider Phrenology as a true science of mind, but also as the only one that with a sure success may be applied to the education of children and to the treatment of the insane and criminals. I have found it of the highest importance, as physician to the civil prisons, in acquainting myself with the character of the prisoners and adapting my moral treatment of them to this knowledge."

Common sense would declare that to preserve the balance of the mind and have a harmonious character, all the faculties or parts of it should share in the process of training. Phrenological science shows the truth of this, and declares why the common systems of school education are defective—because they chiefly affect the intellectual faculties that constitute but a third part of the mental organism, leaving the remaining two-thirds to haphazard suggestions and obscure admonitions. Is it at all wonderful that our newspapers teem with accounts of vice and crime, in which "well educated" men and women are a large proportion of the transgressors ?

Back of the act is the motive, and this will be pure or impure, noble or revolting, according as the moral or selfish sentiments dominate in the man's character. Wisdom would incline a parent or teacher to develop good and true motives in the young in advance of the intellectual training, and clear-sighted prudence would direct that the moral nature be trained at the same time with the intellect; but wisdom and prudence appear to bear but a minor part in the plans of those who control public education.

Prof. Seelye, of Amherst College, says: "If, therefore, we begin our attempts to improve men through the instruction of their intellect, we shall end where we begin, having blown a bubble which bursts as soon as blown. No amount of intelligence ever saved any people, and the most costly educational system is consistent with and sometimes actually found in the most corrupt social state."

Well-planned, symmetrical teaching can only be given by a well-developed teacher. He or she must possess an earnest, apt spirit for the work of moulding the young mind, and this earnest, apt spirit is only found in alliance with a large and disciplined endowment of the moral sentiments. Pestalozzi, Emerson, Benjamin N. Martin, Hopkins, exercised their great influence over their classes because of their moral strength, and the lessons they impressed were full of the truth and light that builds up true character. Mr. Sumner said of Judge Story: "Only a good man can be a teacher; only a benevolent man, only a man willing to teach. He sought to mingle his mind with that of his pupil. He well knew that the knowledge imparted is trivial compared with that awakening of the

soul under the influence of which the pupil becomes a teacher.'

The teacher who understands the constitution of mind can impart to the pupil a knowledge of himself, and thus the pupil can become a co-operator with the teacher in improving himself.

We know some men and women in the North, West, and South who are very successful as teachers; they are in constant demand, and exert a large influence upon the educational community. Their methods are formulated on phrenological principles; they are practical phrenologists.

What parent is there, who has the best interests of his children at heart, who would not gladly avail himself of assistance that shall instruct him concerning their true character and the principles which should govern in their training? When the expert phrenologist points out a little boy's peculiar traits to such a parent and explains their physiological relation, how much better he understands the child's nature. "My boy is wilful and stubborn, and whipping seems to make him worse," says one mother. "Yes," says the phrenologist, "his head shows a strong development of Firmness, Self-esteem and Combateness, and no great amount of Veneration or Caution; hence harsh discipline should be avoided in his treatment, as it only excites the large organs to greater activity. You should be firm, yet kind, in your treatment; reason with him on the impropriety of his conduct; appeal to his sense of duty, to his sympathy and affection; stimulate his sense of obedience and respect. Avoid excessive manifestation of anger in dealing with him, and do not secure his obedience by bribery, if you wish to

develop a noble, manly spirit in him." The authors of "Brain and Mind" very properly suggest: "In dealing with a headstrong and passionate child, the parent should be gentle, firm, and self-possessed. His manner toward it should result from the dictates of the intellect and the moral sentiments. The manifestation toward it of these higher faculties will naturally excite to activity the corresponding organs in the child, while the absence of passion and unreasoning obstinacy in the parent's conduct offers no excitement to the inferior faculties of the child. Such treatment will be conducive to that true mental development in which the intellect and moral sentiments exercise the authority which rightly belongs over the other powers."

Has a child large Approbativeness and Cautiousness, a marked nervous temperament, and a moderate back-head, her mother may need to be told that care should be taken not to increase her sensitiveness and timidity; that judicious praise will help much in the development of a desirable character, but that flattery or endeavors to frighten her into subjection will be injurious. Would any mother who has some understanding of character, expect her excitable, fitful boy to develop into well-balanced, industrious, and useful manhood without careful training? Byron, brilliant, gifted, unhappy, and unfortunate, might have been saved from his career of profligacy and desperation by judicious care in his boyhood. His mother, we are told, possessed a violent temper, and caressed or beat him as the mood took her. When angry, she would sometimes throw the tongs or fire-shovel at her child and taunt him with his deformity. Had that mother been instructed with reference to the weaknesses

in her own organization, and realized their reflection in her gifted boy, and could she have been enlightened concerning the germs of greatness in the boy, and how much his future happiness depended upon the correction of his pas-sional nature, through the development of his moral faculties, we doubt not that she would have endeavored to restrain her own feelings, and brought good influences to bear upon her little son.

The fact is not comprehended by society, that a child possesses all the properties of mind a grown person has, although in a germinal state; and it will not be thoroughly comprehended until a knowledge of mental science has become well disseminated among the people. The old error of the philosophers, that education and growth impressed the juvenile mind with faculty and function, is practically entertained in the common methods of education to-day, although nearly every intelligent teacher admits that it is the province of education to bring out, develop into activity, forces and elements already existing in the child's mind, and successful education trains into harmonious exercise and interrelation the powers of the mind. It is the teacher who is conversant with phrenological science that will recognize at once the bright, quick pupil and the slow, dull one. He will see in the prominent brow and full eye of one ready perception and good memory, and in the broad, round head of another the restless, mischievous boy, who much prefers the playground, or any odd jobs that give him out-of-door range. He will notice the low, broad head of the cunning, audacious rogue, and the high, full crown and narrow head of the frank, honest, spirited youth. He will perceive that one has that fullness of

the forehead which leads one to inquire into reason and causes; that another has that fullness of the temporal region which renders him fond of machinery, of watching the carpenter and blacksmith at work, and is pleased with studies in natural philosophy. A Pennsylvania teacher says appreciatively: "The design of culture is to aid nature in unfolding the powers she has given. No new power can be created by culture; we can increase the activity of these powers, but can not develop any new activities. Through these activities new ideas and thoughts may be developed, and the sum of human knowledge increased; but this is accomplished by a high activity of the natural powers with which the mind is endowed, and not by the culture of new powers. The profound philosopher uses the same faculties that the little child is developing in the games of the nursery. The object of culture is to arouse the powers which nature has given us into a normal activity, and to stimulate and guide them in their unfolding." *

Thus phrenological science indicates the springs of mental action, and is helpful to the parent and the teacher because it explains why a child acts as he does, and gives the clue to the kind of treatment appropriate to the correction of what is vicious and improper in his conduct, and how the moral and psychic elements of character may be trained to exert their normal influence and thus offset and subdue the excessive operation of the selfish feelings.

THE CRITIC ON "SMOKING AND DRINKING."

"JAMES PARTON'S *Atlantic* articles on certain alleged evils of drinking and smoking have been republished by

* Boston *Journal of Education*.

Fowler & Wells. Mr. Parton, who evidently does not smoke, and does not think it pays to smoke, will not find many sympathizers in these degenerate days, when almost every one—including the learned doctor who lectures upon toxicology, and the disreputable bootblack whose cigarette poisons the air—burns his fragrant incense to the memory of Sir Walter. His arguments against tobacco—which, if we remember rightly, were answered by Prof. Fiske, of Harvard—are of that ancient and sentimental order which modern science has proved to be grossly exaggerated. The same may be said of his ideas of alcohol. In his second article, entitled 'Will the coming man drink wine?'—which, by the way, he will not, if the stories of aniline adulterations are true—he also falls into the error of 'spread-eagleism.' Moreover, there is a want of exactness in his references. It is hoped that some day a book will find its way into print that will treat these subjects from the stand-point of moderation."

This is a notice of the book republished by the Fowler & Wells Company, and it needs no Argus eye to discern the vein of irritability and cynicism pervading it. The writer is evidently a devotee to the narcotic weed, and permits a naturally clear brain to become disturbed by its toxic properties, so that he can scarcely discuss a book that condemns tobacco with logical consistency. We ask him to cite the arguments of Prof. Fiske that so triumphantly defeat Mr. Parton, and would suggest that Prof. Fiske's vocation is, in its nature, entirely apart from that which would render his *dicta* competent in a discussion on the pathological effects of tobacco and alcohol.

We suspect that the *Critic's* "sentiments" were more excited by the strong declaration of Mr. Parton, than his "intellectual" impressions of the facts in the medical history of the two popular vices, otherwise he would not have been so in-

exact himself in imparting "an ancient and sentimental" flavor to what is so clearly demonstrated in the book under notice. It may be a lapse of memory on the part of the *Critic*, but the cavalier-like *verve* of his language inclines us to think that he is really ignorant of what "modern science" has put on record with reference to tobacco and alcohol. Possibly he had been skimming the "Recollections" of the unfortunate editor of the London *World*, and absorbed the burlesque trash about Prof. Huxley's smoking experience before he had taken up Mr. Parton's reformatory essays, so that he was scarcely in that condition of intellectual poise essential to an unprejudiced contemplation of the proprieties. However, we would respectfully suggest that he consult authorities like Drs. B. W. Richardson, W. B. Carpenter (his later utterances), and J. M. Fothergill, of London; Dr. Maillot, Chief Officer of the French Army Board of Health; the eminent Charcot, of Paris; Dr. Nathan Allen, of the Mass. Health Commission, and Dr. Woodward, of the State Hospital for the Insane at Worcester, Mass. Dr. Geo. M. Beard, late of New York, was one of the most progressive and original minds in the medical profession, boldly attacking the unphysiological habits of society, and holding them up as leading causes of wide-spread disease and nervous debility. He was no friend to nicotine and its twin destroyer, alcohol, and his books are accessible. A late number of the *British Medical Journal* has a powerful article by Dr. Zulinski, who condenses in it the results of much observation with reference to the injury wrought by smoking. Perhaps the *Critic* is not aware that the writer of "Smoking and Drinking" possessed a special argument in his own ex-

perience, the many things he had known and suffered from tobacco, sharpening his pen in vigorous yet not immoderate (Mr. Parton has a reputation for calmness that few prominent American authors possess) denunciation of his old enemy.

AFFAIRS IN EGYPT.

"CHINESE" GORDON is dead, so the dispatches say, shot by the soldiers of the Mahdi when they entered Khartoum. The proud, dashing, heroic, adventurous soldier has met the doom pronounced upon them who take the sword. Of course opinions will vary with regard to him and the manner of his taking off, and we would not diminish aught from the glory that attaches to his going to Khartoum. We are told that the British arms in Egypt are not meeting with the success that they have hoped for; the poor, wretched Arabs fighting for country, freedom, and faith, offering a far more stubborn opposition to the advancement of their Christian foes than was expected. If the British Government is not fighting for conquest, as the Gladstone ministry asserts, what is it fighting for? Why keep up the bloody business? Is there not more honor in leaving those unhappy children of the desert to the possession of their own land than in persisting in a course of horrid butchery? It seems to us that England has placed herself in a most unenviable position. We said in these columns in the beginning of the Egyptian muddle, or at the time of the Alexandrian catastrophe, that we could not regard the interference of English arms there as warranted by honor and justice. And late events appear to confirm our impression. We do not doubt that the English people would

gladly extricate themselves from the costly difficulty, if they could without damage to their self-respect, and leave the holders of Egyptian bonds to grumble as they might over their losses. We can imagine the head of that effete scion of Oriental despotism, the Sultan, rubbing his hands, while he basks at ease on his ottoman, in his seraglio on the Golden throne, and laughing at the English, who are practically doing his work in the Egyptian desert in attempting to subdue the rebellious tribes arrayed under the Mahdi.

THE VOTING WOMAN AND SOCIAL ORDER.—From an exchange this note is copied :

"Chief-Justice Greene, of Washington Territory, in his last charge to the grand jury says: 'Twelve terms of court I have now held, in which women have served as grand and petit jurors, and it is certainly a fact beyond dispute that no other twelve terms so salutary for restraint of crime have ever been known in this Territory.'"

Our first introduction to the realities of life was as a clerk in the office of a well-known law-firm; and after a few years' experience in litigated cases we came to the conclusion that the sooner the jury system was abolished the better. We could mention prominent jurists who are of the opinion that the ordinary trial before a jury is a mere travesty of justice, often the veriest farce; that time and money would be saved and society served far better were the interests of contending parties presented to a bench of three or more judges, whose majority opinion would be final. The prosecution of criminal charges might be conducted before three judges, and justice more

equally awarded in accordance with the law and the facts than is possible now.

But if so marked an improvement in the dispensing of justice is to be secured by the admission of women to the twelve seats within the rails, as Judge Greene declares to be the case in Washington Territory, we are most heartily willing and desirous that the experiment should be tried here in the Empire State.

The uncertainty of criminal trial has tended to so rank a growth of crime and disorder in our large cities, that in certain localities it is unsafe for a peaceful citizen to be abroad at night, and vice boldly flaunts its robes in every quarter. By all means let us have women in the jury-box, and see if they will not help to suppress the bold defiers of law and righteousness.

DIAGNOSING A TUMOR.—No. 2.

WE regret to state that the young man who sustained the operation for the removal of a tumor from his brain, to which allusion was made in our March Number, died from inflammation that developed not long after the operation, although the first symptoms following that remarkable piece of surgery appeared favorable in almost every respect. The severe pains in the head, convulsive movements of his limbs, and the frequent vomitings were entirely suspended, and the condition of the patient was regarded more satisfactory than had been hoped. We regret the unfortunate termination of so skilful a diagnosis. The situation of the tumor as found was in the ascending frontal convolution a little below the surface, in the neighborhood of the upper third of the fissure of Rolando, the fissure that separates the anterior or frontal lobe from the parietal lobe, at the

superior margin of the hemispheres. This position was in correspondence with Dr. Bennett's opinion. The abnormal growth was the result of a blow on the head received four years ago.

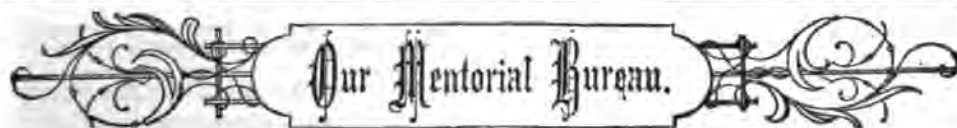
THE NEW ADMINISTRATION

THE 4th of March was an auspicious day so far as weather was concerned for the inauguration of the new President, and by this time the new administration, with its Democratic history and prestige, may be said to be fairly launched upon its way. There are some who hug to their breast vague fears of civil and social disaster as consequent upon the success of the Democratic party. Poor, feeble soul! As if this great country could be ruined by the mere success

of a political party in the selection of a President! Better were it for those of the gloomy countenance to be

"Up and doing with a heart for any fate,"

than to go about lamenting. And better for all, that we cheerfully resolve to do our best toward the promotion of national order and progress. Whatever may be private opinion as to the merits of Mr. Cleveland's success, or Mr. Blaine's defeat, if we strive to inspire a healthful, confident public sentiment we shall do much toward bringing about a better political condition than we have had. We are not of those who see ruin in any cause but the one they support; we believe in adaptation, and that undaunted spirit that turns defeat into splendid victory.



To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE CONTRIBUTIONS UNLESS THE NECESSARY POSTAGE IS PROVIDED BY THE WRITERS. IN ALL CASES, PERSONS WHO COMMUNICATE WITH US THROUGH THE POST-OFFICE SHOULD, IF

they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal matters will be considered by the Editor if this is done.

SELF-ESTEEM.—E. T. P.—You must endeavor to be more independent and self-asserting. Read the biographies of self-made, heroic men, and adopt their principles of action in your own life. As a man, count yourself worthy of respect, and, as possessing the rights of a man, it is your duty to maintain them. Do not permit yourself to be pushed out of your place in the ranks, and insist upon being heard when it comes your turn to speak. When you have an opportunity to do anything that promises to be advantageous, grasp it at once and go to work, and in the earnestness of your effort you will forget diffidence and reserve. Resolve firmly to do your best, and you will in all likelihood succeed much better than you expected. Some of our greatest men were weak and tremulous in the start of life.

HAIR ON THE LIP IN WOMEN.—*Question*: What sign of Character is hair on a woman's upper lip? J. C.

Answer: The growth of hair often seen on the upper lip of women has more reference to the temperament than to the organic develop-

ment. It indicates the possession of the Motive temperament in a strong degree, and therefore the inheritance of qualities of a masculine type. In women of dark complexion the hair shows more distinctly than in those of light hair and skin, yet the latter may be as strongly motive as the former. Such persons influenced by that temperament are usually firm and positive in assertion, show their feelings sharply, and may have high tempers. They are good workers and have more than average business capabilities.

SYMBOLICAL HEAD AND BUST.—*Question:* Are the phrenological organs of the form and relative size shown in symbolical heads and on the busts?
E. T. T.

Answer: On our new chart of the faculties the situation of the organs is shown only relatively, as on a flat surface it were quite impossible to be accurate in marking off the spaces. On the bust, however, there is an approximation to the field or space in which the organs lie in the average head. It must be understood that no two heads are to be found that are exactly alike in contour and brain structure, and differentiations of organic development produce variations of localized relations. For instance, very large Constructiveness may push Acquisitiveness well back, or Ideality higher up, or Tune further toward the frontal surface. It is the tendency of strong organs to intr trench upon the space of weak ones that may adjoin them. Thus a bust must not be used as an absolute stand-ard, but as a relative model of location.

EYES AND LANGUAGE.—W. H. B.—Some persons appear to have small eyes because they are rather overshadowed by prominent perceptive organs and large eyebrows. Again, one may not possess a good stock of words, or be anything of a linguist, yet, having an active temperament and capacity for observation, shows readiness in telling about what he sees and hears and in asking questions. We have a work treating specially of the Temperaments. Its price is \$1.50. See our catalogue.

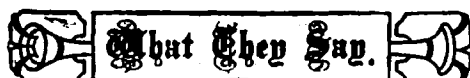
FROST-BITES, CHILBLAINS.—A. B.—The expression of this distressing disturbance of the capillaries in any part of the body depends much upon the constitution of the person. Some recover soon from them, and with but little treatment; others suffer for a long time, in spite of all attempts to cure. We know nothing better than cool applications—wet cloths especially at night. If the hands or feet are affected, a cool-water bath in the morning may promote some comfort during the day.

CIRCULATORY EFFECT, DIGESTION.—DR. C.—We are of opinion that it is the freedom of the blood-currents in circulation rather than volume of blood that exercises a calorific influence. The best methods for restoring a stomach that has

lost tone is a very moderate and skilfully adapted diet, with external applications—baths, fomentations, electricity, or massages. Drugs may excite, but are likely to render the condition worse.

STUDENTS' SET.—PHRENOLOGICAL INSTITUTE.—S. J. M.—Our offer of the series of treatises in the study of Phrenology remains as before. You can obtain it at \$10. The American Institute of Phrenology is the only place where a complete course in the study of Character-reading by external marks or signs can be obtained. A few pages further on in this Number you will find its advertisement.

SHORTHAND STUDY.—R. E.—In reply to your query as to whether we think the system of Pitman is suitable for your purpose, we would say Yes. It is very extensively used by amanuenses and reporters. Lessons are given by a competent teacher with us, who corresponds with pupils living at a distance from this city. Of the other system you mentioned we are not prepared to give an opinion, as we know very few who have practiced it successfully as yet.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

MISTAKING ADVICE.—I noticed in the pages of a prominent religious weekly an answer by the editor to a question put to him by an inquirer. The questioner desired to know what works would give him the most thorough knowledge of the mental sciences. The editor recommended the following works: Locke on the Understanding, President Noah Porter's "Human Intellect," Bain's "Mental and Moral Science," G. H. Lewes' "Problems of Life and Mind," and J. S. Mill's "Examination of Sir W. Hamilton's Philosophy."

I am sorry when I see an inquirer directed on a wrong road. How often when two roads branched off in different directions and we desired to know which to take to find a given locality we have been pointed the wrong way, and after travelling a long distance, found that we had to retrace our steps,—trudge back to the place from which we started? Our opinion of him who put us on the wrong track was not of the highest kind. So here is a mind sent to travel a tiresome road seeking for a true system of mental philosophy, when if the person had been told to read Combe's "System of Mental Philosophy," "Constitution of Man," Combe's "Moral Philosophy," Fowler's "Phrenology," or any one of the many later phrenological treatises, how satisfied his mind would have been, especially if he should verify the truth of Phrenology by an appeal to nature! But no, the questioner has to grope his weary way to find out what the Will is, what Con-

science is, about Perception and Conception, and Judgment and Memory, and on the long line of dreamy ideas conceived by men in their studies.

Combe told a truth when he said that "many generations must die before one shall arise that will practice Phrenology in its every-day life." Let us hope that the day is not far distant when the editors of progressive papers, teachers in public schools, and ministers of the Gospel will direct readers and hearers to study the true philosophy of mind discovered by Joseph Francis Gall, of Germany. W. B. F.

INDEPENDENT OPINION OF OUR WORK.—Among the host of congratulatory letters received after the issue of the January Number of THE PHRENOLOGICAL JOURNAL were these:

"BLUE POINT, L. I., Jan. 10, 1885.

"TO THE FOWLER & WELLS CO.:

"THE PHRENOLOGICAL JOURNAL has just reached me, and I hasten to congratulate you on the happy success of your fifty years of labor. You have survived abuse and ridicule, and lived to see Phrenology the accepted theory in science and literature. More than this, you have conquered a commanding position in the wholesome morals of the people, and may well say, as the poet said of Goldsmith,

'Not one impure—not one licentious thought,
Not one word living—which, dying, he could wish to blot'

has ever been found in your instructive and interesting pages.

"Wishing you all continued success and years of growing usefulness, I am,

"Cordially yours,

"ELIZABETH OAKES SMITH."

"BRIDGEPORT, CT., Feb. 3, 1885.

"DEAR EDITOR—In reading the January Number of THE PHRENOLOGICAL JOURNAL I was again impressed with the importance of the work you are all engaged in. A thoughtful consideration of the ideas discussed in your JOURNAL will give a person not only a knowledge of himself, but it kindles the desire for improvement of self in every direction, which in time must bring some precious fruit to perfection. The knowledge obtained also tends to promote charity toward mankind, which is like the sunlight to a strong character—warming and softening it in its every expression. We need such folks in the world for leaven. We as a people, I fear, have grown more cunning than kind. God speed you in your efforts to help man.

"Yours truly,

"KATR WESTON."

The *Christian Register*, of Boston, concludes a descriptive notice of the January Number in this language:

"The work which the house of Fowler & Wells has done for the development of the system of mental science it has advocated furnishes no adequate test of the value of the service it has rendered. Through its lecturers, THE PHRENOLOGICAL JOURNAL, and its numerous publications, it has done much to extend the knowledge of physiology and hygiene. Its influence has been given to the advancement of social and moral reforms. It has advocated a wider field of industry for women—has made many contributions to the cause of education. Those men and women who have studied the personal counsel of its examiners have received valuable lessons in the art of living, have learned better to express their own nature,—in short, have been enabled the better to make the most of themselves from the practical and helpful advice they have received. We know of no publishing house in America which has had a more honorable history and which is entitled to take more satisfaction in contemplating it."

PERSONAL.

PORTER C. BLISS, who died at St. Luke's Hospital in February, had a varied career, and was an able writer and contributor to the daily papers. We knew him as a quiet, assiduous student, a remarkable man in his way, full of books and odd personal knowledge. He had been an editor in South America, and knew the political complexion of those countries as well as any writer living. He had studied European politics too, and his guesses at the future of distant lands were very often justified by the event. He wrote biographies by the hundred; he had information on all manner of subjects; and at the foot of many articles in Johnson's "Encyclopaedia" will be found the initials "P. C. B."

MISS EMMA LARSON, of Wisconsin, and a younger sister, riding on horseback, have made the journey alone to San Francisco and back. They were unmolested during the entire journey, and met with no accident. They rode in all over five thousand miles. Who says women can not travel alone in this country and safely?

STEPHEN WHITLOCK, aged eighteen years, of Lyons, N. Y., "after eating a quart of peanuts, two quarts of cherries, pits and all, and drinking several glasses of ice water, died in great agony." The cause of his death is unknown, but heart disease is suspected!—*Exchanges*. Doubtless, and we might add, atrophy of the intellectual lobes.

VICE-PRESIDENT HENDRICKS is unaffected, courteous, and a fine talker. The second Governor of Indiana was his uncle, his father was a member of the State Legislature, and one of his grandparents was a Professor of Law at Gettysburg College,

Pennsylvania. Mrs. Hendricks was a Miss Morgan. She is a handsome brunette, of pleasing manners, and fond of entertaining.

THE widow of President Tyler still lives and is at present at her old home in Virginia. She is in excellent health, though of course much advanced in years.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

IF every year we rooted out one vice we should soon become perfect men.

TO envy anybody is to confess ourselves his inferior.—MLLE. DE LESPINASSE.

HOPE is like the cork to the net, which keeps the soul from sinking in despair.—BISHOP WATSON.

BE noble; and the nobleness that lies in other men sleeping, but never dead, will rise to meet thine own.—LOWELL.

HE who loveth me and keepeth my word shall be loved of my Father; and we will come unto him and make our abode with him.—CHRIST.

MEET difficulties with unflinching perseverance, and they will disappear at last; though you should fall in the struggle, you will be honored; but shrink from the task, you will be despised.

FLOWERS so strictly belong to youth that we adult men come to feel that their beautiful generation concerns not us. We have had our day, now let the children have theirs.—EMERSON.

OH, Faith! if thou art strong, thine opposite is mighty also; and the dull fool's sneer Hath oftentimes shot chill palsy through the arm Just lifted to achieve its crowning deed, And made the firm-based heart, that would have quailed

The rack or faggot, shudder like a leaf
Wrinkled with frost and loose upon its stem.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

NEVER eat soup that has a dead fly in it. Soup that will kill a fly can not be safe.

NEW SERVANT.—"Oh, if you haven't any children I can't come, because whenever anything is broken there will be no one to blame it on but me."

MRS. PARVENU would not allow her children to go to Mrs. Learned's children's party because she

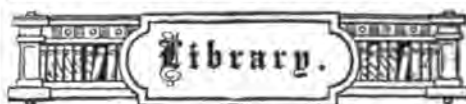
was told Mr. Learned was afflicted with the bibliomania, and she didn't want her girls to catch it.

"I BELIEVE," said the doctor, "that whisky hardens the brain." "No doubt of it," acquiesced his associate. "How do you know?" "Oh, I've often noticed that when you get full your eyes have a stony stare."

"So you've been practicing at the rink, eh?" said a friend to Simpkins. "Yes." "Well, how do you take to the rollers?" "Oh, I have no objection to the rollers; they're all right. It's the chalk on the floor I object to; it's so hard to brush off."

"HUBBY, did you mail my letter?" "Yes, my dear. Had to run like fury to catch the first mail." "Why, here it is in your pocket now." "Hey? Um—a—yes, so it is—no, this isn't your letter; that is—that is, this isn't the one you wrote; this is the one you were going to write and forgot—" "John Henry!" "No, Mary, I didn't mail your letter." "Well, I'm awfully glad. I want to add a postscript."

PASS the butter gently, Mabel,
Shove it lightly through the air,
In the corner of the dish, love,
You will find a nut-brown hair.
What fond mem'ries it awakens
Of the days ere we were wed,
When upon my fine coat collar
Oft was laid your little head.
Lovingly I stroked those tresses
In the happy days gone by,
Now I strike them at a meal-time
In the butter or the pie.



In this department we give short reviews of such NEW BOOKS as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

GENERAL REGISTER OF THE U. S. NAVY AND MARINE CORPS, arranged in Alphabetical Order for a Hundred Years, 1782-1882.

This compilation is edited and published by Thos. S. H. Hamersly, of Washington. It, as indicated by the title, contains the names of all officers of the Navy commissioned, warranted, and appointed, including volunteer officers who have entered the service since the establishment of the Navy Department of 1798, showing the dates of their original entry, of their progressive rank, and in what manner they

left the service if not in it now. There is also a sketch of the Navy from 1775 to 1798, and a list of all midshipmen and cadet engineers at the Naval Academy since its establishment. This Register has been made up from the original manuscript records from the Navy Department, and can therefore be relied upon for accuracy. An appendix furnishes a list of the vessels of war of the Navy, covering the period from 1797 to 1881. This list shows the size of the vessels, their armament, their origin, and final disposition, if no longer in the possession of the Government.

A NAVAL ENCYCLOPEDIA. Comprising a Dictionary of Nautical Words and Phrases, Biographical Notices, and Records of Naval Officers. F. R. Hamersly & Co., publishers, Philadelphia.

We have cyclopedias and cyclopedias that relate to history, biography, art, science, literature, and so on, each department having its special representatives in volumes more or less bulky; but until now we have not been furnished with one that has a special relation to our country's naval history and affairs. The work is something more than a mere list of names and terms, for it contains several articles on naval science and art written by officers and others of recognized authority in their respective branches, and contains also descriptions of the principal naval stations and seaports of the world.

There are some people who write books on topics relating to the sea, and their stories often contain allusions to ocean life that are far-fetched and inconsistent with strict accuracy. Now, an author and reader will be enabled by the use of a book of this kind to write and read clearly, understandingly.

The compiler says with pleasant appositeness, "The sea is, so to speak, a world in itself; it has its own vegetable and animal life and its own natural laws; while on its surface floats a multitude of vessels which serve either as the outlying defences of the nations which border upon it, or as the carriers of the commodities which they find a profit in exchanging. This world of men and things so peculiar and distinct necessarily has a peculiar language, peculiar customs, and peculiar belongings. It is, moreover, a progressive world, and the arts and sciences that have relation to it are moving and developing *pari passu* (with even pace) with those that relate solely to the terrene portion of the globe."

This is the author's ground for his preparation of the work, and a brief skimming of its pages will convince any one that it is a valuable contribution to one's library.

A COMPLETE REGULAR ARMY REGISTER of the U. S. for a Hundred Years, 1779-1879. Compiled, edited, and published by Thomas H. S. Hamersly, of Washington, D. C. 8vo. Price \$12.00.

This voluminous work contains the result of several years' investigation in the military records of Government. The record of every officer who

served in the regular army any time during the past hundred years is given, as indicated in the original record on file in the War Department. It includes volunteer general officers during the war with Mexico, and a register of all army officers in the volunteer service during the Rebellion, with the official military record of each. It contains also a military history of the Department of War and of each station department of the army, besides numerous tables and important military information.

The motive that influenced the editor has been the production of a volume that would be useful to the public interested in army matters, and especially to military men. He has been assisted by leading general officers and others, so as to make the work as complete in all its parts as possible. A list of Cadets, alphabetically arranged, with the dates of admission into the Military Academy, is supplied. There is also a chronological summary of engagements and battles fought by the armies of the U. S., which covers upward of twenty-seven pages in itself, and appears to give our people some character as wielders of the sword and gun. How officers are paid is also indicated. A sketch of the War Department details its organization, and the general character of its administration.

PUBLICATIONS RECEIVED.

THE FOREIGN ECLECTIC MAGAZINE, of Selections from European Literature, in the French and German languages. Published by the Foreign Eclectic Co., Philadelphia.

In this Monthly we think that the public, especially our young folks who are studying the French and German languages, find excellent opportunity for practice. The selections are of a good character, and will contribute to intellectual growth in the right direction. Subscription to both parts, French and English, \$4.00.

NORTH CAROLINA UNIVERSITY MAGAZINE. Published under the auspices of the Dialectic and Philanthropic Societies. We are pleased to note this well-conducted College Monthly. In our University days we had some pleasant relations with the fellows of Chapel Hill, and the magazine brings them to mind.

SPIRITUAL SPECIFICS, Mind in Medicine, embracing two sermons preached in the West Church, Boston, Mass., by Rev. Cyrus A. Bartol, and published by M. L. Holbrook. The motive of these discourses is a wish on the part of their author to emphasize the connection between mind and body, in sickness or health. Physicians fall often to call the attention of patients and their friends to the moral or immoral courses of disease. "Persuade those who consult us how far their disorder lies in apprehension or imagination, and their recovery will already have begun." The mental cure is growing in popular notice; the great majority of the sick are so, because of a disturbed, unbalanced

mind, and did physicians understand better the constitution of that important entity, their success would be multiplied and manifold.

THE NEW YORK OBSERVER, weekly, continues on its old course, a substantial, practical weekly; the administration having been under the same editor from the beginning, has sustained little or no change for many years. It is one of the few American religious publications whose policy can be relied upon.

THE STORY HOUR, for Children and others. By Susan H. Wickson, author of "Apples of Gold," with nearly one hundred illustrations. Small quarto. Price, \$1.25. Truth-Seeker Co., N. Y. A variety of short stories suitable for children.

SUBJECT CATALOGUE of the Memorial Library of the International Electrical Exhibition, held under the auspices of the Franklin Institute, Sept. to Oct., 1884. In response to a circular letter, framed by a committee appointed for the purpose, donations in books relating to Electricity were sent to Philadelphia, and very promptly too must have been the responses to the application of the committee, for now we have a classified list which covers over one hundred pages, showing itself that the literature of Electricity has grown enormously during the few years of research into that problem of nature. The catalogue was compiled by E. Hildebrande, Librarian of the Institute, Philadelphia.

CALVERT'S MECHANICS' ALMANAC, and Workshop Companion, for 1885, containing practical, technical, industrial information, especially instructive and entertaining to artisans and handicraftsmen, with illustrated diagrams. John Haywood, London, etc., publisher.

LE PROGRÈS MÉDICAL. A French weekly Journal of Medicine, Surgery, and Pharmacy, Dr. Bourneville, editor, is received promptly. It is a valuable repertory of interesting observations in medical and surgical treatment, private and hospital practice. Its editor and his assistants are men of high capability in their respective departments.

THE KANSAS CITY REVIEW OF SCIENCE AND INDUSTRY makes its monthly visit to our office. It contains interesting articles on special topics, science, and mechanism, and usually a review of scientific progress.

THE CENTURY, for March, is an elaborate number, dealing with subjects that command attention to-day. The Land of the False Prophet, describes the Soudan and the operations of the Mahdi in behalf of Arab independence. A stirring account of the first fight of Iron-clads in our late war will obtain a wide reading. The excellent service rendered by Captain Ericsson's little craft, the *Monitor*, will not be forgotten, and will take a good place in our national history. The policy of the Century Co., in bringing out papers on important events in

the war for Union, prepared by Union and Confederate writers who were conspicuous as military leaders, is a bright stroke, and will help the circulation of the magazine.

APPLETON'S NATIONAL RAILWAY AND STEAM NAVIGATION GUIDE, G. T. Thomas, editor, is replete with information valuable to the tourist or traveller; the index of railway stations in the United States and Canada, with population, is a very convenient addition to the railway list. Price, 25 cents.

THE MEDICAL ADVOCATE, which combines the *Electric Medical Advocate* and the *Medical Tribune*, monthly, discusses subjects surgical, pathological, physiological, etc., from the point of view chiefly of eclecticism, but also from other sides, and is progressive.

THE HOMILETIC REVIEW in the latest No. received, maintains the vigor, freshness, and variety with which it started at the beginning of the year. Our most distinguished divines are represented in its pages. Funk & Wagnalls, New York.

PACKARD'S SHORTHAND REPORTER AND AMATEUR is a natural outcome of the flourishing school that Mr. Packard has conducted for so many years, and wherein the teaching of shorthand-writing is one of the ancillary features. If sustained in the style of the three Numbers issued, it must take rank very soon with the best stenographic periodicals. \$2.00 a year. S. S. Packard, New York.

PROHIBITION AND COMMON SENSE. By John Bascom, D.D., LL.D., President of Wisconsin State University. A practical little essay. Price, 10 cents. J. N. Stearns, Agent, New York.

Ogilvie's POPULAR READING, No. 15, contains several much-read novels. Price, 30 cents. J. S. Ogilvie & Co., New York.

LIPPINCOTT'S MAGAZINE depends upon the high quality of its reading-matter for public approval, and borrows no help from the artist and engraver. Late Numbers are as attractive as neat typography can make them. The March No. gives a realistic picture of the semi-barbarous condition of the northern provinces of Mexico. The New Orleans Exposition and Babylonian Exploration are the subjects of other notable papers, while a variety of good entertainment is afforded by the well-written stories and sketches.

RICH THINGS in Birthday Cards are issued to-day, but one of the happiest and most elegant of designs is "Birthday Flowers," just published by White, Stokes & Allen, of New York. It contains several charming clusters, besides the elaborate covers, of pansies and roses, violets, eglantine, forget-me-nots, clover, etc., and several appropriate poems by prominent authors—arranged by Susie B. Skelding, who has shown equal taste in producing other like collections. Price, \$1.50.

AMERICAN INSTITUTE OF PHRENOLOGY.

*Institute Extra.**

Devoted to the Interests of the American Institute of Phrenology.

No. 14.]

MARCH.

[1885.

THE origin of this organized mode of disseminating the theory and practice of Phrenological science was a natural product of circumstances. For thirty years classes in Phrenology had been taught, and not a few persons had gone from such instruction to promulgate the science successfully; others had taken a lesson or two, in order that they might have it to say they had received instruction, and thus obtain a passport to the confidence of the public; some were travelling and lecturing on Phrenology, whose work, for lack of proper instruction, was not a credit to the subject, or to those who were able to do it justice. The leading friends of Phrenology, deprecating the lack of knowledge on the part of some who were lecturing, resolved to establish a Normal Institute, so that the public could be supplied with lecturers and examiners who had enjoyed opportunities for thorough tuition in the principles and practice of Phrenological science; accordingly, an act incorporating the AMERICAN INSTITUTE OF PHRENOLOGY was passed by the Legislature of the State of New York, April 20, 1866, with the right to hold real estate to the amount of one hundred thousand dollars; to collect and keep for public exhibition a museum of busts, casts, skulls, and portraits illustrating Phrenology and Physiology; to instruct pupils, grant diplomas, etc.

EDWARD P. FOWLER, M.D., *President.*

NELSON SIZER, *Vice-President.*

HENRY S. DRAYTON, A.M., *Secretary.*

By action of the Board of Trustees, the FOWLER & WELLS COMPANY has been appointed financial and business agent. All communications should be addressed

FOWLER & WELLS CO., 753 BROADWAY, NEW YORK.

CLOSING EXERCISES OF THE SESSION OF 1884.

OPENING REMARKS BY NELSON SIZER, VICE-PRESIDENT.

STUDENTS OF THE CLASS OF '84: We have finally reached the goal, and the day of separation has come. Our order of procedure to-day will be that such of the instructors as are present will speak, then the diplomas will be delivered, after which the students who have been chosen by the class for that purpose will address us. We invite Mrs. Wells to speak first.

MRS. WELLS' ADDRESS.

Six weeks ago to-day we met for the first time as a class, as students and teachers. We were

then all strangers, you as students were strangers to each other, and also to your teachers. Those six weeks have passed, but their influences will never die. What you have learned of human nature in that time will affect your whole future life, and not yours only, but all with whom you come in contact.

If a pebble be dropped in the ocean, it will cause an agitation of the waters immediately surrounding, and the waves thus caused will affect other waves until the shore is reached.

So your influence will act, forever extending itself. Think of that, and let every influential word be fitly spoken—realize that although apparently but a unit in creation, man is the crowning work of the Creator, and the study of mind

* [E] Terms of Tuition reduced for 1885. See page 280. [E]

surpasses all other studies. We may be elevated by that study, and at the same time be more truly humble, in view of the fact that our area of duty and responsibility is enlarged, while we are still far from perfect in the example we set.

If any one ought to be perfect it is the disciple of Phrenology, for he ought to understand himself and his own failings, and thus be able to rectify his errors, and make allowance for other people's imperfections.

Look for phrenological facts and evidences, and their application to the benefit of mankind, and let every such fact impress itself on the mind for future uses.

Your teachers have aimed to give you all the instruction they could in the limited time they had, but six weeks is not sufficient time to learn all there is to be learned of this subject. We who have been students of Phrenology for more than half a century, are still learning from every new phase of character that presents itself, and so will you if you keep yourselves in a receptive frame of mind, with a teachable spirit. You have learned the alphabet, but there is still a world full of knowledge to be gained before all will be learned. Look upward for help, and persevere with a thankful spirit for every opportunity to do good and advance in knowledge.

We have become habituated to seeing your bright, earnest faces before us daily, and now that the time has arrived for us to separate, we shall miss you, but shall never forget the pleasant interviews every day has permitted during the time we have been together. Let us often hear from you, that the interest now felt by us may be strengthened and perpetuated, for we can mutually benefit each other, as well as the *Science of Man* which is best studied by the aid of Phrenology.

ADDRESS BY MR. DRAYTON.

LADIES AND GENTLEMEN, Members of the class of the Institute: On such an occasion as this, I have before said that there was a sense of regret that somewhat oppressed me; a regret which arose from the fact that although we had been associating together for six weeks, it seemed to me as if we were just beginning to know each other, that we had reached an even plane, where what I said you understood clearly, and what you said in the way of question or remark seemed to excite a spirit of further inquiry, open up fresh fields of thought, of mutual interest, and so developed a better relation. My regret is that we can not associate together for a while longer, and reap benefit from this good understanding.

Some of you came here with an idea perhaps that this course of lectures was somewhat special and narrow; that within six weeks we could traverse the field which the Institute of Phre-

nology was supposed to represent; but I think by this time, the most of you have arrived at the conclusion that we have far from covered the whole ground.

The world is full of disappointments. Phrenology has its disappointments. I have heard persons say that they were disappointed in witnessing the Falls of Niagara; that they went there with certain expectations that were not realized. The Falls were not high enough, not broad enough, not noisy enough. They did not understand the Falls of Niagara. Some one has said that it takes a *man* to understand the Falls of Niagara; and there are few competent to grasp the full meaning of that wonderful cataract. Is it presumptuous on my part to compare the Falls of Niagara with Phrenology?

The plummet may sound the depths of Niagara; but where is the plummet that will sound the depths of Mind? And not only are there depths that can not be sounded by the plummet in mind, there is no vision that can reach the farther extent of the mighty ocean of mind. So it is not presumptuous to compare this subject of ours with a great wonder of nature. Rather it would be presumptuous for one to compare the wonder of nature with the wonder of human nature, the grandest wonder of human being. This is the subject which you came to study with us; and we hope as instructors, we have accomplished something in the way of disclosing to you certain fields that have not been touched upon by other observers. Scientific men are constantly at work delving in the bosom of nature. Metaphysicians are constantly thinking out new systems; endeavoring, if possible, to comprehend new principles in the laws of thought, or, if possible, explain old principles upon better bases. We have to do with the physical basis of metaphysics; we endeavor to explore the instrument of thought, and to show you how intimately related this thinking principle is with the physical of nature. We have shown one thing very clearly and very emphatically, as I think you will all agree, that our minds are many-sided, and so are our bodies also many-sided; and the interblending of body and mind therefore gives wonderful scope to the investigator with regard to studying the laws of feeling and thought.

You need not feel at all discouraged, ladies and gentlemen, in taking up this subject. Those of you who intend to pursue it as a vocation need not fear that you will not accomplish something for the benefit of your fellows. If you have learned anything from Phrenology, it is that life is worth living. There are philosophers who have great intellectual endowments and high culture who spend a great deal of time in melancholy reflections upon life, that it is not

worth living. They say there is so much of disappointment and misfortune, and so many stumbling-blocks in the way of progress and development, that, after all, this little span of seventy, eighty, or ninety years is hardly worth consideration. Now think of it! A man of high culture putting before the world for the study and reflection of educated minds such an idea! I claim that if Phrenology teaches anything, it is the great utility of life; and by emphasizing that principle and showing its relations, I claim that you can do a great deal of good. When you meet with the disappointed and dejected, with the assistance that you have derived from the study of Phrenology you can show them how they may view life from new and cheerful points of view; how even in an humble sphere, they may contribute to the happiness of others; and you will thus do a grand work. There is no greater work. When Horace Mann ventured that oft-quoted sentiment, "Phrenology is the handmaid of Christianity," he told a simple truth.

There is encouragement in another reflection that occurs to me—it is that we are apparently entering upon another era; that there is dawning before us a new day. The last fifty or sixty years civilization has been blessed with physical triumphs; in art and science wonders have been done; and, as we review them, we find that they relate chiefly to the material world, while the world of morals has been comparatively untouched; and yet all these triumphs have great relations to morality. Here is your domain as phrenologists—the domain of morality. You ought to appreciate these triumphs physically; and when you trace their relation to the higher and nobler in human nature, what a sphere of activity opens before you!

I think it was only last Sunday morning an eminent clergyman spoke of the mixed state of society with regard to morals; that the disregard of the moral side of things had led to a reduction in the tone of the public mind. We read the papers from day to day and find ample proof of this. Let your work be a leaven that shall elevate and ennoble society. Let each of you be an element of good. Remember that you have the truth in your hands; keep fast hold upon it. Do not be dismayed. Let no obstacles appall you; go right forward. Let each one be the little one that will chase a thousand of the elements or representa lives of vice and irregularity, crookedness and wrong away. Although truth may be in this world "forever on the scaffold," to use a sentiment of Lowell, yet she is forever professing a doctrine, a principle that is undying. No, wrong may be "on the throne," yet truth is stronger because sustained by the power behind—the Divine One; the Author of truth.

[The Secretary here read letters from eminent persons unable to be present.]

ADDRESS BY DR. EDWARD P. THWING.

As we welcomed your coming, so we bid you God-speed in parting. You are about to return to your vocations as teachers and preachers and to other of the manifold industries of life. You have gained while with us, I trust, some new inspiration by the attrition of mind with mind. You have gained also some new ideas while here—new increments of knowledge; but remember, first, that your power to do lies in what you are, and not in what you have. We have furnished you with some new implements of service and tried to burnish up the old ones; but this work is partial, compared with the greater work—the development of character.

Behind the hand of the craftsman is his brain; behind the manuscript is the man. Man is more than his creation. Your individual, moral personality is the chief part of all intelligent culture; this gives momentum to effort, power and piquancy to speech. His words alone are like thunder, whose life is lightning. What Thucydides said of Pericles may be said of each one of you in your measure or sphere, "It was character that gave power to his wisdom."

Second, be hospitable to all truth. Do not be afraid of new ideas. Do not throw away old ones simply because they are old. Keep your windows open toward the sunrise and the West, as well as South and North. Above all, like Rembrandt's studio, let your laboratory, your school, your closet, have a window toward the stars. Set your minds on things above; seek those things that are there. As the golden mile-stone of Rome was at once the beginning and ending of all the roads of the Empire, let the Golden City be the source of your light and inspiration and the goal of your final success.

Third, realize the gravity of human existence. Life is perhaps the most sublime syllable spoken of by human lips. Life! What is it? Not length of years, not business, not industry, not wealth, and not wisdom even. It is love, trust, and hope; it is high and holy ambition. Life is a casket; but, as Landor says, it is valuable only for what is put into it, and you can draw out of life only so much as you put into life. Life is yourself—not the years measured on the calendar. Put into life, then, your whole soul to be immortal. A man who has such a life knows no failure. Opposition is impulse. Just as the Music Hall at Athens was built of captured ships at Marathon—just as the bells along the Rhine that

ring their sweet call to prayer in many a German hamlet were once the dogs of war that the French used as their cannon; so in every human life opposition may be made an impulse and failure itself a prophecy of splendid success.

Lastly, be misers of minutes. The blacksmith Burritt learning eighteen languages and twenty-two dialects, mostly at the forge; Hugh Miller, a stone-mason, while at his trade, not only reading and writing, but making himself master of a language most facile and brilliant; Dr. Mason Good putting the Latin of Lucretius into English; the German physician who committed the Iliad of Homer while going around among the sick; Dr. Rush, John Locke, and the great philosopher, Sir Matthew Hale, gleaning every hour fresh materials to enlarge their resources, are illustrations of intellectual misers. Life is not a burden, but a boon. "It is," as Dr. Drayton just now said, "worth living"; though that depends on the *liter* largely—

"Think truly, and thy thought
Shall the world's famine feed;
Speak truly, and each word
Shall be a fruitful seed;
Live truly, and thy life
Shall be a grand and noble creed."

MR. SIZER'S ADDRESS.

After having talked to you, my friends, nearly a hundred hours, during this course of instruction, I have seemed to prove to myself that work is strength, for I have gained three pounds in weight during the last six weeks though pressed with work over-much.

In any other work a man would break down, but when I look out into the field of our inquiry, and along the line of our endeavor, when I consider the normal hunger for truth which we have, and such manna as we have been able to find on the way, I feel strengthened and sustained, and that our cause is glorious; that our reward in great part consists in *doing the work*. When I think of what is the subject of our study, namely, Man, the grandest thought that can possess man, I feel that the "harvest indeed is great." But when I consider how few there are who live and labor for man, it really appears that "the laborers are few." Thousands of men, millions of them all over the belted earth, are seeking good, are seeking knowledge, are hungering after truth according to their varied ways of working toward success and happiness; but how few there are who are pursuing a line of thought calculated to learn all that may be learned of the greatest fact in the universe that we know anything about—
MAN.

We read that God made man in His own image,

"in His own likeness created He him"; and therefore He is our Father; and he who would know his Father, should learn all he may learn of himself. The more we learn then of ourselves, of our constitution physical and mental, the more we seek to solve the problem of our being, and learn its inter-play of fact and faculty, the more nearly do we approach the "God-over-all, blessed forever."

Since man began to think, the greatest minds have spent their strength upon mind; and yet we say it, both with shame and with pride, that until Gall's day, the world sought for mental truth like a blind man, or like a man without a light, in darkness. Until the brain was studied, which is the centre of human existence, the source out of which all impulse comes, the foundation of all acted thought; until the nature and special offices of the brain were discovered by Dr. Gall, men were hunting in the dark for truth in regard to mind. Thus the best part of man was hidden. Men could study the limbs, they could study anatomy, they could study the laws of physiology to a certain extent, for that science is but a few years old really; but when they came to the brain, it was a land not of promise, but a land unknown. It was said that the physiologists and anatomists studied man as high up as his eyes, and then stopped; and even to-day they take the brain and slice it, as a cook slices a cabbage or a cheese; they do not in any of our medical colleges unravel and unfold it.

Dr. Gall taught the world this, but the anatomical world was so stupid that it did not learn to repeat his process, and to-day we are practically in the dark in regard to his method of demonstrating the brain. No man now living follows his method of brain dissection. This little bust, with the faculties mapped out and grouped, under the hands of a phrenologist, enable us to study mind, and learn of character more than all the ages in the past have been able to do.

The metaphysicians have not decided yet, have not come to an agreement that there is such a faculty as Conscientiousness. To a period up to within thirty years, the most popular text-book on Mental Science in the colleges, did not teach the doctrine of a moral sense on any such basis as would lead you to suppose it was a special faculty. It was taught according to Paley, that "men do right through fear of God, and for the sake of everlasting happiness," which is only selfishness in a modified form; whereas, on the other hand, Phrenology teaches that Conscience is an innate element of human character, as much as sight and hearing, as much as digestion is an innate bodily function. Conscience is a part of every well-organized

human being; and it is his nature to seek the truth, and to dread error; for a man must be very far gone in depravity who ceases to be ashamed and afraid of misdoing; showing that Conscience is as much a part of a man's nature as is his spine; and when the world can get all the mental powers well established, and can understand human faculty as well as we think phrenologists do, then a method of education may be predicated, which shall be normal, not artificial. You take the next hundred men that pass in the busy streets of New York, who know how to conduct affairs, and to work their muscles skillfully, and stand well in society, ask them to tell anything about human faculty, and how short will be their story. Men carry in their cranium, coiled up, faculties and factors that make the world amoke, and yet they are like a cargo of dynamite and matches, liable at any time to explode, and few seem to know which is dynamite and which is matches.

I tell you, my friends, the world knows very little about mind; it knows a little about everything else more than it knows about mind. I can find you men who know all about the honey-bee; Prof. Agassiz knew all about fishes. Being shown a petrified scale, he made a drawing of the fish that wore it; the fish unknown to science, but not unknown to nature; and when at length the petrified fish was found complete, his drawing from a single scale varied very little from the specimen in nature.

There are men who are called scientific, and are honored for their science, who understand all about entomology and the various other natural sciences which may or may not minister to the human soul. I venture to say that scientists know ten times more to-day about the bees and ants and the parasites that infest plants and the bodies of animals, than they do about the *genus homo* itself. Now I propose that we turn over a new leaf; that we study man first, and his surroundings when we can. Study the brain, and you have the centre of the citadel; study human life as it comes out through the brain in all the work of intellect, of emotion, of hope and fear, of taste, ambition, and affection, and you have the central subject, the subject worthy of your highest thought.

But you are going out into the world as teachers; remember that every mother whom you instruct in regard to the proper development and training of her little curly-headed boy or blue-eyed girl, or the black-eyed little minx that will need as much training as a dozen blue-eyed ones, you have done a work for her, for her children and the world that will last forever.

When we think of how much a rightly trained human being can do through his or her generation, and how like the flowing river toward the

ocean its power shall grow wider as time wears on and generations well-trained shall multiply, we may appreciate the magnitude and the worth of our work. He who makes a hat does a good thing, but it does not last forever; he who makes a shoe to save a man's foot from the cutting stones, serves a purpose for six months or more; he that clothes the body with garments, does a service for the body; but he that starts a new and right idea in the human soul, as to how it shall be nourished and fostered, how it shall culminate in controlling his life, has started a factor in God's work that shall last till the ages shall cease. That is your kind of work. It is not to clothe human bodies, it is to teach human souls how to act, and how to live, and how to augment their being, and glorify their Father who is in Heaven.

The subject is large enough to tempt a man to talk all day; and the only way to get through is to stop. We have a pleasant little duty to perform, the presentation of the diplomas, which shall now be done; after which the students selected by the class to speak will be heard.

In the delivery of the diplomas a pertinent little speech was made to each student suited to his nationality, section of country, previous pursuit and attainment, always personal, and often tender and touching.

SPEECHES BY THE STUDENTS.

MR. GEORGE MORRIS.

WORTHY INSTRUCTORS AND FELLOW-STUDENTS: We have many reasons for being happy in these closing exercises. Our teachers know that their labors have not been in vain; thousands of men and women have testified, by word and by letter, that a Phrenological examination and chart, a public lecture, or the reading of some of Fowler & Wells' publications, has enabled them to live more in accordance with the laws of their being.

My classmates, for the past six weeks we have been at the Fountain-head of Phrenological Science. On going forth from this Institute it will not be boasting for us to say, we have been with the Masters of Practical Mental Philosophy, and learned of them. The well-deserved fame of our teachers has gone before us. Yes, before any pupil in this class was born, they prepared the world to receive the light of this science, and ever since have been constantly sending forth showers of scientific and interesting facts, so that the germs have not died, but are bearing abundant fruit. They have sowed the good seed, and taught us how to reap the harvest.

Our diplomas will be recognized, and the well-known signatures they bear respected, wherever the English language is spoken.

Phrenology has done much for me,—morally, mentally, socially, physically, and financially. It gave me the first introduction that I ever had to myself. I was by nature made to be a practical phrenologist, but my parents did not know it, and when the first phrenologist I met told me so, I could hardly believe him. "Yes," he said; "so sure as you start, so sure you will be successful." I took courage, bought some books from him, and began studying, although my friends thought I was wasting both time and money; but they changed their minds years ago. I had the misfortune to travel and lecture before coming to this school. That time was not very pleasantly or profitably spent. The people appreciated my work, and paid me for it according to its quality.

In the summer of 1878, I was lecturing in the mining towns on the shore of Lake Superior. From there I started for New York City, and arrived here four days before the class for that year met. Before giving my name or business to any one in the city, I went direct to the Phrenological Rooms for examination. Professor Sizer measured my head with a tape, and my body with his practiced eye, then gave me a fifteen-minutes' lecture on the nature of my physical and mental weaknesses, and told me how to overcome them. He said: "With proper culture of body, as well as brain, you can be a good teacher, lecturer, phrenologist, or physician."

When I gave him my name, he added: "I need not have told you all that." I took my chart, and at once paid my tuition fee. The following six weeks were the happiest of my life up to that time.

At the close of the lectures my head was full of scientific facts, and my trunk overflowing with phrenological specimens. I stayed four weeks after all the other students had left—to sort over, straighten out, and condense my mental acquisitions—then started for the West, and was agreeably surprised by the large and intelligent audiences that greeted me in almost every town I visited. The fact of my having a diploma from this Institute, at once raised me fifty per cent. in the estimation of the best people of every place where I lectured.

Six years ago I told our teachers and the class that to teach Phrenology was my highest ambition; since then I have lectured twelve hundred times, and had more real pleasure than in all my life before. This long day of prosperity seems almost too good to be reality; it has grown clearer and brighter every hour; the last six weeks especially, that cover my second course, have been a continual mental feast for me.

The best minds of Europe and America have been working for hundreds of years, and through difficulties which we shall never be able fully to appreciate. The results of their labors centre here, and are dealt out to us without measure by teachers whose only regret is that we can not carry away more. With the names of Gall, Spurzheim, Combe, Caldwell, and the Faculty of this Institute as authority, and the laws of God revealed in the human organism as our theme, we can make the world better for our having lived in it.

My dear friends, as long as memory lasts, I shall look back with pleasure to the happy hours we have spent here together; and every year I shall look for your names in the "Field Notes" of the *Institute Extra*.

To our respected teachers I tender my warmest thanks, and may the blessing of the Great Teacher of all, rest upon you forever.

ADDRESS BY FLORA MACRAE.

DEAR PROFESSORS, CLASSMATES, AND FRIENDS: I wish to call your attention to the relation which, in my opinion, Phrenology bears to Physiology. I do not propose to enter upon minute details of either for obvious reasons.

Years ago it was my wish to attend the course of instruction at the American Institute of Phrenology, but stumbling-blocks were placed in my way, and I made up my mind that if my way was to be long, it would be all the more sure; and working in that spirit, apparent obstacles have become advantages and stepping-stones to success.

I began Anatomy about four years ago, and with a little maneuvering, managed to obtain a neck and head for my first dissection; and for a whole month I studied nothing but brain, in the hope that when I attended physiological lectures on brain function, I would not be annoyed and hindered by my own ignorance of the various parts. I learned that the brain is divided into cerebrum and cerebellum, these subdivided (the former first into hemispheres) into lobes, containing their several convolutions, gyri, folia, and sulci. I leave out of consideration the basal ganglia, as their positions secure them from immediate experiment.

Then came the Physiology for which I was so impatient. I was taught that irritation of a certain centre (about where we locate Veneration), induced "extension forward of the opposite arm and hand" and of another centre (for instance, where we locate Firmness), "complex movements of the thigh, leg, and foot, with adapted movements of the trunk, as when one scratches the chest," etc.

That was all! Those were the functions of the brain! The operations of the organ of the mind! I made inquiry. Our lecturer had given us the "result" of Dr. Ferrier's investigations. I procured and read all I could of Ferrier's, and with great satisfaction; for I found that he described the functions of the brain as twofold—physiological and psychological. Especially professing himself to teach the former, he frequently alludes to the latter in a way which, in my opinion, at least, is not at all antagonistic to Phrenology.

For instance, to use his own language, he says: "We have the power of concentrating our attention on one idea, or class of ideas, and their immediate associates, to the exclusion of all others, a power differently developed in different individuals." Is not this in strict accordance with our phrenological grouping? And again: "The powers of attention and concentration of thought are small and imperfect in those with defective development of the frontal lobes." And: "Taking one man with another, the greatest intellectual power is characteristic of the one with the greatest frontal development." No man can quarrel with me when I say that Dr. Ferrier did *not* arrive at these conclusions from the outcome of his experiments,—from the results he obtained by mechanical injury inflicted upon the *lower animals*, for the simple reason that Dr. Ferrier is speaking of "*individuals*." Experimental physiology is a very essential aid to mental philosophy, but after all it is only an aid to an aim.

"To show that there is no localization of mental function, it is necessary to demonstrate that the *same* parts may be destroyed in *both* hemispheres without producing mental disturbances. But has this ever been shown? I can not find the faintest approach to evidence which would justify such a conclusion. That mental symptoms or deficiencies have not been recorded in cases of bi-lateral cerebral lesions, is a negative statement of very little value. Unless a man becomes so demented as to neglect the ordinary wants of nature—or so furious, maniacal, or irrational as to require restraint, there are few engaged in the practice of medicine who think of inquiring narrowly into a patient's mental state; and even if more attention were directed toward this subject, are we in possession of any means of accurately judging the mental condition of an individual, so as to be certain that it has altogether escaped damage, notwithstanding the presence of a cerebral lesion? I see little to justify, and much to contradict such an assumption.

"A man may not be incapacitated for the ordinary duties of life; but that his intellect is altogether unscathed even by an unilateral le-

sion, I venture to question. And if it is difficult to test the mental condition in a human being, how much more difficult must it be in the case of the lower animals? And yet, from the way in which some have treated this question, one would be led to believe that nothing was more simple. Our great fallacy has been the assumption that the results of experiments on frogs, pigeons, and other animals low in the scale, are at once capable of application to man without qualification; an assumption which vitiates the conclusions of numerous physiologists of the present day. Frog and pigeon physiology has too often been the bane of clinical medicine, and tended to bring discredit on a method of investigation which, used properly, we must regard as the sheet anchor of biological and therapeutical research."

The above is a long quotation to trouble you with, but I want to show to what physiology is tending; and that is (so far as brain function with regard to mind is concerned) simply what Phrenology taught long, long ago, and I can not understand why the physiologists will not acknowledge this.

As illustration of purely *mental* derangement, without any impairment of *sensation* or *muscular* power, Dr. Ferrier draws attention to—

(1) Dr. Harlow's well-known passage of an iron bar through the head; this bar being three feet seven inches in length, one and a quarter inches in diameter, and weighing thirteen and a quarter pounds.

(2) A case of cortical atrophy of frontal convolutions of both hemispheres; the patient was completely demented, but muscular power and sensation were unimpaired.

(3) Case of an idiot girl, aged fifteen, who died, and upon post-mortem examination there was found to be a complete congenital deficiency of two-thirds of the frontal lobes.

Now so far as experimental physiology goes these cases are dark and unexplained as if they had never occurred, but bring the light of Phrenology upon them, and what more simple?

The French physiologist, I think it was, who suggested that in cases of amputation, the brain centre originally governing the missing limb, would be found on post-mortem examination to have atrophied, provided the patient lived long enough after the accident. Attempts were made to demonstrate this in four cases, in which the loss of the lower limb occurred respectively 35, 52, 21, and 43 years before death; but the results were most unsatisfactory. Dr. Ferrier had an opportunity to examine a case in which amputation occurred 28 years before death; this was also unsatisfactory, and discussing this method of investigation, he says: "Whether these expectations are justifiable altogether may

be questioned. For my own part, I should on theoretical grounds regard this as highly improbable, except in cases of congenital deficiency of a limb. Mere absence after it had been in full functional activity, would not, I think, induce perceptible atrophy in the cortical motor centres. For mere objective or actual movement is not the only function of these centres."

Patients frequently complain of pain in a limb which has been amputated—which is not there. Why? There must be a reason. It seems to me that it is because of the disturbance of the motor centre which governed the limb. But it is a law of nature that disuse of a part induces atrophy; why not in this instance? Because the psychic force is in such intimate relation with the motor. The psychic is the ruling function, and glories in and will not easily give up its activity.

Dr. F. says: "The phrenologists have, I think, good grounds for locating the reflective faculties in the frontal regions of the brain, and there is nothing inherently improbable in the view that frontal development in special regions may be indicative of the power of concentration of thought, and intellectual capacity in special directions."

If Dr. Ferrier only had an opportunity of becoming acquainted with the excellent cabinet of our Institute, I think he would do more than "think the phrenologists, etc."

It is difficult to be just to all sides of such a big subject in so short a time. I would like to mention before I close, that Dr. Ferrier appreciates Dr. Gall's teaching in a way that is not sufficiently recognized. In one place in a long and interesting article on the cerebellum, he says: "While I have not considered it necessary to examine and discuss every hypothesis that has been advanced respecting the functions of the cerebellum, no essay on the functions of this part of the encephalon would be regarded as satisfactory which did not take some notice of the theory propounded by Gall—that the cerebellum is the seat of the instinct of propagation." And though he does not agree with Gall's views, he does not contradict them.

Anyway, professing to study the brain, and leaving psychology out of consideration, seems to me a confused, misleading, one-sided arrangement of things. It is studying the whole without the principal half. One might as well take a course of histology or pathology without the aid of the microscope. Shakespeare might as well have written the "Merchant of Venice," or "Othello," and left out "Portia" or "Iago."

What would our Bible be wanting the New Testament?

Our aim in this study of human development should be the elevation of the masses; and

which would benefit them the more, to teach them that their brains contained various centres which control the extension and flexion of their limbs, etc., or to teach them that each and all, even the worst, had in them some germ of good—some element of God himself,—help them to find it, and show them that the power to be better is within themselves?

Taking human nature all in all, the good and the bad, the high and the low, it is "ever in ourselves that we are *thus* or *thus*."

F. C. JOHNSON.

RESPECTED TEACHERS AND CLASSMATES: In looking over my past life, I can not remember being placed in a more embarrassing position than the one I am now called upon to occupy. Never until now have I fully realized the value of oratory; this being my first attempt to advance any of my own thoughts and reflections for criticism and acceptance to more than a parlor circle of acquaintances.

I find myself called upon to say something acceptable to minds studious and full of ideas at variance, to say the least, with most of the opinions held by the world at large, and before minds whose teachings and instructions are fast reforming the judgments of the world.

Some two years ago my attention was turned to diet through the study of Phrenology, and, in order that I may expect to interest you, I have selected "Diet" for a subject, as it is one in which I am deeply interested.

Among the faculties of the mind, none play a more important part than Alimentiveness. And had all received as much benefit and happiness from the study and obedience of its laws as myself, they would deem it as important as I do.

I claim no originality in these ideas, but simply advance them as the result of my readings, study, observation, and experiments. How shall we feed ourselves that we may obtain the best results? is a question important to everybody. To the abnormal use of the faculty of Alimentiveness may be attributed a great deal of human misery and woe. Wrong nutriment has misled and is misleading mankind.

Man to-day can work wondrous results in horticulture and stock-breeding, but in regard to his own welfare he seems to be either sadly wilful and headstrong or else sorrowfully ignorant.

Of course, we must first agree that man is a social, aspiring, intellectual, and moral animal. I lay stress upon animal, because some are unwilling to admit this fact that man is really an animal. But is not his bodily existence dependent upon the self-same functions that support all animal life?—nutrition in the shape of food, water, and air, and, to a great extent, heat and light?

If these bodily requirements are neglected for any great length of time, the body has to suffer in man as well as animals.

Then, can we not start with the hypothesis that man is an animal? Has not nature provided a natural diet for all animals? Does not the horse, cow, dog, and cat find natural food upon which to subsist when left to their own choice? What one horse eats another eats and seems to thrive. Why can not all men eat alike? But no. "What is one man's meat is another man's poison" has gone the rounds, until it is almost a religious belief among people of all classes.

Is not the varied condition of men in this respect due rather to the difference in diet for generation after generation? If the lower animals can eat natural food from the hand of their Creator, why in the name of common sense can not man be satisfied with that which nature has provided for him? Animals left to themselves partake of nature's provisions and are happy and contented, while the majority of mankind are discontented with innate resources, and ignorantly pursue habits of living that lead to their own destruction.

Civilization is destroying the lion, tiger, panther, and bear—the natural destroyers of mankind; but who will dispute the fact that civilization has to deal to-day with as great if not greater enemies in the form of cholera, yellow fever, diphtheria, small-pox, dyspepsia, and consumption? These diseases are the result of civilization, or rather the product of the ignorance of civilization. Diseases, as a rule, commence with a cold. A cold is the outgrowth of over-eating, or wrongly eating, and I am prepared to make a statement that may seem ridiculous to one who has not been through a course of training—that a person eating a moderate, natural diet can undergo extreme changes and exposures that would be certain sickness and perhaps death to one eating as the majority of mankind eat.

To illustrate—how many persons could you find that could on a cold day in winter, with the thermometer at zero, start out in the morning with the usual under-clothing, overcoat, and muffler; at noon, the thermometer still standing at near zero, throw off this under-clothing, overcoat, and muffler, and be exposed to the chilling east winds of Boston for several hours? Yet such a circumstance has happened with no ill effect. Some may say, "What does that prove? It was tempting Divine Providence." It proves that Nature's food can meet Nature's elements. As to the tempting Divine Providence, I can only say that after the necessary training the same event could happen time and time again.

The civilization of man, it seems to me, finds a very good comparison in the horticultural world. Look at the fruits of civilization—ap-

ples, grapes, etc. Nature's fruits were only stunted and dwarfed, but stimulation has caused them to increase, both in flavor and size, and from this I would draw the conclusion, that, since we concede that civilization is a good sphere for man to live in, let us consider what civilization means. To civilize means to educate, to polish; to educate means to develop physical and mental capacity; to stimulate means to excite physical and mental action by a stimulus—therefore, to civilize means to stimulate, cultivate, or encourage.

In the case of the apple-tree, it is necessary to have certain natural elements—earth, water, and air. Apply certain stimulants in the shape of clay, yellow loam, grass, leaves, and manure from a well-rotted compost heap, and you encourage the tree to do as much in one year as it would naturally do in five years.

This is to illustrate what civilization really is, —a state of existence brought about by the use of stimulants. What is a stimulant? Anything that is unnatural both as regards food and drink. Therefore all cooked food may be called a stimulant, as it is not found in Nature.

Now, since we admit that true civilization develops the highest types of manhood, let us so nourish ourselves that we can bring about this most-to-be-desired result, by using a certain quantity of natural food in the form of fruits and raw grains; that is, to make a meal out of fruits and grain. Some may object to the grain on account of having poor teeth with which to masticate it, but have the grain ground and you will find no difficulty.

Another objects with, "I think raw grain will not agree with my stomach." To such I would reply, I know of two ladies who had dyspepsia so, that almost anything they might eat would cause distress, who were entirely cured by a natural diet for two months; I also know of three cases of consumption regarded as hopeless; two cases of nervous prostration, and several cases of intemperance cured by the same means. Is not this the natural way of doctoring? The only thing against it is its cheapness, but it is cheaper to be well than sick.

If grain is fit to be eaten after it is cooked, it certainly is fit to be eaten before. Cooking has added nothing, but has rather robbed it of some of its natural qualities and perhaps changed its chemical affinity for the secretions of the body.

Thus I have endeavored to give to you as members of the class of '84, that which to me seems valuable in the endeavor to secure success, by being strong and well, and I would impress these sentiments upon your minds.

Nourish the natural elements, and the product is the highest civilization and cultivation. Stimulate with narcotics and thus warp the functions

and the result is disease, poverty, degradation, and crime.

With God and Nature as our prescribing physicians, who shall fear the end?

ADDRESS BY MRS. MARY A. SAHLIN.

FRIENDS: We are told that "God created man in His own image," and Phrenology gives us a scientific explanation of that statement.

A knowledge of Phrenology will ally us with all truth, and at whatever point of incompleteness we stand, will help us on to perfection. All the faculties are good, rightly and relatively used, and in the crowning faculties we see the initiative of future and finer conditions; they also shed downward upon the faculties below a helpful light.

We do not begin to build our houses from the top, but the foundation is placed on the ground. We are told "That was not first which is spiritual, but that which is natural, and afterward that which is spiritual." We do not destroy the foundation of our house when we get to the top story, neither do we do away with the middle section; it can not be done without destroying the structure; neither can we in attaining to the top of our development, do away with the proper and relative use of our lower and middle faculties, but learn the best way of using them.

In dealing with or training children, Phrenology shows us what needs to be done, and how best to do it, and with the development of children, people familiar with Phrenology will notice an increase in the size of the organ or organs exercised. I think this growth in children can be seen more definitely than in adults.

In our enthusiasm we may think that changes can be produced in child and adult quicker than they can be, or are; yet in educating our children we also are learning. The knowledge of the necessity of time for development, gives us endurance and patience through our reason, even if by nature we may be lacking in these necessary and desirable conditions.

Our experiences teach us the fact that we must wait; sure as we know the result will be, yet it is just so true that we have to wait for it; this gives permanent impressions of our experiences, and they are not like those things which are lightly won and easily lost. The most valuable results are attained through longest time and largest experiences, so we must not expect to attain to our greatest development without these conditions.

The reciprocal relations of child and parents clearly and beautifully illustrate our own relations to the Divine Parent. It is thought by many who are partially wise, that prayer can have

no place in the Divine government; it is urged that it can not be, because that would interfere with natural laws. Prayer does not alter nature's laws, but is of them a part; it can be said that in the relationship of parent and child the parent is aware of the needs of the child, so much so that it is likely that a well-developed parent could tell without any request on the part of the child, at least its needs, if not its desires; why then should the child ever request or pray the parent for anything; or why should the child thank the parent for requests granted, when it could be managed in silence? Where then would be the reciprocal pleasure on the child's part of asking or on the parents' part of granting? How barren the silent life, where no thanks come from the child for favors granted; and as the unwise requests of children are not granted, so our unwise requests are similarly treated by the Divine Parent. But the granting of requests brings about pleasurable conditions both to child and parent, and the denial of requests is an educational process to the child; and we, no doubt, will come to see and to feel that wherein we have been denied, an educational process has been going on within us, which time will show us could not have been learned by us in any other way. As there can not be complete relationship between child and parent where there is love without respect, so too there is barrenness where there is not sufficient love with respect; so we love, fear, and venerate our Heavenly Father, when we are in right relations with Him, and retain the spirit of the child, while we grow "unto a perfect man, unto the measure of the stature of the fulness of Christ."

ADDRESS BY REV. S. J. BROWNSON.

Phrenology has, by one of our greatest educators—Horace Mann—been rightly termed, "The guide to Philosophy and the handmaid to Christianity."

When, untrammelled by prejudice, and controlled by the supreme desire to know the truth, we study this science in books and in men, we must come to this conclusion.

She does this, because above all other sciences she teaches us to know ourselves. Self-knowledge has been looked upon by the wisest of men in all ages as the key to all knowledge. As the surgeon must know his instruments before he can successfully perform an operation; as the carpenter must understand how to use his tools in order to work with them; as a man must know the workings of his own mind, the laws that govern his immortal soul, in its relations to the world, to society, and to its Maker, if he

would know how to act properly in all the complex relations of life.

This science teaches us that man, more than any other being that we know of, embodies in himself an epitome of the universe. He is the microcosm. The universe without is the macrocosm.

It, above all the other sciences, teaches us that man is beautifully correlated to all things without, and to all other beings. The world is an enigma without him. He, a mystery insoluble, without a world like this in which he finds himself.

As the existence of the lungs proves that there must be a fluid like the air, which filling them at regular intervals, helps to sustain life; and as the existence of the eye proves that there must be light without, perfectly adapted to the wants of this most complex organism, so the existence of the mind, with its congeries of faculties, intellectual, selfish, social, and moral, proves that there are objects without the man, upon which all these powers can act, and to which they are severally correlated.

Henry Ward Beecher most aptly compares the mind, with all its faculties, to a house, a three-story house, with many rooms in each story, and windows in each room, and skylights in the upper rooms. Through the windows in the lower rooms we may look out upon the earth, the things of time and sense, and through the windows of the upper story, especially the skylights, we may survey a wider range of objects. As a great man has said, we may "look through nature up to nature's God." We may in a sense know the Maker of all things, the Father of our immortal spirits, "whom to know aright, is life eternal."

Judging men by their actions, we fear that most of them live in the first story, and are controlled by the love of the things of time and sense. While they thus live, they can only partially fulfil the end for which they were brought into existence. They can enjoy, only in an inferior degree, even the thoughts of this world. As the great apostle has said, they "are dead while they live"; that is, dead, more or less, to the infinitely greater joys and glories of the spiritual world, to the things which are unseen, "incorruptible, undefiled, and that fade not away."

Phrenology, therefore, by giving us a proper understanding of the mind, furnishes the best possible arguments, outside the gospel of Christ, for the existence of God, infinite, perfect, holy, and the immortality and conscious existence of the soul. It teaches us, also, that the moral powers should control and guide all the others in their actions.

For years I have read quite extensively the

works of the greatest phrenologists—Combe, Spurzheim, the Fowlers, and Nelson Sizer. For years I have made a special study of the Bible, and such theological writers as Hodge, Calvin, Watson, and Barnes. And now at the close of a special term of study, in which I have diligently sought to learn all that the able and devoted instructors in the American Institute of Phrenology could teach me, I am here to say that I can see no conflict between the most orthodox interpretations of the Bible, and the phrenological philosophy.

There is nothing in Phrenology that leads to materialism, fatalism, or infidelity in any form. On the other hand, many of the most important texts of Scripture possess a new and deeper significance when read in the light of this new science.

Phrenology throws a calcium light upon such Bible doctrines as human depravity, the transmission of evil, the atonement in Christ, and the future destiny of the soul.

Valuable as it is beyond any other science in teaching us the great lessons of self-control, and how to use aright, without abusing all our mental faculties, it also furnishes us the key to the hearts of our fellow-men. It teaches us how we may the better "become all things to all men," that we may win some to a higher and better life.

Reason, philosophy, and the Scriptures unite in saying to us, "The first of all the commandments is this, Thou shalt love the Lord thy God with all thy heart; and the second is like unto it, thou shalt love thy neighbor as thyself."

The supreme love of God will lead us to seek with the whole heart, to know His will concerning us, from every possible source within our reach.

The love of our fellow-men will lead us to seek their welfare, salvation, perfection, both of body and soul.

Phrenology, with the Bible, looks upon the human race as composed of one blood. It recognizes the Fatherhood of God and the brotherhood of man. As long as there is suffering in every part of the race, the obligation rests upon us to extend to the unfortunate one a helping hand.

Let us then, my fellow-classmates, ever seek to live up to the teachings of our noble science. May we always be ready to disseminate, in every lawful way, its soul-and-body saving truths. Freely have we received blessings from this science. Honesty alone demands that we should give to others with corresponding liberality.

If we are controlled by the spirit of Him who said (and lived it out), "It is more blessed to give than to receive," we shall, like Him, find our highest happiness in going about doing good.

VALEDICTORY ADDRESS.

BY REV. W. K. BURR, M.A., PH.D.

RESPECTED PROFESSORS AND FELLOW-STUDENTS: The time for parting has arrived, and the relationship of teachers and pupils no longer exists. Our sojourn here has been pleasant and profitable. We have been engaged in the study of one of the noblest of the sciences; a science which tends to adorn, ennoble, and dignify humanity; a science which has for its object the expansion and the elevation of the immortal mind—that mind which stands, like the Roman Janna, looking forward and backward; with outstretched arms it spans the universe; it delves in the hidden treasures of the past, and brings to light the covered-up wisdom of the ages. It even pierces the gloomiest recesses of a sorrowing world, and extends on into the ages of eternity.

Phrenology teaches this divine truth, and we rejoice that it so beautifully accords with the teachings of the Bible, that book which stands as a monument, whose top pierces the highest heaven, and whose base is deeply laid in the mansion of the dead. Yes, Phrenology with unwearied finger, is continually pointing upward, and inspiring us with a disposition to

"Live for those that love us,
For those that know us true,
For the heaven that smiles above us,
And the good that we can do."

A very important lesson we have here learned, viz., that of self-culture; in all the stages of life, from the embryo state on through childhood and youth, through manhood and the declining years, to the last lonely reach in life's rugged journey. Lessons like these are worth more than all the gold of Ophir or the cedars of Lebanon; and they who follow them will live in accordance with the laws of our being, and by so doing will shine brighter than the richest diamond that ever sparkled on earth.

We have also learned the relationship between mind and matter. Oh, what a lesson, and yet how few understand its significance. This is a lesson in which language becomes bankrupt, as it were, in unfolding the length and breadth, the height and depth of its very meaning. It is the mind that raises man above the brute creation, that allies him to angels and brings him near to God. And in our researches we have found that the moral faculties, as well as the intellectual, have their seat in the brain, and that by proper cultivation we can develop the mind, and justly stand forth in the glory of manhood, the beauty of the world, "the paragon of animals."

Fellow-students, we have been taught here how to make the best use of life. At this hour

it seems so varied and many-fold wider than ever before. Life is truly a trust; let us by all means be careful and not betray that trust. It is all with which we have to face Eternity. Oh, Eternity! who can comprehend its duration? Let this science, then, be the guiding star of our lives, pointing to a land of pure delight, and cheering us onward to a home beyond the Tide.

Respected professors, to you we now turn. Your fame as profound scholars and able instructors had reached us ere we came to this institute of learning, and the many lessons you have here inculcated shall be treasured up in the halls of memory as a priceless heritage of our college days. Gentlemen—beloved professors, long may you live to teach this noble science and lead the embattled host on to victory. We may never meet you all again, but, guided by the same beacon-light which has cheered and led you onward thus far in life's journey, we trust we'll meet in heaven.

With this expression of our gratitude, with this appreciation of your worth, with this token of our kind regard, we bid you an affectionate farewell.

And now, beloved members of the graduating class of '81, a few words to you, and we have done. Our mingling here together has been characterized with brotherly kindness and affection. We have been as a band of brothers and sisters of the same fraternity, each trying to make the other happy. And in our study of Phrenology—the comprehensive science of human nature—we have been drawn nearer together, and feel that a tender chord is being severed when we part. But we shall go forth from this place stronger men and women, and therefore better equipped to grapple with the stern realities of life. I shall often think of you and revert with pleasure to the scenes of these college days.

I trust we shall often meet each other in the years to come. My best wishes go with you, praying that each of you may have a successful career. Long may you live to do your duty here on earth, to cheer humanity onward, to scatter flowers on every hand, and thus make life beautiful and bright. And one of the grandest achievements is to grow symmetrically, and thus continue to grow gracefully on to the last lonely reach in the journey of life. By so doing you will shine as the stars of the firmament to the glory of God the Father of us all, and be an honor to your Alma Mater and a blessing to mankind. And when you are dying Hope will lift her finger to the portals of the sky, breathing unspeakable words of the glory and grandeur of that better world, where we shall dwell in blissful communion, and where our glory, undimmed by the flight of Time, shall shine forth with re-

doubled splendor. And with the immortal Pope may each one of us exclaim when our final change shall come,

"Lend, lend your wings! I mount! I fly!
O Grave, where is thy victory?
O Death, where is thy sting?"

And now in conclusion—

I wish you all the happiness
That earth can here bestow,
Kind friends, to cheer you onward too,
While journeying here below.

I wish you days of sunshine bright,
Free from Life's storms and blast,
And then again, to crown it all,
I wish you heaven at last.

Fellow-students, farewell.

RESOLUTIONS.

Having finished the course of instruction, the members of the class of 1884 beg leave to submit the following resolutions:

1. *Resolved*, That we regard Phrenology as ranking among the first of the sciences, because a knowledge of it enables us to know ourselves and to discern the character and motives of those with whom we come in contact.

2. *Resolved*, That we regard Phrenology as promoting the general welfare, because its tendency is to enlighten, purify, and elevate the human race.

3. *Resolved*, That great injustice has been done to the science of Phrenology and its worthy advocates, by men who pretend to be, and some of whom probably are, scientists, but who, nevertheless, are ignorant of the true principles of Phrenology.

4. *Resolved*, That a vote of thanks be extended to all our teachers for the interesting instructions which they have imparted to us.

5. *Resolved*, That we recommend the American Institute of Phrenology to all those desiring to learn how to judge of human nature with scientific correctness as affording the best advantages for the acquirement of such knowledge.

6. *Resolved*, That the class of 1884 accepts the teachings of Phrenology as set forth by the American Institute of Phrenology, and that in the future its members will scan closely before accepting any novel and fanciful innovation upon a noble science that has been formulated upon the large experience of earnest and able investigators from the days of Gall and Spurzheim to the present time.

7. *Resolved*, That this class recommend that the true mode of brain development, as explained by Prof. Nelson Sizer, be known and spoken of as Sizer's Facial Angle in contradistinction to Camper's Facial Angle.

8. *Resolved*, That we recommend the publication, in connection with these resolutions, of the names and specialties of the Faculty of the Phrenological Institute.

Miss NELLIE FOWLER, New Jersey,
W. G. ALEXANDER, Canada,
JOHN S. ROESELER, Wisconsin,

Committee on Resolutions.

GEORGE MORRIS, New York.
J. S. SCHEAFFER, Iowa.
E. M. LOCKARD, Pennsylvania.
JOHN A. JAMISON, Jr., New York.
E. J. BRETHOUR, Canada.
A. L. FERREY, Washington, D. C.
Miss FLORA MACRAE, Australia.
Mrs. M. A. SAHLIN, New York.
F. C. JOHNSON, Massachusetts.
JAMES M. KIMMONS, Kansas.
J. LEMON, New York.
GEO. L. KING, Ohio.
Rev. W. K. BURR, M.A., Canada.
ALEX. H. ANDERSON, Canada.
PETER ECKHARDT, Illinois.
FRED. M. WHYTE, New York.
J. S. CENTERBAR, New York.
Rev. A. J. BROWNSON, Indiana.
J. R. STERLING, Canada.
Miss M. E. HERRICK, Massachusetts.
Miss E. CONSTANTINE, New Jersey.

LIST OF GRADUATES TO 1884.

We are often written to by persons in distant States to ascertain if "Prof. ——" is a graduate of the American Institute of Phrenology. Some persons whom we never before heard of have professed to be graduates of the Institute and endeavored thus to secure consideration. The following list embraces the names of all the graduates up to and including the year 1884. All our students have a diploma, and it would be safe to ask to see the diploma of those who claim to be graduates.

	STATE.	CLASS OF		STATE.	CLASS OF
Abel, Miss Loretta.....	New York.....	1877	Alexander, Arthur J.....	Indiana.....	1871
Adams, Elijah M.....	Missouri.....	1875	Alexander, W. G.....	Canada.....	1884
Adams, Miss F. R.....	Iowa.....	1883	Alger, Frank George.....	New Hampshire.....	1880
Alderson, Matt. W.....	Montana.....	1875, 1879, 1880	Anderson, Alex. H.....	Canada.....	1884

	STATE.	CLASS OF.		STATE.	CLASS OF.
Anderson, Samuel H.	Pennsylvania.	1867	Goodrich, Geo. D.	Minnesota.	1877
Arnold, Charles H.	Massachusetts.	1870	Guilford, Ira L.	Michigan.	1876
Arthur, Willie P.	New York.	1874	Granterry, Prentiss S.	Mississippi.	1873
Aspinwall, F. E.	New York.	1879, 1873	Green, William R.	Pennsylvania.	1874
Austin, Eugene W.	New York.	1878	Grob, Samuel.	Pennsylvania.	1881, 1882
Austin, Fred. H.	Pennsylvania.	1882	Hawkins, William S.	Connecticut.	1866
Ayer, Sewell P.	Maine.	1868	Hamilton, Elliott A.	Michigan.	1867
Bateman, Luther C.	Maine.	1870	Haller, John S.	Pennsylvania.	1868
Balfour, Perry E.	New York.	1872	Hardy, John N.	Wisconsin.	1870
Bacon, David F.	New Hampshire.	1875	Haley, William T.	California.	1872
Baker, Wm. W.	Tennessee.	1876	Hathaway, D. E.	Massachusetts.	1874
Baillie, James L.	Ohio.	1881	Hambleton, Harland E.	Ohio.	1875
Battley, O. F.	Massachusetts.	1883	Hawley, Edwin N.	Ohio.	1876
Beecher, Eugene.	Connecticut.	1870	Harriman, O. B., M.D.	Iowa.	1876
Beverly, C. A., M.D.	Illinois.	1879	Hasie, Geo. E. (Lawyer).	Mississippi.	1879
Beall, Edgar C.	Ohio.	1877	Henderson, Francis M.	Illinois.	1867
Beer, John.	New York.	1878	Henderson, James.	New York.	1872
Bentley, Harriet W.*	Connecticut.	1881	Herrick, Miss M. E.	Massachusetts.	1884
Bell, James.	New Hampshire.	1881	Hilleary, Louis N., M.D.	Iowa.	1877
Bonine, Elias A.	Pennsylvania.	1868	Hiser, E. W.	Indiana.	1878
Brown, D. L.	Iowa.	1872	Hobson, A. Norman.	Iowa.	1869
Bonham, Elisha C.	Illincis.	1875	Holm, J. S.	Iowa.	1874
Bousson, Miss O. M. T.	New York.	1877, 1882	Holt, Charles.	New York.	1875
Brettell, Montague.	Ohio.	1875	Holt, Mrs. Miriam J.	Texas.	1876
Brethour, E. J.	Canada.	1884	Hoffman, Uriah J.	Indiana.	1874
Brownson, Rev. A. J.	Indiana.	1884	Horne, William.	Michigan.	1874
Bullard, J. H.	New York.	1866	Humphrey, John C.	Alabama.	1868
Buck, Marion F.	New York.	1868	Hughes, Henry F.	New York.	1870
Burnham, A. B.	Wisconsin.	1881	Hummel, Levi.	Pennsylvania.	1876
Burr, Rev. W.K., M.A., Ph.D.	Canada.	1884	Huggings, L. E.	Ohio.	1877
Candee, E. E.	N. Y., 1873, 1875, 1878, 1880		Irving, Mrs. P. W.	Connecticut.	1874
Campbell, H. D.*	New York.	1874	Jackson, John P.	England.	1867
Carman, Lewis.	New York.	1883	Jamison, John A., Jr.	New York.	1884
Catlin, David C.	Connecticut.	1877	January, Charles P.	Iowa.	1879
Centerbar, J. S.	New York.	1884	Jennings, Alfred.	Massachusetts.	1872
Chester, Arthur.	New York.	1870	Johnson, J. C.	Massachusetts.	1884
Chesley, Egbert M.	Nova Scotia.	1872	Jones, Isaac S.	New Jersey.	1868
Chandler, G. E., M.D.	Ohio.	1873	Jones, John W.	Indiana.	1868
Charles, G.	Canada.	1876	Keith, A. B.	Iowa.	1877
Chapman, May.	Massachusetts.	1879	Kimmons, James M.	Kansas.	1884
Clark, Thomas*	New Jersey.	1874	Kindig, David S.	Ohio.	1877
Clarke, Rev. Jas. Eugene.	Maine.	1877	King, David M.	Ohio.	1868
Collins, John.	Wisconsin.	1878	King, George L.	Ohio.	1884
Condit, Hilyer.	New Jersey.	1867	Kirkpatrick, Robert.	Montana.	1879
Constantine, Rev. A. A.	New Jersey.	1875	Kirven, P. E.	Louisiana.	1881, 1882
Constantine, Miss Eliza.	New Jersey.	1875, 1884	Knowles, Frank B.	New York.	1883
Cowan, John, M.D.	New York.	1870	Lane, Rev. John C.*	Missouri.	1869
Cook, J. R.	Ohio.	1872	Langley, M. L.	Arkansas.	1872
Curren, Orville.	Michigan.	1873	Lauer, Rev. J. D.	Ohio.	1874
Curren, Thomas.	Michigan.	1873	Lawrence, Alva, Jr.*	New York.	1876
Curren, H. W.	Michigan.	1874	La Rue, Franklin.	Montana.	1882
Creamer, Edward S.	New York.	1866	Leavitt, Levi R.	New Hampshire.	1870
Crum, Rev. Amos.	Illinois.	1870	Leininger, John Wesley.	Canada.	1883
Daly, Oliver Perry.	Iowa.	1863	Lemon, J.	New York.	1884
Danter, James F., M.D.	Canada.	1870	Lester, D. C.	Pennsylvania.	1872
Davidson, E. A.	New York.	1883	Lee, Rev. Geo. A.	Pennsylvania.	1873
Davis, Wallace.	Pennsylvania.	1875	Leonard, B. A.	Massachusetts.	1880
Detwiler, D. W.	Pennsylvania.	1880	Linvil, C. H.	Pennsylvania.	1879
Dill, Rev. Arthur Cushing.	New Jersey.	1883	Lischer, M. E.	New York.	1883
Dodge, Lovell.	Pennsylvania.	1867	Lockard, E. M.	Pennsylvania.	1883, 1884
Downey, Rev. T. Jefferson.	Ohio.	1867	Macduff, Rev. R. E.	Kentucky.	1872
Dodds, Rev. David, M.D.	Iowa.	1877	Mack, H. Q.	New York.	1867
Duncan, J. Ransom.	Texas.	1875	Macrea, Miss Flora.	Australia.	1884
Du Bois, D. C.	Iowa.	1877	Mann, H., Jr.	Vermont.	1883
Drury, Andrew A.	Massachusetts.	1882	Matley, John.	California.	1870
Eadie, Andrew B.	Canada.	1877	Matlack, A. S.	Ohio.	1872
Eckhardt, P.	Illinois.	1884	Mason, James.	Massachusetts.	1880
Emerick, Lycurgus.	Illinois.	1876	Mason, Lot, M.D.	Illinois.	1869
Espy, John Boyd.	Pennsylvania.	1875	Mackenzie, J. H.	Minnesota.	1873
Evans, Henry W.	Pennsylvania.	1867	Mason, A. Wallace.	Canada.	1874
Fairbanks, C. B.*	New York.	1872	Manners, J. H.*	New Zealand.	1877
Fairfield, John C.	Pennsylvania.	1876	Mannion, Frank.	Iowa.	1879
Ferry, A. L.	Illinois.	1881, 1884	McDonald, Duncan.	Michigan.	1867, 1882
Field, J. H.	Colorado.	1866	McIntosh, James.	Ohio.	1867
Fowler, Miss Nellie.	New Jersey.	1884	McDavid, J. Q.	South Carolina.	1874
Fleisch, Jacob.	Ohio.	1870	McNeil, James.	New York.	1873
Foster, Felix J.	Mississippi.	1870	McCrea, James.	Illinois.	1873
Foster, Henry Ellis.	Tennessee.	1879	McLaughlin.	Canada.	1882
Fraser, J. A. G.	Canada.	1877, 1882	McKee, William C.	Ohio.	1879
Freeman, Charles E.	Iowa.	1880	Merrifield, John C.	Canada.	1868
Friedrich, Martin.	Pennsylvania.	1882	Meller, Frank J.	Illinois.	1881
Gause, Mrs. Elva P.	North Carolina.	1875	Memminger, Thos. F. W.	Virginia.	1881
Gaumer, Levi.	Iowa.	1876	Miller, E. P., M.D.	New York.	1867
Gibbs, H. Clarence.	Wisconsin.	1874	Mills, Joseph.	Ohio.	1868
Gillis, Benjamin.	Missouri.	1875	Mills, Rev. J. S.	Ohio.	1872
Glückler, Ralph J.	New York.	1882	Müller, B. Frank.	California.	1882

* Deceased.

* Deceased.

	STATE.	CLASS OF.		STATE.	CLASS OF.
Morrison, Edward J.	Illinois.	1868	Wiest, Ezra.	Pennsylvania.	1873
Moatz, Lewis.	Ohio.	1869	Wildman, Wellington E.	Ohio.	1876
Moore, Joseph H.	North Carolina.	1877	Wildman, Mrs. W. E.	Ohio.	1876
Morris, George.	Canada.	1873, 1884	Winkler, Henry.	Indiana.	1877
Musgrove, William.	England.	1875	Wood, Oscar D.	New Jersey.	1875
Mully, A. F. F.	New York.	1882	Wood, Elbert B.	Kentucky.	1879
Newman, A. A.	Illinois.	1867	Worrall, M. B.	Ohio.	1877
Oestergard, J. C.	Denmark.	1883	Wyscarver, T. J.	Ohio.	1874
Olney, Henry J.	Michigan.	1875	Young, C. P. E.	Sweden.	1883
Osgood, Rev. Joel.	Ohio.	1880	Young, Henry.	Ohio.	1875
Patterson, John A.	Missouri.	1873			
Parker, R. G.	Missouri.	1874			
Parker, Howell B.	Georgia.	1875, 1880			
Patten, Edward M.	Illinois.	1874			
Patten, William Perry.	Nebraska.	1876			
Paulsen, John H.	Louisiana.	1877			
Pentney, John.	Canada.	1877			
Peirson, Sampson H.	West Virginia.	1870			
Perrin, Edward M.*.	Kansas.	1869			
Perry, A. D.	Massachusetts.	1883			
Petry, Daniel F.	New York.	1866			
Philbrick, S. F.	Ohio.	1873, 1874			
Pierce, David F.	Connecticut.	1868			
Price, David R.	Iowa.	1868			
Pratt, Benj. F., M.D.	Ohio.	1875			
Prather, Miss M. O.	Kansas.	1876			
Purcell, E. M.	Iowa.	1874			
Reed, Anson A.	Connecticut.	1868			
Richardson, M. T.	New York.	1870			
Richie, Porter D.	Illinois.	1872			
Richards, William.	Pennsylvania.	1873			
Robbins, T. L.	Massachusetts.	1872			
Roberts, I. L.	Florida.	1872			
Roberts, Jas. Thos.	California.	1882			
Roberts, Margaret E.	Pennsylvania.	1882			
Robinson, G. M.	Illinois.	1882			
Roeseler, John S.	Wisconsin.	1884			
Rogers, Ralph.	Tennessee.	1875			
Romic, Paul T.	California.	1877			
Rosenbaum, Fred. Wm.	Ohio.	1878			
Sage, Enos A.	New Jersey.	1868			
Sadler, David M.	Maryland.	1879			
Sablin, Mrs. M. A.	New York.	1884			
Sanches, Mrs. Marie.	Sweden.	1880			
Sargent, C. E.	New Hampshire.	1874			
Scheaffer, J. S.	Iowa.	1884			
Scott, Martha A.	Colorado.	1881			
Scott, Rev. William R.	Illinois.	1883			
Seybold, Frederick J.	Illinois.	1870			
Senior, F. D.	New York.	1872			
Shultz, R. C., M.D.	Iowa.	1876			
Sievert, Miss Sophie.	New York.	1880			
Smith, Bartholomew.	Rhode Island.	1869			
Smith, Lundy B.	Missouri.	1874			
Smith, Thomas William.	Canada.	1876			
Snell, C. L.	Pennsylvania.	1873			
Sommers, Jervis.	Connecticut.	1869			
Spring, Geo. A.	New York.	1882			
Sterling, J. R.	Canada.	1884			
Stewart, Rollin.	Vermont.	1867			
Strong, J. Wilmer.	Pennsylvania.	1866			
Stockton, Miss Alice.	Illinois.	1874			
Stone, W. T.	Indiana.	1867			
Staples, Ernest L.	Connecticut.	1877			
Suarez, Adolph B.	New York.	1876			
Swain, Henry E.	New York.	1870			
Swift, Miss Edna A.	Connecticut.	1873			
Taggart, Chas. Alvan.	Massachusetts.	1880			
Thompson, J. H.	Pennsylvania.	1866			
Thompson, Benj.	Iowa.	1867			
Thompson, D. D.	Canada.	1873			
Thompson, Miss M. B.	Ohio.	1876			
Thurston, Calvin H.	Indiana.	1869			
Thomas, J. W.	Missouri.	1879			
Tower, Henry M.	Massachusetts.	1881			
Turner, P.	Illinois.	1872			
Turner, Thomas.	New York.	1878			
Wahl, Albert.	Illinois.	1879			
Waide, Robert.	Indiana.	1882			
Wait, A. H.	Kansas.	1883			
Wallace, A. B.	Tennessee.	1877			
Walters, Eli.	Ohio.	1874			
Waterman, L. E.	New York.	1870			
Watson, Charles S.	New Hampshire.	1869			
Welles, R. W.	Connecticut.	1879			
West, Mrs. Mary A.	New York.	1870			
Whitaker, John.	New York.	1869			
Wightman, Charles S.	Rhode Island.	1872			

CHARTER.

An Act to incorporate "THE AMERICAN INSTITUTE OF PHRENOLOGY," Passed

April 20, 1866.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. AMOS DEAN, Esq., HORACE GREILEY, SAMUEL OSGOOD, D.D., A. OAKLEY HALL, Esq., RUSSELL T. TRALL, M.D., HENRY DEXTER, SAMUEL R. WELLS, EDWARD P. FOWLER, M.D., NELSON SIZER, LESTER A. ROBERTS, and their associates, are hereby constituted a body corporate by the name of "THE AMERICAN INSTITUTE OF PHRENOLOGY," for the purpose of promoting instruction in all departments of learning connected therewith, and for collecting and preserving Crania, Casts, Busts, and other representations of the different Races, Tribes, and Families of men.

Section 2. The said corporation may hold real estate and personal estate to the amount of one hundred thousand dollars, and the funds and properties thereof shall not be used for any other purposes than those declared in the first section of this Act.

Section 3. The said HENRY DEXTER, SAMUEL R. WELLS, EDWARD P. FOWLER, M.D., NELSON SIZER, and LESTER A. ROBERTS, are hereby appointed Trustees of said incorporation, with power to fill vacancies in the Board. No less than three Trustees shall constitute a quorum for the transaction of business.

Section 4. It shall be lawful for the Board of Trustees to appoint Lecturers, and such other instructors as they may deem necessary and advisable, subject to removal when found expedient and necessary, by a vote of two-thirds of the members constituting said Board; but no such appointment shall be made until the applicant shall have passed a satisfactory personal examination before the Board.

Section 5. The Society shall keep for free public exhibition at all proper times, such collections of Skulls, Busts, Casts, Paintings, and other things connected therewith, as they may obtain. They shall give, by a competent person or persons, a course of not less than six free lectures in each and every year, and shall have annually a class for instruction in Practical Phrenology, to

which shall be admitted gratuitously at least one student from each Public School in the City of New York.

Section 6. The corporation shall possess the powers and be subject to the provisions of Chapter 18, of part 1, of the Revised Statutes, so far as applicable.

Section 7. This Act shall take effect immediately.

THE FACULTY OF INSTRUCTION.

Among those who have been engaged as lecturers in connection with the Institute for many years, we may mention the following :

NELSON SIZER, the chief Examiner in the office of Fowler & Wells for thirty-five years, lectures on the Theory and Practice of Phrenology and Physiognomy.

H. S. DRAYTON, A.M., editor of *THE PHRENOLOGICAL JOURNAL*, treats of Mental Science, and its relations to Physiology and Metaphysics.

MRS. CHARLOTTE FOWLER WELLS lectures on the History and Progress of Phrenology in America.

NELSON B. SIZER, M.D., Anatomy, Physiology, and Diseases of Body and Brain.

JOHN ORDONAU, M.D., LL.D., late State Commissioner of Lunacy, lectures on Insanity and Jurisprudence.

ROBERT A. GUNN, M.D., Magnetism and Psychology.

JAMES B. RICHARDS, A.M., Idiocy, Imbecility, and Abnormal Mentality.

REV. EDWARD P. THWING, Ph.D., Psychic Phenomena, and Hypnotism as an aid in Surgery.

PROF. FREDERICK A. CHAPMAN, Elocution and Vocal Culture in relation to Public Speaking.

ADVICE FOR STUDENTS.

In coming to New York you should purchase a through ticket if possible, and if you have a trunk or valise which you do not need on the way, get it checked, and thus save care.

Students should prepare the means for payment of tuition and their necessary expenses during their stay in New York, before they come. Those who can do it should bring their funds in drafts, then they are not subject to the danger of losing their money on the way. Those who bring money can have it deposited in bank while here, thus preventing the possibility of loss.

We advise students, after buying their passage tickets, to have only so much money within reach

as will pay their current expenses on the way here. The balance, if not in form of draft, should be sewed into a pocket in the undergarment.

On landing at Jersey City from the West or South, retain your baggage check—pay no attention to agents on the train—and come to our office, 753 Broadway, corner Eighth Street. If you come into the city in the night, go to the Sinclair House, Broadway, corner of Eighth St., directly opposite our office.

ROOMS AND BOARD.

Boarding can always be obtained near the Institute at moderate prices. From four to five dollars a week usually cover the expense. Sometimes hygienic students club together and take rooms, and procure their own food to suit themselves.

We take special pains to aid students to find desirable quarters, and to facilitate any purchases which they may wish to make, or give them directions as to places of interest to be visited, and the proper way to make their stay in the city safe, pleasant, and instructive.

OPPORTUNITIES IN NEW YORK.

Students have free opportunity to become familiar with our extensive cabinet.

Our class sessions are so arranged that students can attend the popular lectures and other entertainments given in the city; they can visit museums of art and science, public libraries, or the criminal courts, penal and charitable institutions, and numerous other places and objects of interest.

HEALTH IN NEW YORK.

Sometimes people feel afraid to come to a great city, thinking it may not be healthful. We believe that New York, with its present modern improvements for cleanliness and ventilation, is as healthy a place as there is in the land, unless it be some mountain-top. And most of our students not only maintain their health perfectly, but gain during the course, sometimes ten pounds in weight.

OUTFIT.

Some ask us in respect to outfit. Our reply is, that one can spend from fifty dollars to two hundred dollars profitably, in the way of outfit, or can start with a very little, and add to it as he has means and feels disposed. A man can start with nothing but his hands and his tongue to work with. He may start with ten dollars in the way of apparatus and material, but he would do better with fifty dollars.

Those who contemplate visiting the city for the purpose of attending the Institute will do well to cut out and bring this article in their pocket, for reference when about to reach New York, so as to avoid confusion and mistakes.

FIELD NOTES.

MR. DUNCAN McDONALD, of the Class of '67, is one of the most successful of our students. He is working in the Pacific States, and wherever he goes he makes a good impression which lasts. He can be addressed at San Francisco, Cal.

U. J. HOFFMAN, of the Class of '74, having become associate principal of the Normal School at Aurora, Ill., will make his worthy work a means of great good to the entire State by widening the knowledge and enhancing the skill of the pupils as they become teachers. Every teacher should understand the science of mind as revealed by Phrenology. Mr. Hoffman is writing a work on teaching according to phrenological principles.

DR. B. F. PHATT, of the Class of '75, is lecturing in Ohio, where he attracts large audiences. He has wisely undertaken to cultivate a portion of that noble State, and there is room enough in it for twenty good phrenologists.

L. C. BATEMAN, of the Class of '70, is doing the world good by his successful work, not only as an eloquent and intelligent lecturer, but as a writer for the press. He can be addressed at his home, North Searsmont, Me.

HOWELL B. PARKER, Class of '75 and '80, is making Phrenology exceedingly valuable to the people in Georgia, by teaching the best school in the State on the principles of bodily and mental physiology. He has formed a class in Phrenology, made up, in the main, of his school pupils. He started with thirty-two and expects fifty. It would be a blessing to other schools to have a teacher thus qualified. When he adopts Phrenology as a steady profession the people of his State will be the gainers, as his influence may then be felt in forty counties instead of one or two.

REV. A. C. DILL, of the Class of '83, has charge of a large church at Deadwood, Da., and finds Phrenology eminently useful as an aid in his work among a people representing every separate phase of life and character.

REV. GEO. A. LEE, Class of '73, writes us from Virginia, that he is devoting himself to lecturing on Phrenology, and is securing decided success.

MR. GEORGE MORRIS, Class of '78 and '84, is doing a good business, as usual, in Iowa and other Western States. He is a great worker, and heartily in earnest in all he does. He regards Phrenology as having done him great good personally; and financially he has secured abundant success.

J. W. LEININGER, of the Class of '83, orders books liberally from his field of labor, Canada, and is making his mark among the people, as we supposed he would.

ANDREW A. DRURY, of the Class of '82, is lecturing in the Penobscot Valley, in Maine. He is a most earnest worker, tells the plainest of plain truth in his examinations, and heartily believes in the beneficent influence of Phrenology when properly set forth and applied.

A. WALLACE MASON, of the Class of '74, has a Phrenological office in Toronto, Canada, and is making a favorable impression upon the minds of the people, and bringing the science of Phrenology to bear upon the improvement of those who consult him. He is about starting a magazine devoted to Phrenology. We bespeak for him the confidence and respect of all.

REV. W. R. SCOTT, Class of '83, is settled over a thriving parish in Chicago, and finds Phrenology a decided assistance in the interpretation of Mental Philosophy as taught in colleges, and as seen in the living subject in actual life.

REV. DAVID DODD, of the Class '77, is preaching in Iowa, and still finds Phrenology a great aid to him in his ministerial and pastoral work, and his solid talent will make him felt wherever he works.

IRA GUILFORD, Class of '71, is doing excellent work in the West, and his frequent orders for books show that he is planting the science wherever he goes, and prospering as good workers deserve to who have talent and knowledge.

DR. U. E. TRAEER is lecturing in Iowa with his usual success. He may be reached by addressing him at his home, Vinton, Iowa.

H. E. FOSTER, of Tennessee, Class of '79, expects soon to open an office in Louisville, Ky., or St. Louis, Mo. He will be found worthy of confidence wherever he may go.

REV. W. K. BURR, Class of '84, began work at once in Kingston, Ca., where he is well known, and draws good houses, and commands respect wherever he appears as a lecturer.

MR. HUMMEL, Class of '76, is in Pennsylvania, and we frequently hear of his good work and success.

MR. LOCKARD, Class of '83 and '84, has united with W. G. Alexander, Class of '84, and they are operating with good encouragement in Illinois, and proposing to go to Canada at no distant day.

A. B. KEITH, Class of '77, makes his paper in Iowa vocal with phrenological truth, and with his clear head and ready pen is doing work that will last.

FRED. H. AUSTIN, Class of '82, is working in Western Pennsylvania and securing marked success, both financially and in making Phrenology useful to the people.

IMPORTANT ANNOUNCEMENT!

Tuition Fee Reduced.

WHEN the American Institute of Phrenology was founded, one of the chief motives entertained by its founders was the extension of Phrenological culture in all directions. There was no idea of restricting the facilities and advantages afforded by Phrenology to a few, for the humanitarian nature of the subject inspired the motive.

It was hoped that the new enterprise would prove so successful that in a few years a well-equipped institution would exist, with an endowment sufficient to make its privileges almost or entirely free; at least free to students with exceptional endowment, who designed to enter the field as phrenological lecturers, and whose personal means were insufficient to meet the expenses of tuition.

The work has been vigorously pushed from the time of the incorporation of the Institute, and the income derived from fees has been all applied to the improvement of the methods and appliances of instruction, enlarging the cabinet of specimens, and also to extending the curriculum. No student has ever been known to leave the Institute at the close of a session without hearty expression of approval of the work done; and the vast majority of all have been enthusiastic in their acknowledgment of great indebtedness for what they have learned.

At a late meeting of the Trustees, it was unanimously resolved that the terms of instruction be reduced, making them Fifty dollars, to all, instead of a hundred dollars for men and seventy-five for women, as heretofore. This reduction will not make any difference in the character of the lectures or the length of the session. On the contrary, it is expected that additional lectures will be given, and fresh and new apparatus introduced, so far as possible.

The Trustees believe that the work of the Institute should be made more general; that the idea of specially educating men and women for the lecture field, while it may not be a subordinate, should not be entertained as the paramount object; and that the advantages of phrenological tuition should be offered to all classes, so that men and women, whatever may be their callings, may derive the important benefits contributed by a knowledge of phrenological principles.

It is expected that this reduction will make a great difference in the number of students who shall attend the next session; and the managers ask to be informed as promptly as possible by those contemplating attendance, so that they will be enabled to make the necessary preparations for the increased attendance. Communications have already been received from persons in business employments who desire to be present at the next session, to whom the expense of the course is now within their means; whereas, before, the demand of a hundred dollars precluded their attendance.

Students of medicine and teachers are among the majority of the usual inquirers, and to them money does not come for the asking. A knowledge of practical phrenology is peculiarly important to them, and the fact is recognized by very many. Now the cost of attendance at the Institute being reduced to that of a course in some specialty of surgical or medical treatment, or of a lecture series in science or languages, such persons can join the Institute classes.

By order of the Board of Trustees.

H. S. DRAYTON, *Secretary*.

AMERICAN INSTITUTE OF PHRENOLOGY.

THE SESSION OF 1885 WILL OPEN ON THE FIRST TUESDAY OF OCTOBER.

THERE IS BUT ONE SESSION DURING THE YEAR.

THIS is the only Institution of the kind in the world where a course of thorough and practical instruction in Phrenology is given, and nowhere else can be found such facilities as are possessed by the American Institute of Phrenology, consisting of a large cabinet of skulls—human and animal—with busts, casts, portraits, anatomical preparations, skeletons, plates, models, etc.

THE COURSE OF INSTRUCTION.

This consists of one hundred or more lectures and lessons covering a term of about six weeks—one lesson being given each morning, afternoon, and evening during the term.

TOPICS.

I. GENERAL PRINCIPLES.

The philosophy of the organic constitution, its relation to mind, character, and motive; mental philosophy, or the efforts of the best thinkers in all ages to find out the laws and operations of the mind and give their speculations the form of science

II. TEMPERAMENTS,

as indicating quality and giving tone and peculiarity to mental manifestation, also as affecting the choice of occupation; the law of harmony, and heredity as connected with the marriage relation; what constitutes a proper combination of temperaments with reference to health, long life, tendency to talent, virtue, and vice.

III. PHRENOLOGY.

Mental development explained; the true mode of estimating character according to Phrenological principles; Comparative Phrenology, the development and peculiarities of the animal kingdom, hints toward their gradation in the scale of being from the lowest to the highest; the facial angle, embodying curious and interesting facts relative to the qualities and habits of animals, tending to show that disposition is according to organization; instinct and reason; the phrenology of crime; imbecility and idiocy, causes and management; the elements of force, energy, industry, perseverance; the governing and aspiring groups; the division between the intellectual, spiritual, and animal regions of the brain, and how to ascertain this in the living head; the memory, how to develop and improve it; the reasoning faculties, and the part they play in civilization; location of the organs of the brain, how to estimate their size, absolute and relative.

IV. PHYSIOGNOMY.

The relations between the brain and the face, and between one part of the system and another as indicating character, talent, and peculiarities, voice, walk, expression, etc.

V. History of Phrenology in America and Europe.

and the struggles and sacrifices of its pioneers in disseminating its principles, especially in this country; and its enriching influence on education, literature, domestic life, government, morality, and religion.

VI. ETHNOLOGY.

The races and tribes of men, their peculiarities, and how to judge of nativity of race; especially how to detect infallibly the skulls of the several colored races.

VII. DISSECTION

and demonstration of the human brain; microscopic illustrations of different parts of the system in health and disease.

VIII. Anatomy and Physiology.

The brain and nervous system; the bones and muscles; how to maintain bodily vigor and the proper support of the brain; reciprocal influence of brain and body; respiration; circulation; digestion; growth and decay of the body; exercise; sunlight, sleep.

IX. Objections to Phrenology,

whether anatomical, physiological, practical, or religious, will be considered; how the skull enlarges to give room for the growing brain; the frontal sinus; loss or injury of the brain; thickness of the skull. fatalism, materialism, moral responsibility, etc.

X. Phrenology and Religion.

The moral bearings of Phrenology, and a correct physiology; its relation to religion; home training of the young as applied to education and virtue.

XI. CHOICE OF OCCUPATIONS.

Special attention will be given to this branch of the subject; what organizations are adapted to the different professions and pursuits, and how to put "the right man in the right place."

XII. Phrenology and Marriage.

The right relation of the sexes; what mental and temperamental qualities are adapted to a happy union and healthy offspring, and why.

XIII. Natural Language of the Faculties.

The attitudes, motions, carriage of the head, style of speech growing out of the activity of the different organs, and how to read character thereby.

XIV. EXAMINATIONS

of heads explained; practical experiments; heads examined by each of the students, who will be thoroughly trained and instructed how to make examinations privately and publicly; especially training in the examination of skulls.

XV. HYGIENE.

How to take care of the body as to dress, rest, recreation, food, diet, right and wrong habits; what food is best for persons of different temperaments and pursuits; what food tends to make one fat or lean; what feeds brain and muscle; stimulants, their nature and abuse, what to avoid, and why.

XVI. PSYCHOLOGY.

Under this head, mesmerism and clairvoyance will be explained, and the laws discussed on which they are supposed to depend.

XVII. HEREDITY.

The law of inheritance in general and in particular; resemblance to parents, how to determine which parent a person resembles; what features of face, what classes of faculties or portions of the general build are

inherited from the father or from the mother.

XVIII. INSANITY.

its laws and peculiarities; the faculties in which different persons are most likely to be insane, and how to detect it in a person.

XIX. IDIOCY.

its causes and how to avoid them; its peculiarities and how to understand them; how to detect it where the head is well formed.

XX. ELOCUTION.

How to cultivate the voice; eloquence, how to attain the art; careful instruction in reading and speaking with a view to success in the lecture-field.

XXI. HOW TO LECTURE.

The best methods of presenting Phrenology and Physiology to the public; how to obtain audiences and how to hold and instruct them; general business management in connection with the lecture-field.

XXII. Review and Examination.

Questions on all points relating to the subject, which may be proposed by the students, answered; in turn, students will be carefully examined in the branches taught who will give in their own words their knowledge of the subject.

XXIII. How to Apply Phrenology

practically in reading character by the combinations of faculties, and how to assign to each person the true field of effort in education, business, social adaptation, and, in short, how to make life a success and its opportunities the means of happiness.

Finally, it is the aim of the instructors to transfer to students, so far as it is possible, all the knowledge of Anthropology which a long experience in the practice of their profession has enabled them to acquire—in a word, to qualify students to take their places in this man-improving field of usefulness. Time must, before long, make some of their places vacant, and now the opportunity is afforded students to secure what they can teach.

TEXT-BOOKS.—Among the works most useful to be studied by those who wish to master Phrenology, we recommend the following "STUDENT'S SET," which will be sent, by express, for \$10, when all are ordered at one time:

Brain and Mind; a Text-Book. By Drayton & McNiell	-	\$1 50
Forty Years in Phrenology. By Nelson Sizer. Illustrated	-	1 50
How to Read Character. By S. R. Wells. Illustrated	-	1 25
Constitution of Man. By George Combe	- - -	1 50
New Physiognomy. By S. R. Wells. 1,000 Illustrations	-	5 00
Choice of Pursuits. By Nelson Sizer. Illustrated	- -	1 75
Popular Physiology. By R. T. Trall, M.D.	- - -	1 25
Phrenological Bust. By Fowler & Wells	- - -	1 00

The opening exercises will be held in the hall of the Institute, 753 Broadway, at 2 o'clock P.M., and it is very desirable that all students be present at the time. When this is not practicable, there should be as little delay as possible.

TERMS.—The cost of tuition for the full course, including diploma, for ladies and gentlemen, is reduced to \$50. Incidental expenses in New York, including board, need not cost more than \$35.

It is desirable that all who intend to be students should send in their names at an early day. For additional information, address FOWLER & WELLS CO., 753 Broadway, N. Y.

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May, 1885

[WHOLE No. 557.



THE NEW SECRETARY OF STATE, THOMAS F. BAYARD.

AFTER the fact of Mr. Cleveland's election to the Presidency had been determined, our professional politicians began to canvass the probabilities with regard to the men who should be invited by the new President to assist him in the administration of national affairs. Of course the incoming Cabinet must be

composed of persons whose party affiliation was with that great body that selected Mr. Cleveland as its representative in the struggle for supremacy at Washington. A Democratic President must have for his immediate councillors men nominally Democrats. When it was finally announced who the Cabinet officers were—and it must be admitted that we have had no President before who kept his own counsel in the matter so well as Mr. Cleveland—the general expression of the people was to the effect that good judgment had been shown for the most part. One of the appointments especially satisfactory is that of the late Senator from Delaware, to the most important place of Secretary of State, and to some consideration of him we devote a part of our space.

Taking the portrait as we have it under consideration, we say this is a face which impresses one with the notion of massiveness at first sight; it has breadth, fullness, and weight; the longer we look at it the stronger becomes the impression that it possesses the elements of superior mental equilibrium. The brain is evidently well sustained, that is, the constitution is strong. The nervous system has been well nourished from early life, so that the brain has developed with much more than the average symmetry. The majority of heads as met with among men of pursuits that require the special exercise of the mental faculties, show a want of symmetry; one side being much larger than the other. That both sides are rarely found precisely alike, is a scientific fact, but the difference may be so slight as not to be apparent to the average observer; and this is the case usually when a person has received a good inheritance of physical stamina, and added to

that, judicious guidance in his education and mode of living. If there be a want of balance between the hemispheres of the brain at the start of one's life, it will be much increased by incorrect methods of training and living. The majority of men in sedentary pursuits have unequal heads because in their youth the hemispheres were unequally nourished.

Mr. Bayard should be known for poise of character, for deliberation, and quiet energy. He is clear-sighted and of a temperament that is active. He notes conditions quickly, forms his judgment of subjects promptly, and is disposed to thoroughness in the application of principles and in the carrying out of his conclusions; but he is, however, deliberate in action, not dashing, and never precipitate although emphatic.

He should, with such an intellect, be a close analyzer, understanding nice differences, especially in the consideration of details that belong to the discussion of a question; he is naturally juridical, and his decisions are rarely appealed from.

That is a well-cut nose, slightly Roman in profile; it denotes steadiness, tenacity of purpose, and independent assurance. The mouth is kind, although firm; the eyes are gentle in their expression, while keen and inquiring; the forehead is broad, there is much amplitude in the temples, and their fullness extending upward shows the possession of more than average ability to appreciate mechanism, to plan, to organize, with capacity to appreciate the artistic, the nice, the graceful.

With such an organization Mr. Bayard should incline to be practical, yet it is practicality that takes into the account what belongs to the nicer relations of life. He may be brief and clear as a speaker, but his language is refined and dignified.

He would, we think, have been well fitted for literature, especially on the side of criticism and historical research.

The head is large, but we infer from the indications of the portrait, that the intellectual region much predominates; that the forehead shows a long reach from the ear. He should be capable of accumulating a great amount of information; he can pack away details in abundance, and is able to call them at his will; is not disturbed by variety and extent of data, but can assort and organize them with high success.

The breadth of the forehead in the upper part shows appreciation of the humorous side of life; he should be able to wield a trenchant wit in argument, grasping quickly the inconsistent and the incongruous that may appear in an adversary's reasoning, and converting it to his own advantage. The moral region is well built up, especially in the anterior part, the seat of kindness, sympathy, allowance, and tolerance. With such a head we could scarcely attribute to its owner qualities of bigotry and dogmatism in religious matters, while his sense of reverence for the unseen and spiritual is deep and abiding.

THOMAS FRANCIS BAYARD is one of our best-known characters—he comes of a family that has been very conspicuous in American politics. Four generations of Bayards have occupied high stations in Congress and in the diplomatic service. They can trace their ancestry back to the age of chivalry in France. Mr. Bayard was born in Wilmington, Del., Oct. 29, 1828. His early boyhood was spent at home, but at the age of 13 years he was sent to the school of Rev. Dr. Francis L. Hawks, at Flushing, Long Island, where he remained for some time. Subsequently, in 1843, his father brought him to New

York, and procured a clerkship for him in the mercantile house of August Van Cortlandt Schermerhorn. He received an excellent business training here, which was added to by some like service with the house of S. Morris Wain, of Philadelphia.

Upon the death of his elder brother, in 1848, Mr. Bayard returned to Wilmington at the request of his parents. The profession of the law attracted him, and, applying himself to its study, he was admitted to the Bar in 1851, and immediately began to practice in his father's office. He was successful from the start, and his advance in local fame was rapid. The appointment of United States Attorney for Delaware was bestowed upon him in 1853, but he resigned the office in the following year. Soon afterward the young lawyer went to Philadelphia and formed a copartnership with William Shippen, which was terminated in 1858 by the death of Mr. Shippen. Then, although he had been successful in Philadelphia, Mr. Bayard soon turned his face again homeward. The domestic and social ties in Wilmington were too strong to be resisted. Besides, his father was engrossed with public duties, and needed the son's assistance in his legal operations.

When the late war began Mr. Bayard was hard at work in his profession. The people of Wilmington, appreciative of their perilous location between North and South, set about organizing means of self-protection. A militia company was organized, and Thomas F. Bayard was elected its First Lieutenant. In June, 1861, the famous peace meeting of citizens was held at Dover, and Lieut. Bayard was one of the principal speakers. He denounced the war, and his remarks on that occasion have been quoted, in later years, as an argument against his availability as a Presidential candidate. Although a student of political history and a keen and interested watcher of public events, Mr. Bayard was never an active politician in the common interpretation of the term. He was sent to the

United States Senate from Delaware in 1869, at which time both branches of Congress were strongly Republican. In this branch of official service he is the fifth of his family who has so represented his State. His colleague was Willard Saulsbury. Almost at the outset of his Senatorial career Mr. Bayard took a leading position on the Democratic side, his ability as a debater being regarded as a source of party strength by his fellow Democrats in the Senate. He was usually an earnest opponent of characteristic Republican measures. He worked diligently, and was given places of responsibility on committees. He was one of the committee that investigated the Custom House in this city in 1872, and exposed the abuses of the general order and moiety system.

Senator Bayard took an active part in

the discussions concerning the Presidential election of 1876, and was an advocate, and subsequently a member, of the Electoral Commission. He has spoken frequently on financial questions and always in favor of a solid financial basis. He steadfastly worked for a resumption of specie payments after the war, and never swerved from the expressed opinion that the currency should be related to hard money. In October, 1856, Mr. Bayard married Louisa, daughter of Josiah Lee, a Baltimore banker. Three sons and six daughters, all of whom are living, are the result of that union. In 1877 he received the honorary degree of LL.D. from Harvard College. About a year later he went to Europe with some members of his family, and upon his return, in the fall of 1879, he was given a public reception by the citizens of Wilmington.

BOSWELL AND JOHNSON.

WHEN Pope said, "The proper study of mankind is man," and supplemented it with detailing all the contradictory elements of human nature in a way calculated still more to perplex and frustrate attempts at defining the purpose of life, he did what theorists have often done before—shown their failure in deducing from apparently conflicting aspects the positive, perpetual principle, or law, to which all existence points like the needle of a compass shifting ever to its attraction, no matter what the veerings of an arbitrary will. This law or principle of life is use. Existence is its embodiment. And no matter what the eccentricities of mind, what the contradictory conduct or aspect of lives, this law is fulfilled and its work consummated.

Failure to deduce a great principle from a combination of small particulars is proved by the poor use that has been made of Boswell's *Life of Johnson*. Boswell's appropriate genius produced a book which, without literary merit, is better known than any of the produc-

tions of him whom it commemorates; and through it the world is left to the inexhaustible enjoyment of contemplating the usual medley of human nature in the various shades which commentators have chosen to put upon it. Its general and popular presentation has been humorous to the unthinking and perplexing to the thoughtful. Boswell is drawn in as the indispensable fool to a royal comedy. The only attention ever given him is as the faithful reflector of a great light, and even in that capacity an extra coating of self-importance has seemed very natural and necessary to the purpose. Thus, every instance of remarkable devotion and good nature, every expression of admiration or reverence, and assiduous display of his friend's great qualities on the part of Johnson's biographer, is credited to no higher motive than self-display. Johnson is presented as Boswell's sacred white elephant, at once his oracle and his opportunity for showing the world how well he deserved to be its high-priest and exponent. The unaffected simplicity of his ardor did not prevent them from showing

that Boswell shrewdly perceived his divinity's weakness for the incense of flattery and homage which he constantly wafted to it. This, without the necessity of diving deeper for physiological reasons, explains satisfactorily and entertainingly the secret of the amiable relations between two such opposite, and, in point of intellect, widely separated minds.

Such is the world's general picture of

tations upon the eccentricities and inconsistencies of character which lead to nothing but a general sense of the mystery and incomprehensibility of life, is nowhere more apparent than the numerous reviews of Boswell's *Life of Johnson*. The grandeur of a noble life and a splendid intellect and the ludicrousness of petty considerations are placed side by side in inexplicable contrast. This may be per-



DR. SAMUEL JOHNSON. (FROM AN OLD PRINT.)

Johnson and his friend; an amiable caricature of appearances, a few rapid strokes expressing the popular conception of an immediate view. But beneath the fact is the meaning of the fact, its purpose and occasion, and the cheap entertainment afforded by the observation of externals seems poor and mean by contrast.

The deplorable tendency of critics and essayists to fasten upon externals, to regale public curiosity with solemn disser-

fectly consistent with the general tenor and aspect of life, which is always a medley of the sublime and the mean. But it is so only through our tendency to hasten everything to its conclusion upon the slightest inferences, and it behooves those who set themselves up as exponents of famous lives to point out the ultimate results, of which small things have served to show the moving principles and elements, rather than to show the small things themselves. We know all about

Johnson's individualities, but if we are to believe that "whatever is, is right," and that there are immutable laws which work everything to its destined end, we want to have some conception of this invisible machinery and some palpable proof of its achievements. This can only be done by explaining the uses of characteristics and the influence and relations they bear to each other. A great wheel is unsuggestive of its utility until we have seen it harnessed to belt and power. And what men handle as perplexing and irreconcilable in great characters, they handle as wheels of whose proper functions and place they are ignorant—as unwieldy playthings for the world to mount and break its head upon. Something like this has been the use of Boswell's Life of Johnson.

In considering individuals the world is apt to forget that they are part and parcel of the universe, subject to laws whose relations are manifest only to the philosopher. Sometimes an Emerson will communicate to our cruder sense brief glimpses of the inner harmonies, but for the most part we are left to grope as we can through thick tangles. The general tendency of minds to probe and require the reason of things, even though the majority are unable to fathom and grasp it, is an effort of those laws to reveal themselves through every available channel however imperfect. We may therefore probe and trace with persevering confidence, sure that the light, seeking space to illumine, will burst through the first opening we shall make.

In character, as in nature, there seems to be a general reciprocation of elements for perfect development of distinctive functions. Every man has that in him which will supply to, and receive stimulus from, some other quality in his fellow-man. The want of this reciprocation is seen in imperfect unions and unprofitable friendships; for the infancy of man's comprehension and self-knowledge is most apparent in its gropings after, and accidental meetings of, congeniality. The meeting of Boswell and Johnson is a com-

plete illustration. While Boswell was blunderingly feeling his way, Johnson was repulsing him, yet was himself unconsciously attracted. And once within the working power of a natural law, one might have safely predicted their lifelong friendship. This law was a happy disposition of faculties acting harmoniously upon each other. What would have been a cause of rupture with one, the other covered with an answering preventive in his disposition. Thus their friendship was a mutual necessity, none the less imperative because they were unconscious of the law to which they adhered. The sources of predilections and impressions are wrapped in mystery until we place ourselves *en rapport* with this vital principle.

Instead of retailing the old anecdotal rubbish, let us draw from Johnson's life the general causes and meanings of his conduct. We may easily trace his strange fears, melancholy self-accusations and indolence to physical infirmities. His susceptibility to homage, his need to dictate and sway, was a reaching forth, as it were, of all his magnificent powers for exercise, and a ready, matter-of-course acceptance of its rewards. That everything gratifying is the necessary result of some merit was an established fact in Johnson's mind, which explains his undisguised pleasure at flattery and his complacent acceptance of whatever was offered in the shape of tribute, from the most trifling concessions of his argumentative friends to the favor and the pension of a king. His definition of flattery is suggestive: "If flattery is not sincere, it proves at least that you have the power to make others wish to please you." Power was Johnson's "open sesame" to the regions of intellectual conquest, the lever of his influence and the leveller of presumption. He had an Englishman's love of strength and force, and would see results.

His friends were, in a way, only so many indispensable Boswells. And it rests with us to fix upon the single original for learning the true secret of their

relations to him; and finally, we have the hint which we may, in a wider sense, apply to the movement of all lesser minds toward some strong, coercive intellect.

Everybody comprehends the character of Boswell, because it is not beyond the depth of general mankind. His motives and powers and impulses are commonplace enough, and may be summarily defined as a general inclining of all faculties to some stronger, superior attraction. Impressionability and receptivity, combined with the keen appreciation of an active, though average intellect, shows itself in the devotion, admiration, and compliance which Boswell gave to his great friend. Minds once thoroughly engrossed with enthusiasm seldom pause to consider the restraining niceties of propriety. Boswell's excessive homage, partiality, and often coarse flattery to Dr. Johnson, are much more the expression of absorbing, honest love, than indicative of a petty design to encompass a great genius with small expedients. This supposition is especially ridiculous when we consider Johnson's acute penetration, and his swift, sure home-thrusts at any undue servility or flattery which savored of design. Strictly and truly speaking, their congenial intercourse was based on the mutual reciprocity of those dominant elements of character which, in all of us, are constantly reaching out in search of counterparts. Johnson's positive aggression and power in personal influence was support, stamina, and impetus to Boswell's weaker nature; and Boswell's pliability, his genius for adapting himself to any situation or humor, supplied most agreeably the demands of Johnson's characteristic imperiousness.

The relations of Boswell and Johnson may thus be considered in the abstract as the relations of the inferior part of humanity to the superior—the leaning and reaching of the pliant multitude for the strong hand of the hero—and is at once more largely and particularly instanced in the world's general receptivity. Al-

most every reader of Johnson's life and works is another Boswell, in deriving a conscious elevation from Johnson's moral greatness and throwing open every faculty for the reception of his trenchant wisdom. The part, therefore, which Boswell played as a devoted enthusiast, savored no more of servility than the part the eager, applauding, crowning world sustains toward its great leading minds. Boswell, in his single individuality, represents the state of the universal, average mind, and in his intercourse with Johnson shows the effect of a superior mind



DR. JOHNSON'S BIRTH-PLACE.

upon it, and together they fulfil the great law of development and progress as leader and follower, teacher and disciple—each a relative necessity to the other.

Having before us a rough figure of the immediate relation and influence of beings upon each other, let us find a proper place for the smaller details of character which still remain unrelated to a definite use and therefore perplex us.

Every character has its peculiar superficialities, which neither add to nor detract from its vital elements. It needs only that we recognize as trivial and inconsequent these redundant humors.

The freaks and foibles of the great belong to the same category as the popular greed to take note of and magnify them. We can not hear enough of the personal habits of the soldier, the statesman, the poet who claims our admiration; and shall we say that the migraine to write and talk about the peculiarities of the great is more than equal to the desire for giving occasion to be written and talked about? Picture Boswell submitting his journal to Johnson's perusal and correction, and the latter's complacent satisfaction and approval!

Let us see how, at this day, Johnson influences us. The first thing that we are



JAMES BOSWELL.

aware of is power and intense humanity. His great, burly figure is the physical sign of the magnitude of his human nature. Mentally, morally, and physically, he was on a large scale. His impetuosity, wilfulness, grossness, were overwhelming; untamed, untrained power, and intense human nature. All the vagaries, promptings, impulses, contrarities, and inconsistencies of human nature were intensified in him, as shown by his associations with such characters as Goldsmith, Savage, Hervey, Baretti, and the gay Langdon—men of some talent and more animal spirit. And one has but to reflect upon his love of pleasure, his keen appreciation of life and his ter-

ror of its extinction, to know that Johnson's nature possessed that strong vitality which, without a great preponderance of mental and moral forces, would have led him into all kinds of excesses, but with it, resulted in that grand combination of magnetic will-power and superior activity which drew mankind to him through the affinity of common human elements, while it kept himself and everything under his influence above the common level of human associations. No man was more near and dear to the hearts of his friends, and no being once acquainted with the true inward spirit of his life and works was not his friend; for through all there swept that grand current of human sympathy and spirit-power which has been the uplifting and salvation of the race through all ages. Mere intellect and mere spirituality, as an influence among men, is weak and inoperative, and we wait for that "touch of nature" which "makes the whole world kin." The human mind comprehends by similes and comparisons, and the master must not be too far in advance of his pupil.

The final question is, how can a man so harmoniously endowed for influencing and benefiting others, himself lead such an inharmonious life? Because the influence he exerted was the effect of two strong elements which he himself possessed in their original, unharmonized force, and because, as will be shown immediately, in that crude state they are not assimilable within the narrow compass of a single individual. The greatest scholar of the seventeenth century, with less personal exertion than many a student gives to a single study, he was at the same time a great, wilful, simple-hearted child of nature. Nothing strikes us so much in the life of Dr. Johnson as the disparity and total independence of Johnson's human nature and Johnson's spiritual nature. Fancying him near us, our first wonder would be that such a man could say such things—not that there is not sufficient external evidence of the power within, but that his nature

and his ideas are so strikingly divergent, so contradictory. We know by the general non-conformity of great lives with their teachings, that powers once started into life will work through their own virtue. Nothing can explain Johnson's conduct in life better than the granting of this fact, that his powers worked through, but comparatively independent of him, except as far as his person supplied the necessary mechanism; that he was the instrument of a propelling force rather than the force itself; and that he was proportionately less refiningly and evenly influenced, and more disturbed, more violently propelled, as he was the vessel of its immediate activity. Observe his natural indolence and his mental activity, and when comparative affluence encouraged the former, the latter found its way in brilliant utterances and profound meditations. Then notice the workings of those powers within himself in his constant resolutions, his efforts to overcome natural weaknesses, and his self-reproaches at his own insufficiencies and disabilities. Philosopher that he was, he seemed never to have realized that human achievement is limited to human capacity, and that powers greater than the individual are ever destined to fertilize a generation's growth.

Keeping in mind this important fact, it will be an easy matter to understand a life at once so intensely human in its clings to errors, habits, prejudices, and fears, and so spiritual in its efforts, aspirations, and mental reach, by a total dissociation of his personality from his intellectual powers, and to recognize the sublime ultimatum which runs through every vein and phase of existence. When individuals are our study only for the ideas to which they give birth and the progress to which they contribute, we perceive that their contradictory conduct, crude, inharmonious movements result from the jostling of infinite elements against finite limits. We may therefore safely let lives live out their little span as they may, if we can only put ourselves in the way of those eternal elements which

have made them useful and will make us so to the future generations.

Johnson's mind and nature were a fit medium for transmitting elemental truth, which seems to come at certain intervals through great minds to replenish human needs. We are, like Boswell, its treasuring receptacles, sustained by its riches and enabled to contribute our share to the progressive destiny of mankind. Thus ever, through our frail, transient, mortal lives, runs this perpetual necessity of use—use, a higher use for a higher end. We know not whence it originated or whither it may tend. But this we know, that through the labyrinths of human perplexities and human insufficiency do genius and virtue lead the progress of the ages. And we, whose view into the mysteries of the infinite is little better than a blind man's conception of the starry heavens, do well to obey this known law of the universe with all our hearts and all our faculties, allowing each his merit of instrumentality, without impeding him by our futile adulation or frustrating him by holding up his infirmities.

But besides this supreme law of use which we have drawn from the history of two parallel lives and applied to the relations of superior and average lives in general, there is still another picture of him, on which no one can fail to read the divine intent of moral precepts for himself. It is his nearness to everything that affects and binds us to earth, the affiliation of his nature with human nature, amidst every demonstration of a superior, triumphant spirit. In human manifestations his weakness and subjection show how near—how very near and like he was to all those who dare to use born infirmities for palliation of conduct. But in virtue, morality, steadfast rectitude, his strength shows how his great destiny was fulfilled amid surrounding, harassing temptations. There was no fault he did not possess and strive to correct—no appetite he did not restrain the moment it interfered with his higher nature. There was no man in appearance

and composition more earthly, yet few whose inner life possessed so much of the heavenly. Shall we not say, therefore, that such a life is the fittest illustration of what is expected from and can be reached in relative perfection by the weakest creature? If he was weak as we are, can we not also be strong as he was? As he was like us in human infirmities, can we not also be like him in divine aspirations? Contemplate him in his last hour. It is a human being, truly, in all the throes of nature's struggling forces. But it is more. It is an heroic soul—gentle, considerate, blessing oth-

ers, while physical and mental anguish struggled for the mastery, and, at last, calm in the strength of a triumphant faith. *Requiescat in pace*, this leader and teacher of humanity! His history is the history of the great world-struggle that has gone on for ages and may go on for ages more between the sensuous and the spiritual, between the downward-chaining tendency of an infernal gravitation and the uplifting of an infinite element, unseen, but all-pervading, and—as it was in every determining act of his life and in his last moments—all-triumphant!

BERTHA A. ZEDI WINKLER.

TRUE THEORY OF EDUCATION.*

SOURCE.

THE correct theory of education must evidently be obtained from a knowledge of the nature of man, the constitution of his mind. In Part I. we have studied the mind, its faculties and their relation to the external world and to conduct. It remains for us now to determine the purpose of man's being, what is necessary to secure that purpose, and in what way this purpose may be secured. To get a better idea of the mental nature of man we will compare it with that of the lower animals.

MENTAL NATURE OF THE LOWER ANIMALS.

The line dividing animal from vegetable life has not yet been definitely settled. And although there is a great similarity between the higher animals and man, yet the difference is vast. But it is apparent to every thoughtful person that as we pass from the lowest to the highest forms of life there is a gradual increase in the complexity of organization, and a constant increase of activity, from the simple and only power to assimilate food to that reason that masters nature, and that power of feeling that allies man

to God. As we pass up the scale of animal life we find more complex structures. Here we find the rudiments of a nervous system, and the power of sensation and motion. These powers are accompanied with the mental desire for agreeable sensation and exercise. Going a little higher we find a more complex nervous system, and greater power of sensation and motion. A little higher up we find considerable intelligence manifested in self-preservation.

Above these we find animals that are capable of providing homes. They love their young and live in communities, and often work together for mutual good. The highest animals have a nervous system almost as complex as that of man, their physical powers are in many cases superior, and their intelligence so great that we can not deny them a degree of reason.

In some of the feelings, and even in intellect, animals and man approach each other very closely. Yet there is a vast difference between them. Animals have the self-relative faculties: the Domestic Propensities, the Governing Faculties, the Perceptives; but if they have the conforming, the *Æsthetical* and *Reflectives*, these are in a very inferior degree of development.

Being deprived of the conforming fac-

* "Science of Mind : Applied to Teaching." In preparation.

ulties and reason, their nature is practically a unit. All their desires have but one end in view and that is, the gratification of self. The animals are creatures of impulse, and their impulses are always in the same direction. This is not strictly true; for the impulses that move them to actions sometimes conflict, yet it is so rare that practically their nature is a unit, and the highest good to the animal lies in following its impulses until satisfaction results. No thought is necessary; for there is but one way, and that is to follow the impulse. In a state of nature the instincts of animals are right, and it were useless if it were possible, to teach them what to do. So animals are as they should be. They can not be better fitted to secure the end of their being. The animal is in perfect harmony with itself and the external world. The lion kills the helpless lamb, licks his jaws with satisfaction, lies down and sleeps the sleep of the innocent. Should he awake and manifest remorse because of the deed, we would declare him a most unhappy creature, being thus driven by an impulse to do a thing, and then tortured by another impulse equally irresistible. There is no conflict in the mental nature of the animals, their impulses or instincts are right, and the highest good to the animal comes through following this instinct. There is no need for a change, no need for education.

THE MENTAL NATURE OF MAN.

Man has all the impulses or instincts to action which the animals have; but he has beside these the conforming or moral faculties. These interest him in his fellows, and cause him to desire to do something for them, and this desire is often in direct opposition to another desire to do something for self. To-day man desires an object for self-gratification; he follows the impulse: to-morrow his conscience smites him for the act. His Benevolence prompts him to a deed of charity; his Acquisitiveness suffers; for this deed has cost a loss of property. His Self-esteem prompts to words of

pride; Veneration condemns these, and prompts to humility. The appetites prompt to sensuality; the Æsthetical faculties defeat these desires and turn them into another course.

Man's mental nature seems to be dual, having impulses that prompt to opposite courses of conduct. There is a constant conflict in the very source of action that so confuses him that he has no rule of conduct, and is as likely to do himself harm as good. In a pure state of nature he is a most unhappy creature. There is no harmony in his instincts, and he has reason enough to make him superstitious and cowardly. He is thus the victim of mental and physical weakness. Living for centuries in this state of doubt and darkness, gradually by bitter experience he learns a few principles of conduct; these lead to others, and after ages of suffering, he is able to control his impulses in a way that will bring him the most happiness. He learns to master himself, and the elements about him, and thus brings himself into harmony with himself and with the external world, and then we call him civilized man. We see then that man in a state of nature is not what he should be, but that there must a great change be wrought in his mental nature in order that he may realize the purpose of his being. There is need for education.

THE HARMONIZER OF MAN'S NATURE.

The animals require little intellect; for they are adapted to the external world, and their instincts are unerring guides to conduct. But man without the reflective intellect would not be adapted to all parts of the world in which he must live. He is not even able to get his food unaided by reason. He can not defend himself against the wild beasts unless he can command a greater physical force than that furnished him by nature. He can not live in all climates in a state of nature. In the north he must protect himself against the cold; in the south against the heat. He can not follow his instincts, for they conflict and prompt to opposite actions.

Man has been endowed with a higher degree of the perceptive intellect. By means of these faculties he is able to observe the objects about him, can know their properties, and their relations to each other and to himself. In memory he can keep his knowledge for future use. He has been endowed with the Reflective intellect, by means of which he can look in upon the operation of his own faculties, compare impressions obtained, and arrive at general truths. By these he comprehends the relation of cause to effect. Then if he desires a certain result he may apply the cause and create what he desires. By the co-operation of all his intellectual faculties he is able to view external nature as it is ; and not only this, but he is able to know himself as he is. Through intelligence man is able to know the properties of all things, and their relation to one another, their effect upon each other. Furthermore he is able to apply these relations and forces in such a way as to produce any result which to him seems desirable. By his knowledge and the manipulation of the forces inherent in things, he is all-powerful almost in his sphere of action.

A knowledge of things as they are is truth. The animal needs only to follow impulse and all is well with him, but man must first get at the truth, and then follow the impulse which is in harmony with the true. When man has the truth then he can direct his conduct in such a way as is most beneficial to himself, and also to those to whom he is related ; that is, he can act in a way that is in harmony with his whole nature, and with external nature also. If he does not have the truth he is likely to act in a way to injure himself. When he has a wrong conception of things, he may act so that his well-intended acts result disastrously. When he possesses the whole truth he can direct his conduct with as much assurance of gaining that which is for his highest good as can the animal by following its instincts.

Man can not rely upon his instinct alone, he must rely upon the truth. It

is the light to his path, and the unerring guide to his happiness. The intellect makes it possible for man to know the truth, and thus becomes the harmonizer of his conflicting nature. It consists of those powers which make him master of the forces of nature, and if these do not work to his advantage, he compels them to do so. By the power of the intellect he makes the winds, electricity, the ocean, gravitation, and every substance and force do his bidding. It enables him to know his own powers, and by all this truth he is able to bring all forces to bear upon himself, and so make himself stronger, better, and happier. Thought and experience are the parents of truth. They have taught man when and under what circumstances it is best to indulge and when to restrain certain impulses. They have taught him that honesty is the best policy, that to love his neighbor as himself is productive of most good. Profiting by his thought and experience he has raised himself from the darkness of savage life to the light of civilization. As a civilized man he can adapt himself to all conditions imposed upon him by his surroundings and by his own constitution. By means of the truth he has found the way that leads him to his highest happiness and well-being, and this way he calls the Right.

THE RIGHT.

Fitness is at the foundation of the right. That which is in harmony with everything else that has fitness is right. We may strike several notes on an instrument. These notes are in harmony with each other,—that is, they have fitness. If we strike another note and it too harmonizes, it too has fitness, and is therefore right. But if we strike one that does not harmonize we destroy the fitness of these tones, and this is analogous to wrong. Every man holds a certain relation to every other man. Now if each man is in a state of fitness himself, and each acts in such a way as to harmonize with himself and with his neighbor, he does the fitting thing, or he does the right. Right between man and

man is then an act which accords with the well-being of all. The right secures benefit to some and injury to none.

Man has many desires, and a certain way of gratifying one desire gives pain to another. It therefore becomes necessary for him to determine how he may gratify the one without injury to another. His acts must be such as are fitting to his own nature when it is in the most fitting condition. It is in the most fitting condition when the superior faculties hold the supremacy, and the intellect is enlightened with the truth.

Man holds a certain relation to his Creator, and he does the right when he is in a state of fitness to that relation. An act or a course of conduct is right when it results in man's highest good, and wrong when it works injury to self or to others. Right is the straight and narrow way that leads to life—that is, happy existence. Wrong is the broad road that leads to death. To do the right requires effort and knowledge of the truth, but to do the wrong requires neither.

WHAT MAN MUST DO.

Man must, therefore, not follow his impulses, but obtain the truth and by its light he must endeavor to do the right. Any other course is destructive of his happiness and well-being. To do the right requires two things:

First. He must have an extensive knowledge of the truth about himself, and all those things with which he comes in contact. This knowledge prevents his doing wrong from ignorance.

Second. All his impulses must be brought under such control that they will always be subservient to enlightened intellect and will. The higher motives, such as conscience, kindness, faith, hope, sympathy, and purity, must be so strong as to have a controlling influence in the mind, and thus direct the will toward the right; and being thus fortified by truth and controlled by superior motives, the lower impulses are made to be servants, and man is almost certain to do the right.

THE IDEAL MAN.

As we have seen, man in a state of nature, although superior to the animals in capability, is inferior to them in the ability to realize all the possibilities of his nature. It requires only a few years for most animals to reach the perfection of which they are capable; but it takes the human race centuries to reach even a moderate degree of what it is capable. The men who have in this day of enlightenment reached the highest degree of culture are inferior to those who are to come after them. The ideal man is he who has reached the full and harmonious development of his physical and mental natures; and the possibilities of their development become greater as knowledge of the truth becomes more complete. The best man is he whose physical nature is strong and in good health, whose intellect is vigorous and enlightened with an extensive knowledge of the truth, whose impulses are strong and under such control of the will that at all times he does the right. He who can thus control himself and the powers of nature is in a state of freedom. It is this freedom that most distinguishes the ideal man from the savage.

THE PURPOSE OF MAN'S BEING.

All things that have life seem to strive to become perfect. The acorn strives to become a perfect oak. The cub strives to become a perfect lion. Man is not an exception to this law. He too should strive to become a perfect man. But as we have seen, mind is by far the greater part of the man. So while he should strive to become perfect in body he should strive far more to become perfect in his mental nature. The perfection of his mental nature is secured when he can use all his faculties to the full extent of their power, and can obey habitually the dictates of conscience and reason,—when he has gained that rational freedom that distinguishes the ideal man from the savage.

Happiness is the incentive that leads him to desire this freedom; for it is only then that he can exert all his power with

greatest ease, and realize that happiness for which he seeks.

EDUCATION.

The process of obtaining the free, powerful, and right use of every faculty of the mind is called education. It is the process of obtaining rational freedom. Education consists of two processes:

Instruction.—The first process is instruction. This consists in presenting to the mind the opportunity to obtain truth. Instruction may be given orally, in books, or in any other way that one mind aids or influences another to obtain knowledge.

Training.—The second process is training. This consists in liberating the intellect by appropriate exercise, so that it may act freely and vigorously. Training also includes the subjection of the lower impulses to the higher ones, and to reason, so that conduct may be right.

A PROCESS OF LIBERATION.

Vegetation differs from inorganic matter in this, that vegetation has the power of vital action. Plants absorb inorganic matter and transform it into tissue. They have the power to grow. Animals differ from plants in possessing more activities. The higher animals differ from the lower in having more bodily and mental activities. Man differs from the higher animals in having more mental activities. He has reasoning, moral, and æsthetical faculties. The improvement of any object possessing life consists in liberating its activities, so that they may act freely and vigorously. The wild apple possesses the power to store up in its fruit certain ingredients which are good for food. The cultivation of the apple has in view the full development of these powers. The muscles of the arm and hand are capable of a wonderful variety and rapidity of movements. The student of music seeks to set free these muscles, that they may manifest their full power. The intellectual faculties are at first incapable of manifesting their entire power. The mental operations of the beginner remind one very

forcibly of the unskilled performer on an instrument. By appropriate exercise the faculties are set at liberty. So with the moral forces, they must be liberated by exercise and training that they may act to the full extent of their power.

The brain of a child is like the egg: it contains only the elementary powers. When the egg is placed in the proper conditions, these forces begin to become perfected, and the bird is formed in miniature. It breaks the shell, gets the use of its legs, then of its wings, and by a few days of exercise it is a completely finished bird, and can use all its powers to their greatest capacity. So the brain of the child contains all the powers of the man; but these powers are confined and under restraint. By exercise in the school or by contact with the world, these powers are liberated. The completely developed or educated man, with one sweep of the imagination comprehends the world, and with the strong arm of reason he masters the forces of all nature. Newton, Luther, and Columbus were endowed by nature with great powers of mind, and they possessed these powers as children. Had the circumstances in which they were placed not been such as to set these powers at liberty, they would never have shown them. The man is nothing more than an enlargement of the boy with his faculties set free. Education then is a process of liberation.

A DIRECTING PROCESS.

The mind is made up of many faculties, and there must be a difference in their rank. Some are adapted to be servants, and others to be masters of the will. Each feeling or motive has its sphere of activity, and in that sphere it produces good; out of that sphere it produces evil. Were a man adapted to life in solitude he might gratify his love of gain to any extent; but being a social being, he may gratify it only so far and in such a way that it does not interfere with the right of his neighbor. It is evident that the selfish propensities are inferior to the moral sentiments, and

where they interfere with the proper activity of the moral feelings, they must give way, and allow kindness and justice to prevail. The intellect enlightened with the truth furnishes that knowledge which is necessary to show the good or evil of a certain course of conduct. The higher motives incline the will toward the good in preference to the evil,

and therefore the intellect and moral sentiments should hold the supremacy in conduct. The educator must, therefore, seek to so direct the mind as to establish this supremacy. Education then consists in (1) furnishing a knowledge of the truth, (2) of liberating the mental faculties, (3) of directing and training the will to do the right. U. J. HOFFMAN.

THE BRAIN AND SKULL

PHYSIOLOGICALLY CONSIDERED.

THE human brain, by its location in the cranium, indicates something of its nature as a part of the human or-



Fig. 1.—GENERAL APPEARANCE OF THE BRAIN.

ganization. In the earliest times observers attributed to it a most important function in the affairs of life; some believing that it was the seat of the living principle or the soul, or had a special relation to the spiritual element; while there was a general belief that it in some way had to do with the intellect. The principal reasons assigned by ancient writers for this opinion seem to be the brain's situation in the skull and its peculiar structure and delicacy.

The knowledge of the Greeks and Romans with reference to the brain's anatomy appears to have been very scanty, and although anatomists like Aristotle and Hippocrates contributed much to general research as concerns the relations of the large organs of the body, yet very little was accomplished for the history of the special functions of the brain

as a whole until modern times, and even as late as the eighteenth century, when medical and surgical science began to make great progress. Under the leadership of such anatomists as Willis, Boerhaave, Van Swieten, and Haller, the functions of the nervous system became better understood, and insanity was clearly traced to brain disturbance; yet the attempts of these great men to explain the differential functions of this viscus were little more than speculations. Dr. Gall himself was not led, as some think, to the discovery of the physiology of the brain through its anatomy, but when he thought upon the course which was to

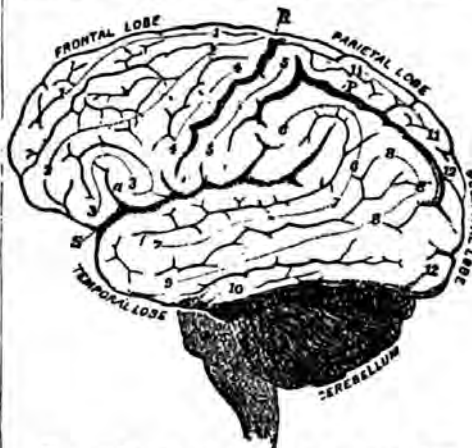


Fig. 2.—DISTRIBUTION OF PARTS OF THE BRAIN.

S.—Fissure of Sylvius; R.—Fissure of Rolando; Perpendicular Fissure between 11 and 12. The numbering refers to the course of primary convolutions.

conduct him to the history of its functions he deemed it quite necessary to occupy himself in part with its anatomy,

Haller had said, "to learn Physiology without Anatomy was absurd." He attributed with just reason all the theoretical confu-



Fig. 3.—BRAIN ENVELOPED WITH MEMBRANE.

sion with which the world had been inundated to those writers and teachers who sought to make Physiology and Medicine their vocation without having studied the actual organs of men or animals.

The whole mass included in the skull of man was called *encephalon* by the Greeks and *cerebrum* by the Latins. Today a division of this mass is recognized—one part being called the *cerebrum* and the other the *cerebellum*, or "little cerebrum." The first is situated anteriorly, and is by far the more voluminous; the second lies posteriorly, and in man under the cerebrum, as shown in the illustration.

The cerebrum, to which allusion is generally made when we speak of the brain, is provided with folds or convolutions; the structure of the cerebellum, as is noticeable, is quite different, being composed of layers as shown in the figure.

At the base of the brain another and rather important part is seen, the *medulla oblongata*, or oblong body, which connects the brain with the spinal cord, which in its turn is distributed in the canal formed by the articulation of the several vertebræ belonging to the spinal column.

THE CEREBRUM

is composed of two grand divisions nearly equal in size, each having an oblong form called *hemispheres*. They are separated by a deep channel in which lies a fold of the *dura mater* or membrane that covers the brain exteriorly, this fold being

known as the *falx cerebri*, or scythe-like process of the *dura mater*.

The hemispheres in their turn are structurally subdivided by the convolutions; and, for the sake of convenience, anatomists have mapped these convolutions according to a standard that is based upon a comparatively simple form of brain. They have also made a further division of the hemispheres into *lobes*. There are two classifications of the lobes in use—one defining three, the older, and one designating four, the later classification. The older describes, first, an *anterior* lobe lying in the skull over the orbits or eye-sockets; a middle lobe, which occupies the central space or fossa; a *posterior* lobe, occupying the back or occipital part of the cranium. The later division into four lobes is (1) the *frontal* lobe, (2) the *parietal* lobe, (3) the *occipital* lobe, and (4) the *temporal* lobe, each corresponding to the relation of the parts of the skull named, and their boundaries being determined for the most part by the more permanent fissures or openings between convolutions, viz.: the *fissure of Rolando* is taken to mark the superficial extent of the frontal lobe; the *fissure of*

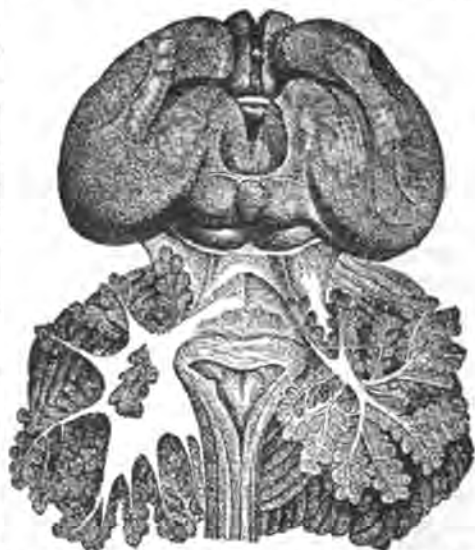


Fig. 4.—CEREBELLUM DIVIDED, SHOWING *Arbor Vitæ*.

Rolando and the *perpendicular fissure* bound the superior extent of the parietal lobe; the *perpendicular fissure* being

the posterior boundary and also dividing the parietal lobe from the occipital; and the *fissure of Sylvius*, being the



Fig. 5.—NATURAL DIVISIONS OF SKULL (SIDE VIEW).

upper boundary of the temporal lobe. This last fissure, it will be seen in the illustration, has a very definite position, and separates the upper and more prolonged convolutions from those in the lower central region or temporal fossæ.

THE CEREBELLUM.

The simplest examination of the *cerebellum* suffices to show that its structure is composed of layers; it also is divided into hemispheres, and the hemispheres into lobes. If a lobe of this organ be cut perpendicularly in its centre, as in Fig. 4, a peculiar marking or disposition of the white and gray substance composing it is observed. To this marking, on account of its resemblance to the branches and foliage of a tree, has been given the name *arbor vitæ*, or tree of life.

The hemispheres of the cerebrum are intimately associated by a band of white fibrous substance called the *corpus callosum*, or callous body, that is readily exposed to view by separating them with the fingers from above, and the cerebellum is connected with the cerebrum by means of connecting bands called *crura*; two of these ascending to the cerebrum and two descending to the *medulla oblongata*, which is the capital, so to speak,

of the spinal column. Two other bands of the *crura* blend together in front, forming the *pons varolii*, which lies directly above the *medulla*; the *pons* constitutes the general bond of union of the various segments we have mentioned, and is therefore not inaptly called the "bridge of Varolius," from the old anatomist who described it.

THE MEMBRANES.

The *dura mater*, or "hard mother," is a tough membrane that covers the whole brain and lines the interior of the skull, and is so elevated by the cerebral convolutions in life that they form impressions or grooves in the interior plate of the skull and also mark the orbitary or eye plates and temporal fossæ; so close indeed is the correspondence, that if a plaster cast of the cranial cavity be made, it will be found to have the form of the brain as it appears covered by the *dura mater*, the arteries that are distributed through the membranes being also exhibited in a striking manner.

Besides the *dura mater*, there are two other membranes, one directly in contact with the brain proper, called the *pia mater*, or "soft mother," which is a very thin, transparent, and delicate membrane; it sinks down into the folds of the convolutions and serves as a convey-

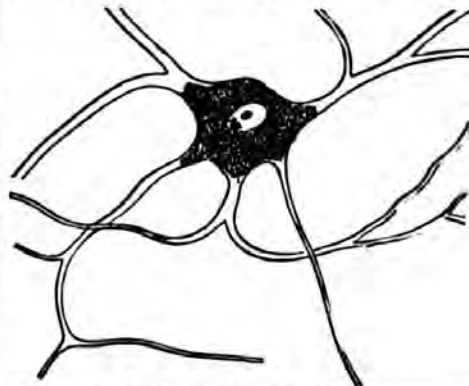


Fig. 6.—BRAIN CELL (MULTIPOLAR) MAGNIFIED.

ance for the blood-vessels. Over the *pia mater* is a layer of still thinner membrane called the *tunica arachnoidea*, because of its resemblance to a spider's web.

It is the *dura mater* that secretes the bony material of the skull and is analogous to the *periosteum* or membrane-covering bones in general. If the entire skull of a healthy man could be removed in such a manner as to leave the *dura mater* unimpaired, the latter would begin at once to form new bone, and would continue the process until a new skull had been formed. The process of absorption and repair is going on in the substance of the skull continually, and any marked change in the form and size of the brain is indicated more or less on the surface.

STRUCTURE AND RELATIONS OF THE SKULL.

The average thickness of the external layers of the cranium rarely exceeds three-sixteenths of an inch, while in organizations of very fine quality it has been found to be less than one-eighth of an inch, and then of densely-compacted tissue. Hence the anatomical relation of the cranium to the brain is that of a thin capsule or case nicely adjusted to the perfect protection of the delicate substance of the latter. This bony case is not completely formed, *i. e.*, does not inclose the brain at all points until several months or a year after birth, and as the brain may continue to grow for upward of fifty years, nature has admirably provided for its expansion by constructing its bony envelope in eight sections, so matched or fitted together by indentations or sutures, that they can expand in correspondence with the brain development and its changes. Fig. 3 is a representation of the brain as it appears in its natural position, covered by its membranes. In life the entire cranial cavity is filled with the brain and its membranes, a fact clearly enough shown by injuries to the head that have detached a fragment of the skull, when it has been found that light pressure would cause the furrowed surface to rise up through the opening. Fig. 5 is a diagram representing the skull separated into its different parts.*

* "Indications of Character."

These parts or sections are named as follows: the *frontal*, *parietal* (2), *temporal* (2), *occipital*, *sphenoid*, and *ethmoid* bones. These bones are united to one another in a very firm manner, by a sort of dovetailing; the edges of one fit exactly those of the adjoining bone; and the seams formed by their union are called *sutures*.

The *frontal* bone as shown by the engraving forms the forehead, a part of the roof of the nostrils, and the orbits of the eyes. In childhood it is made up of two principal bones that gradually grow together; in rare cases, however, it remains double through life. Joined to the frontal bone by the *coronal* suture, which runs over the top of the head, are the two *parietal* or side bones, which form the greater part of the upper and lateral portions of the skull. The line of union between these two bones is known as the *sagittal* or arrow-like suture.

The *temporal* bones, as their name implies, are situated at the temples, and around the openings of the ears, and are joined to the parietal and occipital bones by sutures. The lower back parts of these bones form the projections noticed directly behind the ear, which are called the *mastoid* processes. In these the apparatus of hearing is situated.

The *occipital* bone forms the base and back part of the cranium, immediately above the neck. In the central region of this bone a protuberance more or less marked is found, called the "occipital spine."

The *sphenoid*, or wedge-like bone, is situated in the anterior of the temporal region; and the *ethmoid*, which means sieve-like, is a spongy cellular bone, situated between the eye sockets at the root of the nose.

Sir Charles Bell observed that the "bones of the head are moulded to the brain, and the peculiar shapes of the bones of the head are determined by the original peculiarity in the shape of the brain." There are, however, certain parts of the skull that are thicker or thinner than other parts; for instance, it is thinner at the squamous or scaly portion of

the temporal bones, and in the supra-orbital plates which form the roofs of the sockets of the eyes; and it is thicker



Fig. 7.—BRAIN FIBRES (MAGNIFIED).

at the ridges of the frontal bone and at the sutures than at other parts of the skull. The forehead is well protected against injury, as one can sustain a very heavy blow without serious damage in that part. The occipital spine and the mastoid process are generally abrupt and angular, and easily distinguished from the broad, rounded swell corresponding to cerebral development. The integuments covering the skull are of uniform thickness, except at the occiput and the temples, where the muscular attachments are particularly elaborated, but experience enables the practical observer to detect and make due allowance for variations in thickness both of the bones and integuments, as they depend much upon temperament and race, and do not form very serious obstacles to obtaining a sufficiently accurate idea of the size of the organs from the exterior shape of the skull.

THE FRONTAL SINUSES.

One of the objections most persistently levelled at Phrenology is founded on the *frontal sinuses*. Sir William Hamilton was very prominent in this regard, insisting that the existence of these sinuses was an insuperable objection to Phrenology in general, which as Mr. Combe remarked was about as logical as to speak of a snow-storm in Norway obstructing the highway from Edinburgh to London.

There are two small cavities in the

frontal bone near the root of the nose, formed by the separation of the two plates or tables that form the bone of the skull (Fig. 3.) These are the frontal sinuses; they do not extend above the base of the brain till about the time of puberty, and vary much in extent in adults. When very large they may cause some uncertainty in regard to the size of three or four organs located in their vicinity. The difficulties which the frontal sinuses are supposed to present to the estimation of the size of the few organs situated immediately behind them, may be overcome to a very great extent, by practice and observation. A large frontal sinus is indicated by a prominence, usually abrupt and ridgy, on the skull directly over the inner angles of the eyes; this prominence is due to the projection or swelling out of the outer table of the cranium, while the inner remains almost entirely unchanged.

THE BRAIN SUBSTANCE.

Returning now to the brain we find that its mass is constituted for the most part of two substances of vastly different character: viz., the medullary gray or ash-colored matter, and the fibrous or

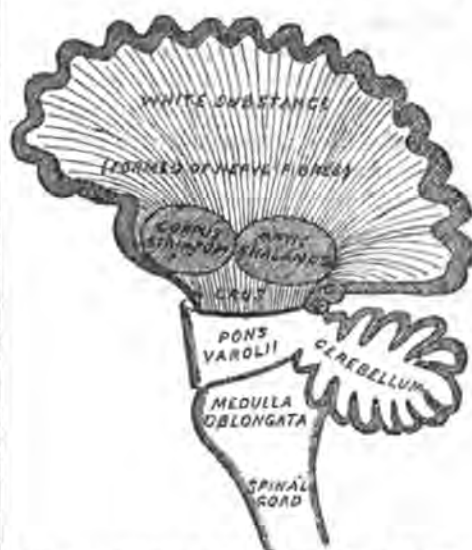


Fig. 8.—PROGRESSION OF THE FIBRES—A SKETCH.

white matter. The former is singular in constitution, being made up chiefly of cells or vesicular nuclei largely supplied

with blood; the other is firm, inelastic, and tubular, much less vascular than the medullary substance, and constitutes nearly the whole of the nerves and the greater part of the spinal cord.

The gray substance is the part that has a special relation to mental life; in it lies the source of nervous power. Sometimes it is called the "cortical substance," from *cortex*, Latin, meaning, back or external, because of its distribution in the convolutions. It lies also in the large ganglia at the base of the brain, and in the centre of the spinal cord for the greater part of its length, showing a singular cruciform appearance there.

The white or fibrous substance is constituted of exceedingly delicate fibres that average but the $\frac{1}{1000}$ of an inch in diameter, whose function is to communicate impressions sent to or from the vesicular matter. But their function is differential and several, and accordingly they are distributed into three kinds, viz., the *efferent*, or motor; the *afferent*, or sensitive; and the *commissural*, or connective fibres.

The essential elements of the gray matter are cells and vesicles containing nuclei and nucleoli; these being rather dark in color and generally globular, at times very irregular, and varying in size from the $\frac{1}{100}$ to the $\frac{1}{10}$ of an inch in diameter. The largest cells are peculiar in constitution, being what is called "caudate," on account of delicate tail-like processes extending from their margins, one or more of these processes conferring names, such as unipolar, bipolar, multipolar cells, etc.

CELL FUNCTIONS.

These brain cells are found in masses chiefly in the convolutions,—a fact which points at their relations to the conscious life of man; they are grouped also in the cerebellum and ganglia in the base of the hemispheres. Physiologists are generally well agreed that it is in the convolutions that the centres for consciousness and mental action lie, so that all impressions made upon the organs of

sight, taste, smell, hearing, etc., are transmitted thither and become apparent to the consciousness. Some observers are inclined to regard the cerebellum as a store-house for nerve force, but aside from the view of its relation to mentality entertained by phrenologists, there is much difference and conflict of opinion on the relations of the cerebellum to consciousness and motor life.

The relation of the *medulla oblongata* to the convolutions is close and intimate; the fibres proceed directly from it through the great ganglia, and passing upward, forward, and backward, come into communication with the superficial folds. (See Fig. 8.) It can not be said, however, that sensations received from without travel in a continuous tubule to reach the cells in the convolutions, but they are passed from cell to cell by means of connective fibres, and finally reach their destination. It is thought that the object of this arrangement is to allow of independent action for certain collections of cells in case the impression is not of the class that requires the exercise of volition or thought proper. A great part of the actions of man are performed without a conscious recognition—in other words, are governed by what is known as "reflex action." In walking, eating, and in the doing of many things that belong to every-day life, the muscles of the body act automatically; we get into habits of doing things which at first were subject to direct guidance of the will, but later are done without notice or mental co-operation. So, too, important functions essential to physical life are performed by organs under the control of this "reflex action"; for instance, the beating of the heart, respiration, digestion, and the other functions in the vital economy are thus stimulated.

IS EACH CELL A CENTRE?

The structure of these minute vesicles has been an object of careful study by many observers in late years, and the conclusion reached in regard to their use is that, aside from their properties of

generating nerve force and muscular action, they have a variety of parts to perform, and their different characteristics of form and structure justify such conclusions. Some physiologists go so far as to say that each cell in the brain possesses a special individuality, and so exercises some particular control, either in the physical growth and development of a special region of the body, or in the manifestation of special moral or intellectual ideas. In the latter case location in a particular part of the brain bears a relation to the class of ideas.

Luys, a French observer of authority, says, "Imagination is confounded when we penetrate into this world of the infinitely little, where we find the same infinite divisions of matter that so vividly impress us in the study of the sidereal world; and where we behold mysterious details of the organization of an anatomical element which only reveal themselves when magnified from 700 to 800 diameters; and with them this same

anatomical element repeats itself a thousand-fold throughout the whole thickness of the cerebral cortex. We can not help being seized with admiration, especially when we think that each of these little organs has its autonomy, its individuality, its minute organic sensibility; that it is united with its fellows; that it partakes in the common life, and that, above all, it is a silent and indefatigable worker, discreetly elaborating those nervous forces of psychic activity which are instinctively extended in all directions and in the most varied manners, according to the different calls made upon it."

A German observer estimates the number of these cells in the brain at 300,000,000, and that upward of 50,000,000 are broken down and destroyed daily in the functional operations of the mental organ, so that in the course of two months the whole brain may be said to have been reproduced.*

H. S. D.

* From "Heads and Faces, and How to Study Them." In press.

SAVE THE CHILDREN.

THE criminal news of a single week makes a sad showing of boyish depravity. A boy of Belleville, Ill., killed the girl who rejected his addresses on account of his dissipation. Two Arkansas boys quarrelled over a rabbit hunt, and one slew the other with an axe. A St. Louis boy stabbed the playmate who teased him for his ignorance of English. A West Virginia boy shot his rival in a girl's affections. A Virginia boy confesses the poisoning of two persons. A Texas boy shot a little girl because she refused to put down a pail when he ordered her to. A Kansas boy is on trial for intentionally drowning a playfellow. Two Wisconsin boys maltreated a child nearly to death. Three boys pleaded guilty to highway robbery in Chicago. An Iowa boy is a forger. A Missouri boy set fire to a house. A New Mexico boy shot a baby. A Colorado horse-thief is aged eight years, and none of the other

criminals mentioned was over sixteen.—*Springfield Republican.*

The above is a fearful record of precocious crime, and the question naturally arises, What is the cause? Do our institutions evolve a proclivity to crime? If so, what is the remedy?

Our Legislatures are entirely unconscious of the undercurrent of change which the last fifty years have produced in the habits and opinions of our people. We are no longer the same. Immigration has greatly contributed to this change, but the growth of ideas on the part of women has done more, and requires attention, even outside of the question of suffrage. We will by no means admit that the increase of crime may be in part attributed to the doings of women, for as yet the women are far in the minority when observed from this stand-point.

Statistics indicate that they are less disposed to a breach of the peace, or any

infringement of the rights of those about them, than men. The instinct of maternity operates as a restraint in part, and for the time being gives rise to tender sentiments at once wholesome and conservative. Most of their violent acts are perpetrated under the spur of what is called love, in the heat of jealousy, resentment, or betrayal.

The suicides of women are the result of despair; they have fallen from the high estate of chastity, and find themselves cast upon the world, penniless, loveless, and disgraced. Few of them are strong enough to contend against such terrible odds, and they plunge headlong into the vortex of the unknown. Formerly, that is, before the civil war, they resorted to poisoning, under the impulse of despair or vengeance, but of late this subtle, cruel mode of preying upon society is less frequent, either in case of suicide or homicide. There is a growing bravado observable, from whatever cause it may arise, and the use of the pistol is by no means uncommon. Then, even juries exhibit a foolish admiration at the exercise of what they call pluck, and the aggressive woman escapes the penalty of her crime, when it would have been quite otherwise with one of the other sex.

It may be that men are beginning to see the injustice of denying women a voice in the making of the laws by which she is governed, and are consequently disinclined to subject her to the extreme penalties of the same; but the process of civilization is developing both sexes in a manner that it would be wise to see to it that our legislation be modified to meet contingencies, and then the penalties for crime should be rigidly enforced. Woman is too much the victim at best; but she is growing into a better understanding of herself, and is already in a good degree able to take care of herself.

It is useless to deny that in the aspect of both sexes the intellect has been exercised to the neglect of the moral sense, and we all know too much of everything except the distinctions of right and wrong, the line that lies between *meum*

and *tuum*. There is a precocity of crime in both sexes, and woman no longer remains the conservative element of society, counteracting the barbarisms of man by her religious and moral influences. She contends with him now for place and preferment, and though still in the minority of crime, her destructive proclivities are becoming quite a match for the other sex; the only hope being that they may be exercised in destroying the old and effete, not in the homicidal line.

Even now, woman as a rule has no more tenderness of character than man; no more compassionateness, though she has more of an hysterical kind of sensibility; nor is this the result of education alone—she seems to have had from the first a proclivity to what is cruel, as all delicately organized creatures have, as witness the humming-bird fighting on the wing, the tiger lapping blood, and the ferocity of the French race. The Spanish Inquisition could not have held the power it had over the lives of millions had not the keen, cruel Spanish woman delighted in an *auto da fe*, as she does in a bull-fight. In our day the beauty and grace of England are shown in running down a trembling, fugitive rabbit, to the disgrace of all that pertains to the so-called "gentle sex"; and here at home too many women delight in the skill of the marksman aimed at the life of a quivering dove. These are but a few of the barbarisms of the period, in which women delight no less than men.

Again, the felonies of this sex are fewer than in the other sex, because hitherto the brunt of meeting the exigencies of "daily bread" has not devolved upon the woman; she has been willing to be *supported*, and has married for a *support*, but this state of things is undergoing a great change—women are growing ashamed to marry, or rather barter themselves in this dubious way, and are beginning to learn the dignity of labor; the pride to be felt in supplying their own wants by honest use of hand or brain; and the ambition of acquiring money, fame, or position, by the exercise of their

own faculties rather than by taking them at second hand through honors bestowed upon the husband.

This necessitates the action of much heretofore considered foreign to a woman's sphere, and her mental and physiological organization; and, unless her moral perceptions be augmented and intensified proportionately to her intellectual advancement, we shall in future find her oftener on the criminal list. She is growing, with this growth of intellectualism, less inclined to marriage and maternity also, both of which were elements of conservation. She is losing, also, much of that quality miscalled vanity, which makes

- her not only prettily attractive, but desirous to win the approval of others. Much of the old-fashioned talk about "old maids" and "growing old" fails now of application. Cultured women and sensible women celebrate their birth-days of "forty and upward"; wear their gray hairs, and boast of being grandmothers.

To prognosticate as to what the *coming woman* will be is already superfluous. She will participate in all that pertains to the interests of the race—to our equal humanity. If, as has been claimed for her, her moral perceptions are higher and more delicate than man's, because of the fineness of her organization, it is to be hoped these will still be exercised as a conservative force to prevent the utter hardness and barbarism of the race. If we except this superior moral perception as the result of a continuous fineness, the future woman will present no distinction other than the organism of sex.

Women are no longer ambitious to work for the church and charity—they strike deeper now, and their aims and doings are new factors in the progress and excitements of the period. They have been for the last fifty years farther advanced in thought and culture than men have been willing to confess. They have blinded their own eyes till now a new light is pouring in upon them like a flood. They perceive that the old type of subordinated woman

"Pleased with a rattle, tickled with a straw,"

has gradually given place to an audacious thinker, an independent observer, and a fearless critic upon public events and masculine rulers. They fret less, and endure with a worse grace, for they are bent upon *curing* the ills they formerly *endured* with all patience.

The truth is, the woman of three or four decades prior to our own, found herself mentally and morally possessed of a vast amount of unappropriated power. She expended much of this in the wise management of her children, but men, politicians and money-getters, failed to second her efforts, and she looked about to see if this state of things was to continue to the end of time, and thus she became fired with the spirit of reform, and boldly cast aside the shackles of subordination, and made her claims good to be one and equal with man. In all this, deny it as we will, the family has been cast into the background, religious faith shaken, and a feeling engendered which is antagonistic to the claims of the household.

We may say as much as we choose, that nature will remain the same—that youths and maidens will love to the end of time, and marry, and rear offspring, but the facts seem to justify the opinion that the race is to be greatly modified, and sexual affections be less and less urgent, giving a preponderance to those of both sexes who prefer avocations disconnected with family relations. Tender, dependent women will marry, as now; but a multitude of sturdy old maids will appear, of whom, like old Queen Bess, it may be said, "her proud stomach could bear no will but her own."

I have intimated the causes that lie behind this growing accumulation of crime, and have intimated the remedy in a better fulfilment of family duties. No one has a right to bring a helpless creature into existence without a solemn sense of the obligation thus incurred, to see to it that its steps are bent into the right path, that it be kept morally as well as physically wholesome in life and action; but the statistics of crime in the case of mere

children, who ought to be under the sheltering wing of the household, would indicate that this responsibility has been fearfully overlooked.

A general laxity prevails—we have few or no religious bigots—we have little moral rancor; bigotry and prejudice are the concomitants of strong thought or feeling, of earnestness and devotion to principle however misguided; but where a whole people are bent upon riches and pleasure they will at length lose the power to discriminate moral issues—lose the sense of responsibility to the family and to the public at large. This is the crisis in which we at present stand.

Our people are losing respect for family relations. Marital crimes are but slightly reprehended, and a divorce has ceased to entail disgrace upon the parties. From these causes a mass of children, badly instructed, are thrown upon society, who wander away, glad to find an asylum anywhere from the discords of home.

The household is no longer the bulwark of virtue. It is considered in bad taste to coerce a child or restrain a youth. They are all “pets” and “darlings,” whose ways are “cunning,”—they are bright and witty, and alas! irreverent. It requires no eye of a prophet to foresee

the harvest that must and will be reaped from such a sowing.

The Sunday-school is too much expected to supply the teaching which ought to be early and late on the lips of the parent. The public-school teacher loses his situation if too close a disciplinarian, and so the children no longer “brought up,” come up as best they may, and the result is a host of little desperadoes, young suicides, and an amount of crime which it is fearful to contemplate. What wonder that the girls run off and marry lacqueys, or worse still, disappear altogether from the household,—gone, “missing,” no more found, or, if found, the story of her wanderings is too terrible for relation.

The boys, fired by the pernicious literature of the period, turn young bandits, thieves, and forgers like their elders. The evil begins at home, where children are no longer “brought up” as in the days of old, and as the Jew to this day brings up his children, but the unhappy growth of broken-up families, caused by divorce and other evils, who are left to their own will and way, or to incompetent guardianship. In our households must the remedy be found if we would save our noble institutions from utter ruin

ELIZABETH OAKES SMITH.

“IT IS COMMON!”

So are the stars in the arching skies,
So are the smiles in the children's eyes;
Common the life-giving breath of the spring,
So are the songs which the wild birds sing.
Blessed be God, they are common.

Common the grass in its glowing green,
So is the water's glistening sheen;
Common the springs of love and mirth,
So are the most precious gifts of earth.

Common the fragrance of rosy June,
So is the generous harvest-moon;
So are the towering mighty hills,
So are the twittering, trickling rills.

Common the beautiful tints of the fall;
So is the sun, which is over all;
Common the rain, with its pattering feet—
So is the bread, which we daily eat :—
Blessed be God, it is common !

So is the sea, in his wild unrest—
Kissing forever the earth's brown breast;
So is the voice of undying prayer,
Evermore piercing the ambient air.

So, unto all, are the “promises” given;
So, unto all, is the hope of heaven;
Common the rest from the weary strife—
So is the life which is after life :—
Blessed be God, it is common !

GRACE H. HERR.

A FLORIDA LAKE.

TO those of us who feel keenly the blasts of a Northern winter, descriptions of Southern mildness are not unac-

as that shown by our engraving reads genial softness in the black and white tints. And the picture is not a fiction

LAKE WYOMI—LOOKING EAST.



companied with envious thoughts of the fortunate lot of those who live below the thirtieth parallel—at least from November to May. A glance at such a picture

of the artist, but a reproduction of the faithful photograph. The engraving represents a part of one of the most charming lakes of Florida, Wyomi, which is

situated near the newly laid-out town of Welshton. A writer in *The South* describes the scene with a vivid pen. He says: "From shore to shore reaches the mirror-like expanse, with scarce a ripple on its surface, reflecting the tender hues of the sky, the fleecy subtlety of the clouds, and, with magical perfectness, the varied tints and forms of the woodland at its edge. Nature surely in her silence has teachings more forceful than any we can put in words. If the huge granite mountain mass, towering into heaven, companioned only by the pine, lends a part of its unyielding fortitude to the struggling human heart, in an equal degree on its own part, in the smiling and contented valley does the lake that glistens in the sunshine and gathers

the sky into its bosom, infuse into the worn and wearied spirit of man a portion of its own transcendent and abiding peace.

"The prodigal luxuriance of vegetation is illustrated in the accompanying view, for here we see some of the forms that spring up without man's art, to make glimpses of beauty in the wilderness. Every bend and every turn furnishes a fresh picture; and though our travel may not extend beyond the borders of one of these forest lakes, we see enough to impress us with the fact that Nature's stores in shapes of beauty as well as objects of use are inexhaustible."*

* We are indebted to *The South* Publishing Co. for the engraving which accompanies this sketch.

CRIMINAL SUBTLETY REVEALED.

THE value of the expert in handwriting was never more strikingly exemplified than in a recent case of forgery, one of the most ingenious and daring that has ever occupied the attention of a court of law, the perpetrators of which have been convicted of the crimes of forgery and conspiracy at the Old Bailey, London. A writer tells the story in the *Cornhill Magazine*, and as it is given from the point of view of an expert, many of our readers will probably find it specially interesting:

"The document in question was a will, the signature to which was undoubtedly genuine; the whole of which, indeed, to all appearance was in regular form and duly witnessed. It dealt with some seventy thousand pounds, the greater part left by the testator to the man in whose house he was lodging, five thousand pounds only being bequeathed to his only son, to whom, by a later will (never found), it was presumed there was a bequest of almost the entire property. On the face of a document apparently so unimpeachable there was nothing for it but to submit, and the unfortunate son,

under the form of a compromise, was glad to fall back upon the generosity of the principal legatee and accept something more than his five thousand pounds, with the understanding that he kept quiet; but on the thieves beginning to quarrel about their shares in the booty among themselves, one of the discontented began to talk, was encouraged to continue, and finally gave enough information to warrant an application in the Probate Court to set aside the compromise as based on a fraud.

"The whole *modus operandi* was then made clear, and proved to have been almost exactly as the expert had suspected; to whom, at the beginning of the proceedings, the will had been entrusted for examination, and who had made the following observations upon it. In the first place the signatures were all genuine, and the document itself in the hand of one of the attesting witnesses—a fact fully admitted. The testator's signature was at the bottom, and the attesting clauses rather curiously cramped at the side, from their position giving rise to the idea in the expert's mind that they had

been added subsequently with a view to accommodating the signature. The signature itself, too, had a date under it, a peculiarity of the testator's in writing a letter, but never found elsewhere. On further examination of the body of the will there appeared a certain variation of the spacing between the lines, as though the writer had begun in the belief that there was ample room; then he had narrowed the intervening spaces, had pressed more words into the line, and finally, finding there was still paper to be covered, had spread out again toward the end. In short, everything seemed to point to a will written over and around a signature, and not to a signature naturally written at the bottom of a will, to say nothing of the suspicious circumstance of the date. In the meantime there began to appear in different parts of the paper, steadily and surely, like growths that would not be denied, certain marks and formations, as though under all this fair show the suspected fraud was after all bent on making itself visible.

"Early in the inquiry the will had been glazed and framed, and now left to itself, the paper as it were began to speak and declare itself otherwise than what it seemed. They were not pencil marks, but the hollows and shades where pencil marks had been, and soon they took the form of words and fragments of words, and by the aid of a powerful magnifying-glass could even be read, sufficiently clearly, too, for the expert to be able to say that they were in the handwriting of

one of the attesting witnesses and principal legatee, the prime mover, as it afterward appeared, in the fraud. It has long been known to those who have had experience of palimpsests that time will often recall a writing long believed to have been obliterated. Erase the writing carefully as you will, till all trace of pencil or pen be gone, yet with most kinds of paper all that will be erased will be the immediate marks of the plumbago or the ink; there will still remain the indentations on the paper, which at the time filled up, like cart-ruts, with the dust and surface of the material rubbed across them, will in time gradually clear themselves and reappear. Here, then, was clearly a palimpsest of one kind or another, an ink-writing over pencil; apparently, from what could be deciphered, a letter, for at the head of the document traces of 'my dear' could be seen—a suspicious fact, to which the date under the signature also pointed in corroboration.

"And that is precisely what had occurred, for the testator, believing himself to be *in extremis*, desired the presence of his son, and at his request the principal legatee had written for him the letter, taking the precaution of writing it in pencil, while he was equally careful that the signature should be in ink. Then the pencil was rubbed out, as it seemed entirely, and over the precious signature the will was written, dividing the property among the attesting witnesses and legatees, and practically disinheriting the son."

HER WAGES AS WIFE.

[The following sketch is wrought out of substantial materials, the experience of many a woman in married life, and its vivid character, with the practical moral it carries, is excuse enough for its appearance here.—ED.]

"WELL, Nettie, what do you want?" said Mr. Jarvis to his wife, who stood looking rather anxiously at him, after he had paid the factory hands their week's wages.

"Why, Donald," said she, "I thought as I had worked for you all the week, I would come for my wages, too. You pay Jane \$2 a week, surely I earn that, and I would like very much to have it as my own."

"Pshaw, Nettie, how ridiculous you talk. You know that all I have belongs to you and the children—and don't I furnish the house and everything? What

under the sun would you do with the money if you had it?"

"I know, Donald, that you buy the necessities for us all, and I am willing that you should do so still, but I should like a little money of my very own. We have been married 15 years, and in all that time I do not seem to have earned a dollar. As far as money is concerned I might as well be a slave. I can not buy a quart of berries, or a book, without asking you for the money, and I should like to be a little more independent."

Mr. Jarvis, proprietor of Jarvis' mills, worth thousands and thousands of dollars, laughed derisively.

"You're a fine one to talk of independence," he said. "If you would start out to make your own living you'd fetch up at the poorhouse soon enough, for what could you do to earn a living? The girls in the factory know how to do their work and they earn the wages. When I have paid them off my duty is done, but I have to board and clothe you, and take care of you when you are sick. If I had to do that for the girls I would have precious little money left, I can tell you."

"Donald, I gave up a good trade when I married you. For five years I had supported myself by it, and many a time since I have envied myself the purse of those days. As for my not earning anything now, I leave it to you to say whether it would be possible to hire another to take my place; and how much do you suppose it would cost to do without me a year? I know the girls have little after paying their expenses, but they enjoy that little so much. Allie Watson supports herself and mother with her wages, and they both dress better than I do. Jennie Hart is helping her father to pay the mortgage on the farm, and she is happy that she can do so. Even Jane, the kitchen girl, has more freedom than I, for out of her own money she is laying by presents for her relatives, and will send them Christmas. Yesterday an Indian woman was at the house with such handsome beadwork to sell, and, although I wanted some very much, I had

not a dollar! I felt like crying when Jane bought half a dozen of the articles I wanted so much. You often say that all you have is mine, but \$5 would have given me more pleasure yesterday than your hundreds of thousands of dollars worth of property did."

"No doubt of that Mrs. Jarvis. You have no idea of the value of money, and would have enjoyed buying a lot of bead trash that would not be worth a cent to anybody. Jane needs a guardian if she fools away her money like that. She will be in the county poorhouse yet if she don't look out. It's very lucky, indeed, that the men do hold the money, for there's not one woman in a hundred who knows how to use it!"

"For shame, Donald Jarvis! You know better. Look at Jerry and Milly Creg, will you, and say that he makes the best use of his money. She is at home with her parents every night, making her wages go as far as possible toward making them comfortable, while he is carousing in the village wasting his time and money, and making a brute of himself besides. And why does Mrs. Sarton come to receive her husband's wages herself? Simply because he can not get by the saloon with money in his pocket, and if she did not get the money they would all go hungry to bed after his wages were paid. And I believe that every woman who earns money here, spends it as wisely as the average man, and I have yet to hear of one of them being in debt."

Mr. Jarvis knew that he could not gainsay a word his wife had said, for they were all true. Luckily he thought of Jane.

"Well, how much do you suppose Jane will have left when New-Year comes? If she got sick how long could she pay for such care as you have?"

"It is not likely she will lay up many dollars out of a hundred a year; but she is laying up something better, I think. Last winter she sent her mother a warm shawl and a pair of shoes, and to her brother and sister new school-books, and the warm, loving letters they send her

do her more good than twice the amount of money in the bank would. This year she is laying away a number of useful and pretty things for them, and if any misfortune should happen to Jane they would only be too glad to help her."

"Well, who do you suppose would help you if you needed help?" said Mr. Jarvis, for want of a better question. Mrs. Jarvis' eyes sparkled angrily as she answered:

"Nobody. If you should lose your property to-day, I should be a beggar, without a claim on any one for help. You have always held your purse-strings so tightly that it has been hard enough to ask for my own necessities, leaving others out altogether. Many a time a dollar or two would have enabled me to do some poor man or woman, untold good; but although you have always said that all your property was mine, I never could and can not now command a dollar of it."

"Lucky you couldn't, if you wanted to spend it on beggars."

"Donald, you know that I would spend money as wisely as you do. Who was it that only last week gave a poor, lame beggar \$5 to pay his fare to Burton and then saw him throw his crutches away and make for the nearest saloon? Your wife could not do worse if trusted with a few dollars. You say that the money is all mine, yet you spend as you please, while I can not spend a dollar without asking you for it and telling what I want it for. Any beggar can get it in the same way! Christmas you bought presents for us and expected us to be grateful for them. A shawl for me, the very color I can not wear, a set of furs for Lucy that she did not need, a drum for Robin that has been a nuisance ever since, and a lot of worthless toys that are broken up in a week. There were \$40 or \$50 of my money just the same as thrown away, yet when I ask you to trust me with \$2 a week you can not imagine what use I have for it, and fear it will be wasted. I am sure I could not spend \$50 more foolishly if I tried to."

"Well," snapped the proprietor, "I guess it is my own money, and I can spend it as I please. I guess you'll know it, too, when you get another present."

"Oh, it is your money then. I understood you to say it was all mine, and so pretended to protest against your spending it so foolishly. If it is your own, of course you have a right to spend it as you please, but it seems to me that a woman who left parents and brothers and sisters, and all her friends to make a home for you among strangers, a woman who has given her whole life to you for fifteen years, may be looked upon with as much favor as you give to beggars, who are very likely to be impostors. I know that you seldom turn them off without help. Perhaps I would be more successful if I appealed to you as a beggar. I might say: Kind sir, please allow me out of your abundant means a small pittance for my comfort. It is true I have enough to eat, and do not suffer for clothing; but although I work for my master from morning till night, and if his children happen to be sick, from night till morning again, yet he does not pay me as much as he does his cook, and I am often greatly distressed for want of a trifling sum which he would not mind giving to a perfect stranger. The other day while he was from home I had to go to the next station to see a dear friend who was ill, and not having a dollar of my own I was obliged to borrow the money from his cook. I was so mortified! And not long since the berry-woman came with such nice berries to sell, and my little girl, who was not well, wanted some very badly, but I had not even five cents to pay for a handful for her. Yesterday a friend came to ask me to assist in a work of charity. It was a worthy object, and I longed so much to give a little money for so good a purpose, but though the wife of so rich a man I had no money. Of course I might ask my husband for money, and if I told him about what I wanted of it, and he approved of my purpose and was in good humor, he would give it to me, but, sir, it is terribly slavish

to have to do so, even if I could run to him every time I wanted anything. People say I am a fortunate woman because I am rich; but I often envy the factory girls their ability to earn and spend their own money. And sometimes I get so wild thinking of my helplessness that if it were not for my children I think I would drop into the river and end it all."

"Nettie! Nettie Jarvis! What are you saying?" cried the startled husband at last, for the far-away look in her eyes as if she did not see him, but was looking to some higher power to help her, touched his pride if it did not his heart, for he had a good deal of pride in a selfish sort of way. He was proud to be able to support his family as well as he did. He was proud that when his children needed new shoes he could tell his wife to take them to Crispin's and get what they needed. He did it with a flourish. He was not one of the stingy kind; he liked to spend money; and when Nettie, who was once the most spirited young lady of his acquaintance, came meekly to him for a dress or cloak, he was sometimes tempted to refuse her money just to show her how helpless she was without him. Yes, he was proud of his family, and wanted them to feel how much they depended upon him. He would have felt aggravated if any one had left his wife a legacy, thus allowing her to be free in her purse. The idea of her earning money, as his other work-folks did, never entered his mind. He "supported her," that was his idea of their relations! He never had happened to think that it was very good of her to take his money and spend it for the good of himself and children. He never had thought that any other woman would have wanted big pay for doing it. He had even thought himself very generous for allowing her money to get things to make the family comfortable. Things began to look differently to him just now. Could it be that he was not generous, not even just to his wife? Had he paid her so poorly for her fifteen years of faithful labor for him that if she had been

obliged to begin the world for herself that day it would have been as a penniless woman?

How fast he thought, standing there at the office window, looking down at the little houses where the mill hands lived. Could it be that he was not as good a man as he thought? He had felt deeply the wrongs of the slave, whose labors had been appropriated by their masters, and when a negro who had worked twenty years for his master before the emancipation freed him came to Jarvis' mills, friendless and penniless, the heart of the proprietor swelled with indignation at such injustice. He was eloquent on the subject at home and abroad, about how any one could be so cruel and selfish to commit such an outrage against justice. He had called him a robber many a time, but now Donald Jarvis looked to himself very much like the old slaveholder! Massa Brown had taken the proceeds of Cuffee's labor for his own without even a "thank you" for it. True, when Cuffee ate he had given him food, when he was sick he had given him medicine, and he had clothed him, too, just as he himself thought best. Mr. Jarvis had married a lovely, conscientious woman, and for fifteen years had appropriated her labors. Her recompense had been food and clothes, such as he thought best for her; a little better than Cuffee's, perhaps, but the similarity of the cases did not please him. He had expected his wife to be very grateful for what he had done for her, but now he wondered that she had not rebelled long ago. Had his life been a mistake? Had his wife no more money or liberty than Cuffee had in bondage? Was Donald Jarvis no better than Massa Brown?

His brain seemed to be in a muddle, and he looked so strangely his wife, anxious to break the spell, took his arm, saying, "Let us go home, dear; tea must be waiting for us." He put on his hat in a dreamy way and then walked home in silence. The children ran joyously to meet them. The yard was so fresh and green and the flowers so many and bright

that he wondered he had never thanked Nettie for them all. Hitherto he had looked upon them as his, but now he felt that his interest in them was only a few dollars, that would not have amounted to anything without his wife's care. His children were tidy and sweet, and everything around and in the house had that cheery look that rested him so after the hard, dull day at the mill. They sat again at the table that had been a source of comfort and pleasure to him for so many years, and he wondered how he could have enjoyed it so long without even thanking the woman who had provided it. True, she had his money in bringing it all about, but how else could his money be of use to him? Who else could have turned it into just what he needed for years? And he began to have an undefined feeling that it took more than money to make a home. He glanced at his wife's face as he buttered his last slice of bread.

It was not that of the fair, rosy bride whom he had brought to the mills years before, but at that moment he realized it was far more dear to him, for he knew that she had given the bloom and freshness of her youth to make her home what it was. His daughters had her rose-leaf

cheeks, his sons her youthful beauty, all had her cheerful, winsome ways, and comforted him now as she had in those days when, hardly knowing what care meant, she had lived for him alone. And a new thought came to him: "Who was comforting her now when she had so much care?" Was not that what he had promised to do when he brought her from her old home? He sighed as he thought how far he had drifted from her while in bondage equal to Cuffee's. Nay, he felt that her chains were far more binding than any which had ever held the negro, and that his obligations to her were so much the greater.

Something called the children out of doors, and Mr. Jarvis took his easy-chair. His wife came and stood beside him. "I fear you are not well, Donald; are you displeased with me?"

He drew her into his arms and told her how her words had showed him what manner of man he was, and there were words spoken that need not be written, but from that day forth a different man was proprietor of the Jarvis mills, and there was a brighter light in Mrs. Jarvis' eyes, for at last she had something of her own, nor has she regretted that she "applied for wages."

A FEW WORDS TO GIRLS.

A LADY of intelligence and observation has remarked, "I wish I could impress upon the minds of the girls that the chief end of woman is not to marry young."

If girls could only be brought to believe that their chances for a happy marriage were better after twenty-five than before, there would be much less misery in the world than there now is. To be sure, they might not have so many opportunities to marry after that age as before, but as they do not need to marry but one at a time, it is necessary that one should be satisfactory. As a girl grows older, if she thinks at all, she certainly becomes more capable of judging

what would make her happy than when younger.

How many girls of twenty would think of accepting the man they would gladly have married at sixteen? At thirty a woman who is somewhat independent, and not over-anxious to marry, is much harder to please and more careful in her choice than one of twenty. There is good reason for this. Her mind has improved with her years, and she now looks beyond mere appearances in judging of men. She is apt to ask if this man who is so very polite in company, is really kind-hearted? Do his polite actions spring from a happy, genial nature? or is his attractive demeanor put on for the

occasion, and laid off at home as he lays off his coat?

A very young girl takes it for granted that men are always as she sees them in society, polite, friendly, and on their good behavior. If she marries early in life the one who happens to please her fancy, she learns to her sorrow that in nine cases out of ten a man in society and a man at home are widely different beings. Five years at that period of life produce a great change in opinions and feelings. We frequently come to detest at twenty-five what we admired at sixteen. We advance from the taffy-candy and peanut age to the era of gum-drops and marron-glacés, and even in later years lose our yearnings for those dainties. At sixteen, the *Ledger* and Mrs. Southworth are the delight of a girl's heart, and she fairly revels in the love affairs of the most heroic of men, while their hair-breadth escapes thrill her heart, and their sorrows bring tears to her eyes. As she grows older, if she develops at all, that style of reading gradually loses its charm, and she finds satisfaction in something more solid, till at length her taste has changed entirely, and useful and instructive works form the staple of her reading. Of course she continues to read novels, but she prefers those of a different and grander class than she perused with such exquisite delight at sixteen.

Similar changes take place in the moral and spiritual nature. Why should we feel the same toward persons in after-life, when we have learned to distinguish between the false and true, the bad and good, any more than we should like dime novels after we have become acquainted with Dickens, Thackeray, and Shakespeare? How few comparatively of the school-girl friendships extend into later life. How few of our companions in society do we love as well after twenty years have passed. How few even of our own brothers and sisters, in whom we do not see faults we could wish eradicated. Considering this, how is it possible for one to feel surprise when a couple who marry in

their teens grow to love each other less as years roll by? When both grow alike, whether it be rapidly or slowly, forward or backward, there is some hope of their ever seeing each other with the same eyes; but when one progresses and the other retrogrades, a difference springs up between them, and in time one looks down upon the other with a feeling of superiority, perhaps unconfessed, but still there; while the other, unable to perceive the real cause of the trouble, grows at length to dislike what was once loved. And thus it happens that those who loved at sixteen are indifferent at twenty-five, and sometimes divorced at thirty. This trouble would never occur if very early marriages were frowned upon; if dispositions, tastes, and circumstances were consulted instead of mere passing fancy, and girls were encouraged to wait till their minds were more matured and they saw life with a clear vision. If later marriages were more universal it might prevent many from marrying at all; but it would be those whom it were best should never marry,—for instance, the slack and thriftless, the coarse, the gossip, the termagant, or the scold. Those who have the elements of unhappiness within them, and who care not to eradicate them, would then be discovered, for such things, like weeds, if left to grow, will discover themselves in time.

One great cause of early marriages is the pernicious habit of calling a girl who remains unmarried until twenty-five, an "old maid." This is done by many well-meaning but thoughtless persons who would be sorry to think that any expression or act of theirs had ever caused one an hour of misery; yet this very dread of being called "an old maid" has driven more women into marriage and lifelong misery than any other thing excepting, perhaps, poverty. A girl, young, sensitive, unused to the rough ways of the world, shrinks from having any stigma cast upon her. When she first hears herself called an old maid it is a revelation, and she falls under it as if it were a blow. She feels as if it were an imputation upon

her character in some way; and though she may try to laugh it off, the wound is there, and festers and corrodes till the life that was once happy as a bird's has now a skeleton, which she thinks can only be removed by marriage. It is a mistake to think that single life is any less noble than marriage, especially if the spirit of discord is permitted to inflict its horrors upon a whole household.

Let mothers treasure their daughters more; seek to learn their inmost feelings in a kind and sympathetic way; win their love and confidence by showing that they have hearts, were once girls and often made mistakes. A girl who has her mother for a confidant is not so anxious to leave the shelter of her home to take "the leap in the dark." For what is it but a leap in the dark?—a species of slavery to one-half the women who marry. How many women can truly say, "My marriage has been all that I expected, all that I hoped. I have realized the dream of my girlhood, and my heart is entirely satisfied"? Probably not one out of a hundred. But on the contrary they say, "We must not expect too much in this life," and with a little sigh let the question drop.

If it were not for the illusion that seems inseparable from the mind of youth, there would be probably few marriages comparatively. If they saw it as it is; saw it with rational eyes, with the glamour of romance brushed away, in all its naked truthfulness, many would be apt to say, "I would be worse off then than I am now. It is better to bear my burden alone than to add another to it, or add to another's."

A very mischievous writer once said, "An offer of marriage is the highest compliment a man can pay a woman." It is in some few cases. A great many women have learned to their sorrow that it would have been nearer the truth if it had been written "injustice" instead of compliment. Here is an instance: A young man decides that he has reached an age when it would be well for him to take a wife and settle down. He has just started in life, and has enough to furnish a house

plainly and comfortably. He and all his friends think the best thing he can do is to marry. He looks around for a wife. Does he look for one in the same station with himself? for one who is earning her own living, who has had experience in the school of economy, who has had a hard struggle and come off conqueror, and would be a true helpmate to him, and who wants a helpmate for herself? No. He goes into society and looks around for the best and most attractive girl he can find. He meets a beautiful young lady, delicately brought up, fashionably educated, amiable, confiding, and *helpless*. He is charmed, and decides she is the one he would like to marry. There his reasoning stops. He "makes love," of course, and "compliments" her with the offer of his hand.

But if he would look on the other side for a moment, and ask himself why he wants that beautiful girl, graceful, intelligent, and lovely, he would be forced to reply, "I want her to cook, make my beds, clean my house, darn my hose, watch longingly for my return, put up with my ill-humors, economize in every particular for my benefit, be the mother of my children, and bring them up properly; and in return for this, I will support her, allow her to bear my name, and when she dies I'll give her a Christian burial." Now, if he looked squarely at this side of the question, he would not be likely to feel that he was doing such a very complimentary thing, nor go about it so complacently. And if the young lady saw the realistic side, without the gloss and roseate hue of poetry, she would not consider that she had been so very highly complimented by the offer.

Young ladies who happen to marry late should bear in mind that if they get a good husband they have done well by waiting; and if they get a bad one, it is proof they did not wait long enough. If they never marry at all, they may console themselves with the thought that they have escaped a world of trouble, and that there are always some married women who envied their lot.

MRS. JOHN SIEGEL.

TUITION IN DOMESTIC ECONOMY.

THE Iowa Agricultural College is the first State institution to recognize the need of a first-rate department in which practical instruction is given in branches of household work. Mrs. Emma P. Ewing thus writes of this excellent feature :

"For several years there has been a department of domestic economy in the college, included among the departments of the general course, in which the female students of the institution received a limited amount of instruction in that important science. But last summer the trustees determined to raise the department to the dignity of a school, and place it on a level with the schools having special faculties and teaching the technical courses, so that young women, equally with young men, might have an opportunity of pursuing a special line of study.

"On the 1st of March the new School of Domestic Economy will be opened in one of the finest buildings in the College Domain, which has been fitted up and furnished for the use of the school; and as this is the only high grade in the United States especially devoted to domestic economy, it will be thoroughly equipped for doing effective work.

"The design of the course in domestic economy is to furnish thorough instruction in applied housekeeping and the allied arts. It is based upon the assumption that a pleasant home is one of the surest safeguards of morality and virtue, and is arranged with special reference to giving young women such a liberal and practical education as will incite them

to faithful performance of the everyday duties of life, and inspire them with a belief in the dignity and nobleness of an earnest womanhood.

"The course of study includes two years, but will as far as practicable be made complete each term, and will combine practical drill with theoretic study in every branch of housework, in the purchase and care of supplies, and in general management. It embraces domestic science, botany, chemistry, physiology, hygiene, dairying, poultry-raising, vegetable and landscape gardening, home architecture, house furnishing, household decoration, care of the sick, plain sewing, dressmaking, etc., with English literature, history, German, French, and music, as optional studies.

"A prominent feature of the school is that women from any part of the country who wish to qualify as housekeepers, nurses, teachers of cookery, etc., and can pass the necessary examination will be admitted as special students, without being required to take the regular college course.

"As the college is a State institution, there is no charge for tuition in any of its schools or departments, and the current expense of the students ranges from \$3 to \$5 a week. A limited number of pupils can obtain accommodations in the school of domestic economy, which contains all the accessories of a model home, be provided with every comfort, and have peculiar advantages for prosecuting their studies, and the entire cost of board, lodging, washing, light, fuel, etc., will not exceed \$5 a week."

THE HAND AS AN INDEX OF CHARACTER.

ANY one skilled in the art of reading character can make some good reflections based on the hand alone. The skillful physician can determine much of the condition of his patient in the same way. From the condition of the skin

felt on the hand, and the pulsations of the artery felt at the wrist, he can learn something for the treatment of his patient. If the hand is hot, the skin dry, and the pulse rapid, he knows there is fever. If the hand is cold, and covered

with a clammy perspiration, with relaxed muscles and extended fingers, he knows there are weakness and prostration—perhaps approaching death. If the hand is tightly shut by strong contraction of the muscles and tendons, he knows there is great pain, with danger of convulsions. If the hand shows a natural temperature, and the pulsations of the artery at the wrist are soft, full, and regular, he knows the patient is neither chilling nor suffering with fever. The size, shape, and texture of the hand usually correspond with the size, shape, and texture of the body and brain. If the hand is long, angular, and bony, the arm will be the same, and so will the body. The phrenologist knows that kind of a hand is always found with a large development of bone and muscle—a Motive temperament. With that kind of a temperament he knows there is a certain shape of head, and a certain predominating group of organs. This knowledge alone furnishes him a clue to his subject's character. If the hand is short, thick, and fleshy, he expects to find with it a general roundness and fullness of body, a roundness and thickness of head, and certain predominating brain organs, and a large development of the internal organs of the body—the digestive and assimilative. This shows the Vital temperament. If the hand is small and delicate, with small bones and smooth joints, and a fine texture of muscles and tissues, he knows the owner has the Mental temperament—a temperament based on a large development of the brain and nervous system. Each of the temperaments has associated

with it a certain shape of head and a certain predominating group of organs.

The mental traits, however, are not all we can learn from the hand,—it is an index to the feelings and to the passions. Especially in the *shaking* of hands we may gain much valuable information relating to the character. We can and do very often learn all we care to know of people's feelings just by shaking hands with them. If a man offers his hand fully and freely, and gives a strong, hearty grasp, we not only know that he has a warm heart, that he has strong feelings of friendship, but we know he is our friend. But if it is given with reluctance, we may feel pretty sure that he is not, and if it is given with indifference, and remains passive in our palm, while we do all the shaking, we may feel sure he is not only not *our* friend, but he is nobody else's friend. A person who shakes hands in that way never makes a warm, sympathizing friend. The time we are most in need of a friend is the very time such will desert us. Their motives are selfish; they never make sacrifices to help others out of trouble. The shaking of hands, if mutual, and done with a hearty good-will, is a satisfaction and pleasure. To take a friend by the hand and feel a magnetic thrill from the warm, earnest grasp is a genuine pleasure. Each time we shake hands with such a person is another seal upon a bond of true friendship; but to shake hands where there is no animation, no feeling, is but to make us dissatisfied with ourselves and those who profess to be our friends.

M. PUTMAN, M.D.

LINES TO THE TRAILING ARBUTUS.

I've found you out, sweet beauties,
Though hid away so shy;
In bed of moss and grasses,
From careless passer-by.

The wind revealed thy secret,
As laden with perfume;
It whispered of the May time,
And of thy fresh, bright bloom.

I knew I'd find you blushing,
And as a princess drest;

Of all the woodland blossoms,
Dear pinks, I love you best.

You lovely little charmer,
You sweetest little sweet;
No wonder April kept you
So long in her retreat.

Come grace my hair and bosom,
And bless my longing eyes;
As fair ye are as angels,
Just stepped from Paradise.

SARAH E. DONMALL.



INFLUENCE OF MIND ON BODY.

SOME interesting historical facts illustrating mental effects are mentioned by James Kitchen, M.D., in an article of his published not long since in the *Hahnemannian Monthly*, from which we quote :

"When worried and vexed the common saying of the people is that they are out of sorts, and John Hunter said there is not a natural action in the body, voluntary or involuntary, that may not be influenced by the peculiar state of the mind at the time. It is well known that he, in an excited controversy with one of his hospital colleagues, fell dead in one of the wards.

"Jaundice has been brought on by care and anxiety. Cases have been recorded of students suffering by this affliction, arising from anxiety and fear before an examination before the Censors Board of the Royal College of Physicians. If care will kill a cat, though it have nine lives, and if too much care will make a young man gray and turn an old man to clay, it may be certain the violent emotions and passions will affect the system more lastingly and disastrously. John Hunter noted that the hen in the raising of her offspring kept her body lean and meagre, but if her chickens were taken from her she soon got fat. Substitute in these cases the worry and anxieties of business and every-day-life troubles, and the picture is unmistakable. Fear and care are also noticeable in their actions on the skin and hair. Medical histories can

show many a Prisoner of Chillon, so well described by Byron, which is no fanciful case. In times of peril and threats of invasion, numerous cases of a sudden change of the color of the hair have been recorded. Dr. Laycock mentions a case of severe neuralgia occurring at night from fright, and found in the morning that the inner portion of the eyebrow and eyelashes had become white; he also asserts that the natural grayness of old age is connected with certain changes in the nerve centres.

"Dr. Tuke relates the case of an old gentleman who had such a thorough disgust of George IV. of England, that he threw up a lucrative situation under the Government, made his son do the same, and with him and his wife departed for America. Six or seven years afterward, a friend living in New York gave an excellent account of them. They were very prosperous; the old lady had cut a new set of teeth (?), and a new growth of dark brown hair covered her head.

"An English physician says that lectures delivered to medical students frequently produce unusual mental stimuli upon their bodily feelings, and in some cases specific diseases have not only been simulated, but actually induced diseased symptoms. A fellow-student, after hearing a description of what is usually called the Scotch fiddle (itch), was so influenced that a persistent itching was felt between his fingers, the result of the morbid men-

tal influences to which he had been subjected. Students often fancy they have the very diseases which they hear described by their teachers, and the heart generally comes in for its full share, and it is almost impossible to persuade them otherwise. If it is found that the influence of the mind and its imaginings may induce diseases, it is no less certain that a like action may in some cases cure disease. Fright especially has made its cures in gouty and rheumatic invalids. We all know the effect of going to have a tooth extracted, the pain ceasing on entering the operating-room. The faith cure may come in here in chronic cases, the mind exercising its will power. Luther taught that if a man had faith, he could accomplish anything, even commit any kind of sin without guilt.

"The charming away of chills and fevers and of warts seems to come under this category. I have come across several cases of this kind. Old women often possess this faculty. Even in the time of Lucian, such female practitioners were successful in such cases. A surgeon's daughter had about a dozen on her hands, the usual modes of treatment having availed nothing for their removal. For eighteen months they remained intractable, until a gentleman, noticing the disfigurement, asked to count them. Carefully and solemnly noting down their number, he then said: 'You will not be troubled with your warts after next Sunday.' At the time named they had disappeared. Now, here the connection between the imagination of some occult or mysterious power and the cure, was too close to leave a doubt that, as in other cases of bodily ailment, the mind, which so frequently affects the body to its hurt, had in turn favorably influenced the physical organization. No less a personage than Lord Bacon himself had a similar cure performed upon his hands by the English Ambassador's lady at Paris, who, he adds, was a woman far from superstitious. The lady's procedure certainly betokened a belief in some influences, for Bacon tells us that, taking 'a piece of lard with the skin on,' she rubbed the

warts all over with the fat side, and among the growths so treated was one he had had since childhood. Then she nailed the piece of lard with the fat side toward the sun upon a post of her chamber window, which looked toward the south. In the course of five weeks all the warts disappeared, and 'that great wart which he had so long endured for company.' The miscellaneous substances used in wart charms and incantations of like nature, at once reveal the fact of the real cure lying in some direction other than that of the nostrum; beneath the material substance unconsciously used as a mere bait for the imagination, the forces of mind operate through the medium of the nervous impression.

"Some ten or twelve years ago there appeared in Philadelphia a Dr. Newton, a celebrated animal magnetist; he made the blind to see and the deaf to hear; the rheumatic and the gouty came on crutches and walked away without them. I went with a young man whose hands were full of warts, and unrelieved by medicine; Newton blew on them and made several passes with his hands, and told him that in three weeks there would not be a solitary one left; this proved so, for within that time they had all disappeared. In the above eye, ear, and rheumatic cases there were frequent, and many say, almost constant relapses; but the relief afforded by Newton's magnetic influence over many of his patients was certainly very wonderful."

DISINFECTANTS.—A true disinfectant will kill the germ in which the contagious principle resides; mere deodorization is of no avail. Carbolic acid is effective in destroying germs—turpentine is a good disinfectant of some odors. It is thought that gas-lights and mineral-oil lamps act as disinfectants from the gases they throw off. Professor De Chaumont says "there is but one true disinfectant, and that is fire." So we can burn up germs sometime, and when fire can not do the work of destruction carbolic acid may be called in to help.

CURRENT FALLACIES ABOUT HEALTH.

A GREAT many errors and perversions of sanitary philosophy have grown up and obtained currency through the press. From time to time we have had occasion to notice some of them and to point out their inconsistency with physiological facts. In many cases these errors consist in misleading or doubtful statements totally unsuited to the reading of people generally, because in their ignorance they are more likely to interpret wrongly than to gain sound information from them.

A writer in *Lippincott's Magazine* mentioned not long since a list of notions that are very prevalent and which he alleged lacked a sound basis, and declared it his opinion that "the health of people would be much improved if they were educated out of such ideas or fallacies." The following are some of the notions:

First—"The idea that cold baths are healthy in winter and dangerous in midsummer."

Many persons take this view of cold bathing, but for the most part it is a mistake for people to consider cold bathing healthful at any season of the year. For the great majority the water used for a tub or sponge bath should be but a trifle cooler than the temperature of the skin; for sick and feeble people cold baths are absolutely dangerous and should not be taken at all except as special treatment at the hands of skillful hygienic physicians. In cases of disease involving inflammatory conditions, local or general, cold water becomes a medicinal agent, but should not be applied by persons ignorant of its effects.

Second—"That rain-water is more wholesome than hard water."

This is correct in the main; clean rain-water is better for drinking purposes than the average hard water of wells. Ordinary cistern water is unfit for use; it should be purified by filtering. Hard water may abound in earthy or mineral matters, and be very injurious in spite of a comparatively pleasant taste.

Third—"That a sick-room must be kept hermetically closed."

This is not a notion of to-day; it belongs to thirty or forty years ago. People generally have become more intelligent on the subject of ventilation and the necessity of pure air.

Fourth—"That draughts are morbid agencies."

Draughts are often conducive to sickness, but of course it is dependent upon what the draughts are. If one sit in a room warmed by an ordinary stove and near a window, the lower sash of which is pushed up a few inches, and the current of incoming air strike him in the neck, it is very likely that in time a congestion will be produced that will be exceedingly disagreeable if not dangerous in its effects. No one should sit in a current of air.

Fifth—"That athletic sports brutalize the character."

The writer who classes this as a popular notion is evidently an advocate of college gymnastics. To an extent we are also; but when the desire for muscular exercise becomes so great that the studies of the curriculum are intrenched upon, there should be some restraint imposed upon the young men. The exhibition made last Fall of the tendency of athletic sports by students of Yale and Princeton colleges should be sufficient for any reasonable mind. The broken heads and injured limbs of a foot-ball match are certainly not indicative of refined sport; and when an educator of liberal views like Dr. McCosh deprecates the growing interest in athletics among college students it is time to cry "Halt."

Sixth—"That stimulation is identical with invigoration."

Here again we think that the writer has not sounded the opinion of intelligent people. The spread of sanitary information has greatly modified the old views—that stimulating beverages were healthful. Once people were disposed to drink alcoholics, thinking that they

helped to tone up the system and improve digestion and so promote the general health. They were encouraged in the idea by prominent physicians, but to-day the idea is extending, with the emphatic help, too, of eminent physiologists, that alcohol is a poison. The statistics of insanity and disease are having their effect, too, upon the intelligent, so that the majority of even those who do not advocate prohibition, regard the use of wine as altogether unnecessary.

Seventh—"That fashion has a right to enforce the right of wearing woollen clothes in the 'dog days.'"

We don't know but that fashion is about right in this respect. It is not often that fashion is right in regard to the sort of clothing people should wear, but if we were to consult a laborer on the subject who is in the habit of working out all day exposed to the summer sun, we should find that he wears his woollen shirt or jacket by preference—it keeps

him cool. It has been found by experience that light woollen garments are not heating, for the reason that they do not suppress or reflect the insensible perspiration of the body like linen or cotton garments, but absorb and permit it to pass through the loose mesh or fibre.

Our *Lippincott* neighbor is correct, however, in his implied hostility to certain commonly entertained fallacies—for instance, that "bedrooms must be heated in cold weather"; that "the misery of everlasting scrubbing and soap-suds is compensated by the comfort of the lucid intervals"; that "catarrhs are due to low temperatures"; that "an after-dinner nap can do any harm"; that there is "any benefit in swilling jugfuls of nauseous sulphur water"; that "a normal human being requires any other stimulant than exercise and fresh air"; and that "the torpor of narcotism is preferable to insomnia."

EDITOR.

HOW TO USE A NAPKIN.

A SIMPLE thing this convenience of the table may appear to be, but it has given rise to differences of opinion and controversies of more than passing moment. An exchange says:

"One of our esteemed metropolitan contemporaries informs an eager inquirer that it is bad form to fold the napkin after dinner—that the proper thing is to throw it with negligent disregard on the table beside the plate, as to fold it would be a reflection on the host, and imply a familiarity that would not benefit an invited guest. But the thoughtful reader will agree with us that this studied disorder is likely to be a good deal more trying to a fastidious hostess than an unstudied replacing of the napkin in good order beside the visitor's plate. The proper thing is to fold the fabric with unostentatious care and lay it on the left of the plate far from the liquids and coffee, and thus testify to the

hostess that her care in preparing the table has been appreciated.

"The napkin has played famous parts in the fortunes of men and women. It is one of the points admired in Mary Stuart that, thanks to her exquisite breeding in the Court of Marie de Medici, her table was more imposing than the full Court of her great rival and executioner, Elizabeth. At the table of the latter the rudest forms were maintained—the dishes were served on the table and the great Queen helped herself from the platter without fork or spoon, a page standing behind her with a silver ewer to bathe her fingers when the flesh had been torn from the roasts.

"At the Court of the Empire Eugénie was excessively fastidious. The use of a napkin and the manner of eating an egg made or ruined the career of a guest. The great critic Sainte-Beuve was disgraced and left off the visiting list be-

cause at a breakfast with the Emperor and Empress at the Tuileries he carelessly opened his napkin and spread it over his two knees and cut his egg in two in the middle. The Court etiquette prescribed that the half-folded napkin should lie on the left knee, to be used in the least obtrusive manner in touching the lips, and the egg was to be merely broken on the

larger end with the edge of the spoon and drained with its tip.

"The truth is, luxury and invention push table appliances so far that few can be expected to know the particular convention that may be considered good form in any diversified society. The way for a person to do is to keep his eyes open and when in company note what others do."

THE MEDICINE CRAZE.

A CORRESPONDENT sends us the following humorous rendering of what is only too true of the millions who support the patent medicine dealer. It is from a well-known Southern paper, and there is more *earnest* than *jest* in it :

"There was a time in the history of the world when men died without the aid of medicine and physicians.

"The early history of the art of medicine is entirely legendary, but it is believed that as an art it was first cultivated in Egypt. There the office of priest and physician were combined. Chiron, the Centaur, is credited with having introduced the art of medicine amongst the Greeks. Then, as great discoverers in medicine, there was Pythagoras, Democritus, and Hippocrates; afterward came Galen, Aristotle, Harvey, and others. The early physicians had everything their own way. In performing cures they used prayers, incantations, charms, and noisome drugs. The laity were ignorant of their own internal structure. There were no stethoscopes, pleximeters, or ophthalmoscopes in those days. When a man felt gloomy, he did not know whether it was his conscience, or his liver, that was out of plumb, or whether it was soft corns, or Bright's disease of the kidney, that was gnawing at his vitals; so he would go to an Astrologer, who would probably tell him to wear the decayed tooth of some sacred animal around his neck, and to avoid sitting with his back to the engine when he rode in a railroad train, and he would soon get well.

"Possibly the cause of the ignorance

of the common people in that age arose from the fact that they did not find in the daily papers any warnings to avoid delay in attending to their hacking coughs; no admonitions regarding what should speedily be done for pains in their backs; and no description of golden remedies for the opium habit, or sure cures for catarrh. In fact they did not have any papers to read, and could not have read them if they had had them.

"The progress and discoveries in medicine during the present century have produced a different order of things. Now every one can be his own doctor, and can consign himself to an early grave as speedily as if he was in the hands of a licensed physician.

"The man who reads the daily and weekly papers will discover that he is now—and has been for some time, unknown to himself—suffering from dreadful ills, and he will learn how to speedily cure them. He will find that if he will only try a certain remedy, put up in \$1 bottles, he will never suffer from heartburn, cold feet, or painters' colic; and if he takes another remedy, sold everywhere, he 'will not die in the house.'

"To read these exhortations to the sick and suffering—some of them romantic narratives, woven around an incident that points a moral and suggests the use of somebody's only genuine Wormwood Bitters—one would suppose that every one who could read nonpareil type would diagnose his own case, find in the newspapers the remedy to fit it, and would soon be so burdened with health, that he

would have it to sell, to invest, and to give to the poor, but the supposition would not be borne out by actual facts.

"There is Major Handy, for instance, who fought all through the war, and came home without a scratch and in good health. Six months ago he read an article in a newspaper that told how men were every day going down to the silent tomb accompanied by Bright's disease, and they did not know it. The writer said that symptoms differed in different cases. Sometimes it was a headache next morning. At other times it was a dizziness in the head and weakness in the legs, felt when one was out late at night. Again, it was a continual desire to drink something. The Major recognized the symptoms; he had not only suffered from one but from all of them. He became alarmed. Fortunately, in the very same article that so clearly described his symptoms, he found Wungle's Wonderful Remedy recommended as a sure cure. He bought a bottle, and, as directed, used it, abstaining, as also directed, from the use of stimulants while under treatment. Bright's disease disappeared in a night, as if some one had stolen it. Perhaps Bright himself came and got it. But no sooner did the Major get rid of it than the cramps took possession of him. Glancing over his newspaper he found

that Rough on Cramps was the name of a simple remedy guaranteed to scatter a whole collection of cramps in fifteen minutes, Greenwich time. He tried a box of it. Instant relief. But no sooner was he rid of the cramps than his liver refused to oscillate. He again had recourse to his paper, where he had choice of eleven liver lubricators, each one highly recommended by prominent clergymen and mayors of cities who had been saved from untimely ends by its use. He tried some of these remedies, and soon had his striking liver working ten hours a day; but no sooner did he get rid of one thing than he found himself in possession of another. This time it was neuralgia, or he thought it was. He soon got a neuralgia eradicator that was to be used in connection with cold baths. The eradicator knocked the neuralgia, but the cold baths brought on rheumatism. And so it has gone on. The Major has had, or imagined he had, about twenty-seven different diseases. The last we saw of him, about a week ago, gout had claimed him for its own, and he was going around on crutches. Doubtless by this time he has got a gout cure that has done its work, and left in its trail a new disease to make inroads on his constitution and imagination, and to give him an opportunity to hunt for a new remedy."

HOW I ROUTED AN OLD ENEMY.

THE story to which the reader's attention is invited relates no long and sanguinary contest "on flood or field" where warriors true crossed swords in desperate resolve, but it concerns a conflict, protracted and earnest, with a foe whose might has sent a thrill of anguish to the stoutest heart, whose name once mentioned will elicit the reader's interest and his glad surprise, because victory, in the end, perched on my banner. That foe was a CORN.

I had endured the varied miseries of that corn for upward of fifteen years. I had tried a hundred or more methods of

relief to no purpose. Salves, ointments, acids, caustics, cuttings might soothe for a time, but not remove. Baggy shoes, worn for months, appeared to challenge only a larger growth of the defiant callus. Once, when in slippered negligence, I was indulging in a series of extravagant contortions *a la Terpsichore* for the amusement of my little girl and smaller boy, I violently dashed my foot against a projecting angle of our sitting-room stove. It was the foot on which the corn resided, and the part that received the full force of the blow was precisely where the corn had its lodgment. Words may not ex-

press the excruciating pangs that convulsed my nervous system for two or three minutes; but when I had recovered sufficient composure to examine my foot, I found that the corn had been forced from its ancient bed and hung loosely by a few root-like appendages of tough skin. Thinking that I had gotten rid at last of my enemy, I felt that the pain of the unexpected operation, although so intense, was compensated. My foot proved a patient needing kind nursing, and more than two months elapsed before the wound entirely healed. With its recovery, however, Boss Corn reappeared, and in a short time became more robust and more contumacious than ever. I was in despair, and settled down to the time-honored system of shaving the monster to a state of board-like smoothness once in a fortnight, or whenever his growth rendered him particularly annoying. This continued my habit until the thought occurred to make another stroke for liberty in a way that might have been suggested by something I had read or heard.

One bright morning I sat down upon the floor of my bed-room and went to work in the spirit of a good mechanic who has an all-day job in hand and means to perform it. A knife-blade, tapering like a lance, well sharpened at the point, a little alcohol and a bit of sponge were my tools. Commencing by dampening the corn well with the spirit, I pecked at the callous development with stolid gravity until I had raised a furrow around the circumference of the corn, separating it from the healthy skin of the long invalided toe. This occupied me full twenty minutes. Then I worked slowly

on, occasionally moistening the corn with alcohol, the effect of which was not only to render the horny integument more easily abraded by the knife-point, but also made the toe comparatively insensitive to its gentle proddings. An hour or more was consumed in this kind of surgery; but it was time well spent, for I had the satisfaction of seeing the leathery mass gradually detached from its bed. After this was done, the shreds of hard skin that still hung to the toe were clipped neatly off with sharp scissors. A few days later I examined the toe, and finding a trifling nodule of thickened cuticle in one corner of the cavity left by the excavated corn, I set to work as I had before and pecked it carefully out.

The toe "made a good recovery," as the doctors say, in the course of three or four weeks, quite returning to the shape it had in the long ago, when no ugly, irritable hump marred its symmetry and embarrassed its exercise. And now there are no signs of the old martyrdom. Soft, rosy flesh covers the point, which can bear the occasional pressure of a dress shoe without the faintest protest.

It should be noted that the secret of success appears to lie in the thoroughness of the operation, the corn being entirely *pecked* out, for cutting is sure to leave fibrous remnants that have a peculiar vitality, and rapidly develop in size and malignancy. Sulphuric ether is a better application than alcohol for obtunding the pain, but must be used more carefully. Care too must be taken to draw no blood during the operation, otherwise it will be rendered painful, and perhaps impossible for the time.

H. S. D.

TAKE CARE OF YOUR EYES.

WE feel that too much can not be said on this subject. People young and old about us show so little regard for the safety of their eyes that we are moved to frequent remonstrance and admonition. Children need constant

watching, and constant reminders of danger incurred by bad habits of reading and study. A writer in the *Western Rural* summarizes much practical counsel about eyes, and it is thought suitable to copy his statement here :

"Many adults even are very reckless about the proper using of their eyes. They pore over books and work at dusk, or by bright gas-light, as though their eyes could harmlessly bear any amount of abuse. Such abuse may weaken the strongest eyes and impair their strength for life. It may induce some one of the forty different diseases to which the human eye is subject. Many of these diseases are of an inflammatory type, and might have been prevented. A healthy eye ought to discern an object that is the 600th part of an inch in diameter at the distance of six inches, and still very many children in our schools are so near-sighted that they can not read figures or letters of four times the size at twelve inches.

"Teachers should insist that pupils who are daily, if not hourly, using their eyes, should receive a proper degree of light from the right direction. They should never face the light so that it will shine directly into their eyes. Surely they can always keep in mind that daylight is always better for the eyes than gas-light; that direct light is always more injurious than reflected light; the best light, the easiest to the eyes, comes from some point above their level, and from a northern aspect; that artificial light is always to be avoided as much as possible; that the source of artificial light should be so high as not to compel children, or adults who use it, to bend over their work or books.

"As children in our public schools are compelled to bend forward in some of their daily duties, as writing and ciphering, so in other exercises they should be compelled, as when studying or reading geography, history, and grammar, to sit erect, bending backward, if possible, so as to counteract the bad results of bending forward. In writing and ciphering, when the eyes are weak, it is wise to avoid using them in twilight, and to avoid using them in bright sunshine reflected from snow. Some persons complain of weakness of sight. They can not use their eyes in reading, writing, or sewing for any length of time without the object

at which they look becoming indistinct or blurred. These symptoms of weakness and abuse may be removed by improving the general health and applying hot water to the eyes and temples thirty minutes three or four times a day, and then apply cold water at the same intervals and in the same way. It would be wise to avoid the causes of the weakness. Eyes once injured are not easily repaired. Weak eyes above all things need rest.

"Reading when riding in the cars tires and weakens them, because the eyes are constantly trying to adapt themselves to the changing distances of the letters from the pupil.

"Some young persons have the natural power of detecting slight variations from a straight line, or slight differences in color or form. These are all illustrations of what the eyes may be taught to do, either from natural power or artificial. But if these powers are not natural, the eyes of most persons can be much improved by judicious training. All children can be taught to distinguish colors, except those who are color-blind.

"Avoid using the eyes when weak or painful, or the sight is blurred and indistinct.

"Avoid facing the light from any source, the sun, gas, or candle.

"Avoid using the eyes when the daylight is nearly gone, and avoid using them at twilight.

"Avoid viewing minute objects for any length of time. Examining minute objects often will necessarily shorten the length of vision. This bad result can be corrected only by looking at distant objects for an equal period of time. Avoid books printed in small type."

To those using glasses a word: Eye-glasses ought never to magnify much, but merely show the objects clear and exactly as they are. Every person ought to be able to read with his spectacles at the same distance that he was accustomed when his sight was unimpaired. To test true eye-glasses, hold them obliquely over print, when, if the glass is correct, the letters will preserve their true character.

THE INDIAN ACORN BREAD.

THE Indians scattered along the foothills of the Sierras are a quiet, inoffensive people. They do not appear to be governed by any tribal laws, yet adhere to many of their old traditions. One or two men of superior ability and industry form a nucleus around which others, less ambitious, gather. Hence they fence with brush and logs a tract sufficient for their requirements of hay-making, pasturage, etc. A correspondent of a San Francisco newspaper who has visited them, describes the mode in which they prepare acorns for breadstuff.

"Although they often indulge in the food of the civilized nations, the acorn is still a favorite article of diet in every well-regulated wigwam. The process of converting this bitter nut into bread is curious. Under the branches of a grand old pine I found them at work. They had shucked and ground in the usual manner a large mass of acorn meats. A number of circular vats had been hollowed out of the black soil, in the shape of a punch-bowl. Into these was put the

acorn pulp. At hand stood several large clothes-baskets filled with water, and into these they dropped hot stones, thus heating the water to the required temperature.

"Upon the mass of crushed bitterness they carefully ladled the hot water, making it about the color and consistency of cream. Not a speck appeared to mix. A buxom muhala stood by each vat, and with a small fir bough stirred the mass, skilfully removing any speck that floated upon the surface. The soil gradually absorbed the bitter waters, leaving a firm white substance, of which they made bread. I asked to taste it, at which they said something in their language, and all laughed. I asked again, and after much laughter, I was handed a small particle on a fig-leaf, and found it sweet and palatable. They began to remove it, and so adroitly was this done, that but a small portion adhered to the soil. They spread it upon rocks, and in a short time it was fit for use. This, I am told, they mix with water, pat it into thin cakes, and bake before the fire."

GRAHAM BREAD.

THE inquiry that has been placed in my hands with regard to making Graham bread is very satisfactorily answered in "Health in the Household," to which we would respectfully refer every housekeeper who is desirous of learning the "better way" of preparing nutritious and appetizing dishes. In the series of "Kitchen Leaflets" that was contributed to the JOURNAL in 1882, there are several recipes that apply to the question. But the inquirer may say the book and the JOURNAL of the year 1882 are not accessible, and you will oblige me by a specific rule that I may use in confidence. We infer that a recipe for raised bread is wanted, and the following is the result of much experience.

Ingredients.—8 teacups of Graham flour (mill ground, not grocery mixed);

½ teacup of corn-meal; 2 tablespoonfuls of molasses; 1 teaspoonful of salt; ½ yeast cake (previously dissolved in tepid water); 1 quart of tepid water.

Method.—Scald the corn-meal with a cup of boiling water, mix, and when cool, add the flour, salt, molasses, yeast, and lastly, the tepid water. Mix the ingredients well with a spoon about 8 P.M., and cover the same as one would the dough for white bread for the night. In the morning stir down with a spoon. Then pour the dough into heated, well-oiled pans, and bake in a quick oven one hour. This bread requires a better oven than white-flour bread. The recipe will be sufficient for two medium-sized loaves. The corn-meal can be left out, and the same quantity of Graham flour substituted, but the bread will be drier. MIRA EATON.

NOTES IN SCIENCE AND AGRICULTURE.

The Involuntary Life.—From an address before the New York Academy of Anthropology:

What is the Involuntary Life? We may note its facts, if not its factors. It is easier to point out its phenomena than to formulate its philosophy. The genesis of the will, physically or metaphysically viewed, is too profound a theme to enter upon at this time. For present purposes we may say that the faculty we call the Will, a free, self-directing power, puts forth during our waking hours acts which we call volitions. This conscious activity is, briefly, the voluntary life. When the will relinquishes its control and yields to influences without, a new condition begins. The surrender may be partial, as in reverie. Ideation becomes incoherent, because the helmsman dozes at the wheel. In other conditions, as in mania, the abdication is complete. The ship drifts rudderless. Between the two extremes we have sleep, intoxication, ecstasy, somnambulism, and other phenomena, all included in the term "Involuntary Life." The Trance is called the supreme expression of this unconscious, automatic state of activity. It occurs pathologically, as in hysteric epilepsy. It may be artificially induced through expectation, by an individual when alone, or by another, largely through the influence of suggestion. The patient gives his complete, engrossing attention to a sound, or motion, or object, which idea sooner or later, like Aaron's serpent, swallows all the rest. Intensity of thought in one direction tends to vacuity in all other directions; and this to ecstasy, or it may be to sleep and physical insensibility. The processes are slow with one person and rapid with another; slow or rapid with the same person as his will at one time is recalcitrant and his attention diverted, or as he is at another time quiescent, acquiescent, and co-operating.

This form of the Involuntary Life is a subjective phenomenon. The establishment of this fact is one of the landmarks of progress. A dozen years ago this branch of physiology was "as unexplored as Central Africa." The problem is not yet solved, but when a man says that there has been no progress, he proclaims his ignorance; and when he says there never will be, he announces his incapacity. He repeats the folly of the Florentines, who refused to look at the satellites of Jupiter lest they should see what Galileo had discovered. To say that investigations into these psychic phenomena are "more curious than profitable" shows one lamentably blind to the relations of the subject to the highest welfare of the individual and society. Were medical science alone interested in studying its pathological bearings upon the subject of Insanity, the theme would be of the first importance, for the increase of this disease is far ahead of the increase in population. Surgical science also has found here in not a few cases, a safe

substitute for perilous anæsthetics. The subject of Mental Therapeutics is illumined by the literature of the Involuntary Life. Heredity, the responsibility of criminals, the validation of testimony, and the interpretation of delusions that have carried away whole communities by their baneful influence; these are some of the serious themes to which this subject stands vitally related.

Religious truths, too, which our daily speech has monotonized, may grow more august and authoritative when studied in the light which Psychology affords. Such experiences as communion with God; the illumination and guidance of the Holy Spirit; the full assurance of faith and its almost incredible remedial power in disease; miracles of ancient and modern healing; the biblical trance; the temptation of our Lord; the personality and ubiquitous activity of Satan; the reality of demoniacal possessions; the physical sufferings of martyrs apparently suspended by the action of their enraptured minds; certain phenomena of revivals; the art of winning men; death and immortality—these are invested with reality and significance when studied in connection with the Involuntary Life as shown in the artificial trance.

For instance, when we see the wondrous witchery with which a human will may enthral a consenting soul, may we not reason *a fortiori* as to a sway more subtle, imperious, and ubiquitous by which either God or Satan holds the will of each of us?

Again, when we see the mental panorama of one human brain made to be the scenery of thought in another; when not only the imparted ideas are sharp and clear, but the emotions also of the percipient are those of the agent, may we not gain some conception of what communion with God may be when our voluntary, self-directed life becomes, in some sense, an involuntary life? When "our will is lost in the will of God," as the phrase is—that is, when our whole personality is yielded up to divine guidance—may we not feel his emotions and think his thoughts after him, being "filled with the fulness of God" and made "partakers of the divine nature"?

Still again, if I am able to transfigure a face of quite ordinary intelligence into ecstatic radiance by a temporary control, by momentary suggestions, how much greater the transforming "beauty of holiness" which God can create in us as a permanent characteristic by the continuous revelation of himself and of the unseen world to our illumined thought! As we see the entranced fall powerless and swoon before the transporting vision, may we not better understand the nature of that overpowering emotion that caused in Daniel fainting and sickness certain days? So, too, in the case of the early martyrs, and of multitudes since, who have been serene and even jubilant under torture, may we not see illustrated the simple yet profound axiom stated by

President Porter in his *Psychology*, namely, that the law of enrapturing emotions is one of inverse ratio; intellectual perceptions are quickened at the expense of sensation, and *vice versa*. The concentration of attention in one direction inevitably suspends it in other directions. Moreover, the completeness with which the voluntary life is abrogated measures the thoroughness of the control exhibited in the involuntary life.

Then again, if the soul of man can be so completely enthralled by his fellow that the verities of life, even his own identity, are contradicted, no one can doubt the possibility of the possession of a soul by demoniacal influences, now as in earlier days. If one by voice and eye alone can produce in another the effects ordinarily secured by drug and dram, how much more complete the enthrallment of Satan may be, whose resources are so varied and whose activity is so unwearied. We ought not to be ignorant of his devices or imitate the ostrich, who hides his head when imperilled. If this human mastery be a perilous power—as it is—so much the more need of understanding its subtle and seductive influence instead of ignoring it. On the other hand, we get a glimpse of the amazing resources, human and divine, that are yet to be utilized in winning men to duty and to God. The homiletic relations of the theme are of vital importance. They interpret the success of those who, having learned to yield, teach men to obey and hold them by a wondrous power alike masterful and beneficent. A cold, wary temperament, an introspective and premeditative spirit is not so likely to submit to the dictation of the Holy Ghost. But when it relinquishes its autocratic sway and gives up thought, will, and sensibilities to his authority and leadership, “streams of power from on high discharge themselves unchecked into the breast,” as Von Herder expresses it. The wasted forces of solar radiation are a type of our unutilized resources in God, the central, imperial, and eternal reservoir of moral power. As this globe intercepts but two billionths of this efflux, five hundred thousand millions of worlds like this would be required to utilize it all. This relation of solar and telluric energy is but a picture of the immeasurable fullness of God, the Sun of Righteousness of which we may be partakers when we as thoroughly yield to him as man sometimes yields to the enthrallment of his fellow. The speaker who gives himself up in the fullest self abnegation to the sway of spiritual influences becomes possessed by this divine polarization and will draw men to the truth as doves to their windows.

The condition we are studying furnishes an analogue, if not a parallel, to that known in the Scriptures as prophetic ecstasy, into which prophets and apostles were wont to pass. It is far from being a sign of weak minds. “Many, if not most of those who have left the stamp of their own character on the religious history of mankind,” says Dr. William Smith, of London, “have been liable to pass at times into this abnormal state.” These

two conditions placed side by side are “concentric circles,” to use the phrase of Dean Trench. We may here, as in Miracles and the gift of Tongues and Healing, clearly differentiate the work of man from that of God in the origin, control, and purpose of these phenomena.

A final suggestion is this: in the vividness, accuracy, and intensity of the soul's involuntary life we have, if not a parallel, a prophetic hint of the immortal supremacy of the spiritual life over the earthly, transitory life of the body. Processes of automatic computation of time—called by Dr. Carpenter “unconscious chronometry”—are illustrations of this superior accuracy of involuntary action. Indeed, as Francis Galton says, “consciousness appears to be a helpless spectator of but a minute fraction of a huge amount of automatic brain-work.” Physiologically or ethically viewed, our unconscious life is the truest. Its present volume and power no psychometric experiments have yet fully determined, THAT they point to a grander future when the fleshly frame shall no more impede the volitions of the freed spirit.

A true, scientific instinct is calm, candid, cautious, and discriminating. It is hospitable to all truth and willing to be taught, for we know in part, we prophesy in part. To-day is but the cradle of to-morrow.

“The highest mounted mind
Still sees the sacred morning spread
On silent mountains overhead.”

Quasi cursores lampada tradunt. Swift messengers, indeed, are we, as Lucretius says, carrying lamps. No nobler work can we do, as Christian scholars, than to transmit from one age to another the light which we receive. O brothers, in this sea of mystery shall we stand still like islands or move on like ships?

DR. E. P. THWING,

President of the N. Y. Academy of Anthropology.

How Alcohol Affects the Skin.—

One of the characteristics of alcohol is its powerful affinity for water. Placed in contact with an animal membrane, it immediately withdraws the water of the structure, and partial or complete destruction of its substance is the result. As pure water forms the weightiest constituent of the human body—a man weighing 150 lbs. having about 110 lbs. of water in his composition—it follows that the substitution of alcohol for that element, and its permanent fixation in the blood, must vitiate the condition of every organ, vessel, and tissue containing water as an integral portion of their substance, and seriously interfere with the due performance of their functions. The great centre of the circulation—the heart—participates in the disturbance. Its action is intensified, and it is called upon to perform one-fourth more work than is ordinarily expected from it; in other words, the rate of its pulsation is increased from the normal number of 100,000 to 125,000 per day. The effect is that the blood is driven with greater force into the minute circulation, where there is insufficient resistance to propel it through

the minute veins or capillaries. These little vessels consequently become enlarged and gorged with blood; hence the suffusion and red blotches which advertise the perpetual tippler, and render his appearance so uninviting, especially as the nose is the part usually selected for their display. Till a comparatively recent period, the opinion was universal amongst physiologists that alcohol acted as a respiratory food—that is to say, it was burned in the body like fat or starch, with the production of heat and the evolution of carbonic acid gas from the lungs. The researches of Dr. Edward Smith proved that under alcoholic stimulus there is a marked diminution in the quantity of carbonic acid respired, so that alcohol must be decomposed in the body without any of the phenomena which accompany the decomposition of heat-givers. Dr. Richardson has further shown, in opposition to the generally received opinion, that there is a reduction of temperature in the advanced stage of alcoholic poisoning from 98° to 96°; and that the narcotism of alcohol may be thus distinguished from the coma of apoplexy, in which there is a rise of temperature. It thus appears that a glass of hot brandy and water is a very poor protection against cold, and an equally poor remedy when a cold is contracted.

Management of Unproductive TREES.—The soil round about many fruit trees often becomes entirely exhausted of all fruit-producing material. Why should this not be the case? For many years past the roots have been gleaning, gleaning, and reaching far and wide after minute atoms of fertilizing elements, until everything in an available condition has been used up in developing light crops of small, inferior fruit. Fruit trees can not produce abundant crops out of nothing. It will pay generously to go to large markets in cities and villages, and agree with proprietors of hotels and restaurants for the garbage of their back yards. Proprietors of meat-shops often have barrels of fragments of bones and bits of tainted meat which they will sell at a low price. If such material is dug into the soil where the roots of growing trees can reach it, the hungry roots will soon devour every particle of flesh and bone and change it into luscious fruit.

Where the soil is of a light loamy and sandy character, it is as important to manure the ground for fruit as for potatoes and corn. In many instances a wagon-load of clay spread around a fruit tree over an area as large as the diameter of the tree-top, will be the means of filling the tree with fine fruit. I well remember, about twenty years ago, that a near neighbor had an orchard in grass the trees of which yielded nothing but small, knotty, and inferior apples. At my suggestion he reluctantly tried an experiment by spreading a wagon-load of coal-ashes and a wagon-load of clay-earth around one tree over the ground as far as the longest branches extended. He ridiculed the idea as an absurdity, yet he felt willing to do almost anything that would ren-

der the trees productive. To our surprise, the next season that tree around which the ground had been fertilized, hung full of fine, smooth, and plump apples, while all the other trees yielded only the accustomed crop of small, knotty, and unfair apples.

Many owners of fruit trees who reside in the suburbs of large villages and cities could have hundreds of loads of street-dirt dumped about their trees if they would simply signify their desire. Street-sweepings are usually rich in the half-digested droppings of horses, which will make valuable top-dressing for fruit trees, berry bushes, grape-vines, or currant bushes. In many parts of the country one can often buy a lot of air-slacked lime for a few cents per bushel which will always be found an excellent material to be dug or plowed into the soil near fruit trees of any sort, or vines and bushes of any kind of small fruit. There is not much danger of applying too much lime or ashes. ESS. E. TEE.

Apple Butter or Apple Sauce.—When, as is the case in some parts of the country, apples will bring no more than one dollar or one dollar and a quarter per barrel, and but a few cents per bushel at the cider-mill, it becomes a question what shall be done with the surplus. Canning and evaporating fruit affords a means of converting into use, and by this opportunity there is a gradual losing sight of the manufacture of the good old-time apple sauce which used to form so important a part in the economy of the farmer's household. And although the taste has been largely cultivated and improved in the line of luxurious preserves and sauces, to say nothing of canned fruits, there might well be a return to the manufacture and use of this palatable dish. The old-time housekeepers have not forgotten with what relish the apple sauce was partaken of from the winter's store. Nor is this relish confined to the robust farm laborer, but extends to the denizens of the city. The manufacture is simple, and easily performed. In the first place good sweet cider direct from the press is evaporated or boiled down to about one-quarter its measure. Sweet apples with a small proportion of sour ones are pared and quartered, with the cores removed, and cooked in the boiled cider until thoroughly done. To add to the flavor of the sauce a few prepared quinces are also cooked with the apples. Good apple sauce forms a desirable side dish with the flesh ration always.

An Indian Clock of Remarkable CAPABILITIES.—Probably the most wonderful time-piece ever heard of is a clock described by a Hindoo rajah as belonging to a native princess of Upper India. In front of the clock's disk was a gong, swung upon poles, and near it was a pile of artificial limbs. The pile was made up of the full number of parts for twelve perfect bodies, but all lay heaped together in seeming confusion. Whenever the hands of the clock indicated the hour of 1, out from the pile crawled just the number of parts to form the frame of one man, part

joining itself to part with quick metallic click ; and, when completed, the figure sprang up, seized a small mallet, and, walking up to the gong, struck one, the first hour. When 2 o'clock came, two men rose up and did likewise ; and so through all the hours of the day, the number of figures being the same as the number of the hour, till at noon and midnight the entire heap sprang up, and, marching to the gong, struck one after another, each his blow, making twelve in all, and then fell to pieces again.

Who Invented the Lucifer MATCH?—According to a German paper, the inventor of lucifer matches was a political prisoner who perfected his idea in 1803, within the walls of a State prison. Kammerer was a native of Ludwigsburg, and when sentenced to six months' imprisonment at Hohenasberg he was fortunate enough to attract the notice and to gain the favor of an old officer in charge of the prison, who, finding he was studying chemistry, allowed him to arrange a small laboratory in his cell. Kammerer had been engaged in researches with a view of improving the defective steeping system, according to which splinters of wood, with sulphur at the ends, were dipped into a chemical fluid in order to produce a flame. If the fluid was fresh the result was satisfactory, but, as it lost its virtues after a time, there was no general disposition to discontinue the old-fashioned system of using flint and steel. After many failures Kammerer began to experiment with phosphorus, and had almost completed his term of imprisonment when he discovered the right mixture and kindled a match by rubbing it against the walls of his cell. On coming out of prison he commenced the manufacture of matches. Unfortunately the absence of a patent lawyer prevented his rights from being secured, and, on Austrian and other chemists analyzing the composition, imitations speedily made their appearance. In 1835 the German States prohibited the use of these matches, considering them dangerous. When they were made in England and sent to the Continent these regulations were withdrawn, but too late to be of any benefit to the inventor, who died in the mad-house of his native town in 1857.

Blackberry Culture.—Blackberry culture, like other kinds of business, requires a good comprehensive knowledge of its requirements, as well as thoroughness, in order to make it a success. If you do not understand the business fully, you must learn it before you can succeed. Do not begin it on too large a scale, but begin moderately and work into it gradually, for you have to establish yourself in the business, not only as a producer, but as a marketer, and the latter, the disposing of a crop profitably, is full as important as the production of it. By commencing moderately, you avoid expense by raising instead of buying most of your plants,

while you are at the same time building up a market for your products and advertising your business, which are both absolutely essential. The nearer markets are usually the best, and one can often sell direct to the consumer, and thus form a mutual and constantly increasing acquaintance, better than to depend entirely upon the distant commission houses, and the consequent largely increased competition which necessarily crowds in upon the large city markets, while at the same time, if your local market chances at times to be overstocked, you have the recourse to the other at any time for your surplus. Early fruit, as a general thing, pays best, and the next and even more essential requisite for success is fine fruit, and put upon the market in the best and most attractive shape and condition. People will buy what suits their fancy in fruits as well as in other things, and the more attractive you can make its appearance, the more salable and the better the price.—*Vick's Magazine.*

TWO VIEWS OF IT.

AN old farm-house, with pastures wide,
Sweet with flowers on every side ;
A restless lad who looks from out
The porch, with woodbine twined about,
Wishes a thought from in his heart :
Oh, if I only could depart
From this dull place the world to see,
Ah me ! how happy I would be.

Amid the city's ceaseless din,
A man who round the world has been,
Who, 'mid the tumult and the throng,
Is thinking, wishing all day long :
Oh, could I only tread once more
The field path to the farm-house door ;
The old green meadows could I see,
Ah me ! how happy would I be.

Dr. Koch's Advancement.—The establishment over which Dr. Koch presides in Berlin is the completest and best equipped in Europe. He has four army surgeons as assistants ; and some sixty or eighty students, among whom are not a few savants of standing, are daily pursuing their researches in his laboratories. Dr. Koch, who was a modest veterinary surgeon in Breslau four years ago, and who has never had a course of academical training, was looked upon with some distrust and jealousy by the German universities when his studies in bacteriology brought him into prominence and won him the support of Prince Bismarck and the favor of the government ; but the opposition to his methods and theories has almost subsided, and he was named professor in the Medical Faculty of Berlin some months ago. M. Duclos, one of the most distinguished of M. Pasteur's pupils, has been appointed the first professor of microbiology at the Sorbonne.



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THE UTILITY OF PHRENOLOGY.—No. 4.

IN CHOOSING A VOCATION.

IN a lecture on "Self-Knowledge," the Rev. James Freeman Clarke, of Boston, said: "I recommend the phrenological arrangement of human powers simply as a convenient one in self-study. If a man wishes to know what he is fit for and capable of, this gives him a useful method of investigation."

The foundation of success in life is adaptation to one's pursuit, and for one to know whether or not he is adapted to this or that calling, it is essential that he possess a good understanding of his powers and capabilities. Of course this is indisputable. The thousand evidences in wrecked and discontented lives around us are a constant and pathetic demonstration of the fact. There are very many wise men who offer counsel in reply to the ever-recurring question of eager young men and anxious young women, "What should I do?" and give answers like these: "Try to find out what you are best adapted to and go at it"; "Get something to do and stick at it"; "Work hard, be faithful, and you'll succeed." A successful New York merchant says: "The

great thing for the business boy to do is to throw himself into something."

The great majority of our practical advisers appear to think that success is altogether dependent upon persevering industry, notwithstanding the open fact that thousands of laborious, persevering men and women are to be met with who never succeed, and hundreds who have acquired a competence, but have always been dissatisfied with the sphere of effort in which they were placed. Let a young man be set to do that which is suited to his organization, and he soon discovers the fact of its appropriateness with pleasure, and the chances are decidedly in his favor for success. The haphazard way of finding employment for the young is one prominent cause of the restlessness, discontent, and immorality so prevalent in society. This can not be otherwise, since there is no subject of deeper interest to the youth than that of a pursuit, and when he finds himself bound to an uncongenial employment, naturally he frets and chafes.

Let one of experience say to the young man or young woman who stands hesitating and fearful on the threshold of active life, "You can be helped toward determining your proper sphere—there is a method, scientific in its procedure, by which your mental measure can be taken, and the bent of your faculties indicated," and he or she eagerly cries: "Tell me what it is, and let me be tried by it, because I wish to start right." Every teacher should be able to give his pupils some practical hints concerning the spheres in which they will be likely to work with good effect. The same method of observation that will determine the temperamental quality of a boy or girl, and appoint the studies in which he or she will

make the best progress, can outline the pursuit for which they are naturally fitted.*

"By the temperament which indicates the degree of activity, by the natural language which is a hundred-fold polygraph, and by the size of the organ which is one of the measures of power, every man advertises what he is; and unlike common advertisements his are true, for the hand of Nature has written them." Thus Horace Mann, the eminent American educator. Caprice, or unenlightened ambition, places many in callings for which they are unsuited. There are stalwart, brawny men in the pulpit, at the desk, and behind the counter who would be happier and more successful, in a pecuniary sense, as blacksmiths, millwrights, stonecutters, carpenters, engineers, because then their strong muscles and active forces would have the exercise they naturally require and yearn for. There are men of light frame, small muscles, and large brain in mechanical pursuits that require the constant application of physical strength, and they labor on day after day in a spiritless, negative manner, becoming tired long before their day's work is done, and often breaking down from exhaustion. Such men are fitted for office, store, or professional duties, and would be efficient in their performance, and have good health meanwhile.

"Thousands have spent the formative period of their lives sweating over the classics or mathematics, or vainly endeavoring to become qualified for some profession or mechanical trade, and have failed to win respectability or secure their daily bread, and are thus made

wretched for life. Some of these persons might have had suitable vocations and become eminent or at least respectable, could they have had in childhood such an analysis of their character and talents as Phrenology would have afforded, and been thereby directed to appropriate occupations."*

One of the best portrait painters in the country was raised a carpenter, but happening to attend a phrenological lecture he offered himself for an illustrative examination, and on being told that he was naturally adapted to be a painter, accepted the advice, and took up the brush. Within ten years he had become so successful that he was enabled to live in good style and occupy a desirable position in society. The late Mr. Clark Mills, of Washington, was encouraged by a phrenologist to take up sculpture; he did so and became eminent as an artist, and useful to science.

An Ohio clergyman, of much prominence in his denomination, on his way to attend a convention in Albany, stopped at the office of the writer, and in the course of conversation stated that he owed his success in his ministry, indeed all that he then was as a man, in a great degree, to the counsel and encouragement he had received through phrenological teachers and books. Not many years ago he was a mechanic laboring in an humble capacity, but a lecturer on mental science awakened new hopes in him by assuring him that he could attain a place of credit among men, and suggested the ministry as a suitable field of endeavor. There were many difficulties in the way, but he began earnestly a course of preparation for the pulpit, and

* "Indications of Character."

* "Choice of Pursuits." By Nelson Sizer.

much before the time he had expected to occupy a humble place in ministerial work, he found himself in the possession of a good church and the esteem of a large community. In a letter to the editor this minister says: "I will not underestimate the benefit and importance of the study of Greek and Hebrew by the theological student, but I am perfectly safe in saying that an insight into the study of human nature by the channel of Phrenology and Physiognomy will prove a greater blessing to him, to his people, and hence to his Maker, than the mastery of the dead languages."

An eminent inventor, Mr. Ray, was found by a well-known phrenologist working as a common hand in a blacksmith's-shop. The phrenologist told him that he had extraordinary talent for invention, and advised him to try "to see what he could do in that line." With but doubting confidence in the advice he did try, and several very useful and valuable patents have made him rich and the world his debtor.

In the course of an address, Mr. Chauncey M. Depew, of New York, said to an audience largely composed of young men: "Failures are due to two causes: one that you have mistaken your calling, the other that you will not or can not work. . . . Commodore Vanderbilt once remarked to me in regard to an exceptionally brilliant man, who fell continually exasperatingly short of what his friends expected, 'There is a cog loose somewhere in his machinery.' The old Commodore was not a metaphysician or mental philosopher, but with his usual keen, hard sense he pointed out the difficulties of the mass of professional failures. Their mental equipment is for some other purpose. The moment a

man discovers that nature intended him for something else, let him stand not on the order of his going, but go at once, before starvation drives him and orders him up. The sooner a poor doctor, lawyer, or clergyman recognizes that his genius is for merchandise or types, the skilled trades or accounts, the better for himself, the profession, and the world. I have secured positions for two lawyers, one as a brakesman and the other as a freight clerk, and both are advancing with earnest strides and confident anticipations toward the presidency of the road."

"YOU MUST BE SICK."

A FEW days ago we were crossing the Hudson River on one of the ferry-boats that ply between Jersey City and New York. Just before taking a seat in the cabin (called "ladies' cabin," although at the time we were in it about two-thirds of the occupants appeared from their costume and manner to be of the male persuasion; there is another department called "Gentlemen's Cabin," but we have noticed in attempting to enter it sometimes that the atmosphere was thick with tobacco fumes, and the floor more or less dabbled with dark, viscid saliva,) we noticed a rather good looking young man of the nervo-sanguine type, sitting near by. Taking out a newspaper we were soon engaged in scanning its columns, but had not been occupied thus more than two minutes, when we overheard this exchange of remarks:

"Hey, old fellow, what's the matter?"

"Why?"

"You look sick."

"Sick!"

"Yes, sick."

"I didn't know it; feel well enough."

"You do?"

"Yes, I do."

We looked up. An acquaintance of the young man, to whom allusion has been made, had taken a seat by his side, and started the unhealthful line of conversation quoted. There was a marked expression of annoyance on the young man's face, befitting the emphasis with which he had uttered "Yes, I do"; while the new-comer gazed in his face with an air that not only intimated persistent incredulity, but could be translated further in this wise, "Old boy, I know better; you're sick, anyhow." We have no doubt that the young man went to his place of business that morning with disturbed sensations, a feeling that he was somehow out of sorts, although he could assign no definite cause of the disturbance aside from the abrupt address of his companion.

There is no impression that more quickly sets the heart beating rapidly, and jangles the nerves, than a sudden declaration by an acquaintance that one "looks sickly, and there must be something out of order" with him. However well a person may be, such a remark, uttered in a tone of confidence, produces an unpleasant effect. Hence it is especially harmful to make remarks on the appearance of those who are known to be in feeble health, and to ask questions persistently about their condition. There are many who have no intention to be cruel, who nevertheless inflict much suffering upon invalid friends by their protracted chatter on the subject of their sickness.

The reader may remember the story of the rustic milkman who drove into town one day, and was accosted by three or four acquaintances in succession, who had previously agreed to repeat a certain

formula to the effect that he was looking badly, must be sick, etc., and was rendered positively ill, although in robust health and of exhilarant spirits when the first disturber of his peace met him.

This is a comparatively simple illustration of the influence of mind upon the body, and it is analogous to the effect produced by the appearance of a dreaded malady of a contagious type in a community.

We should endeavor to exercise a healthful, inspirational influence in our relations with others—not to deal in untruths certainly; not to say that one looks well when he is actually pale, ill, and feeble, for that sort of false congratulation is tinctured with mendacity; but we can be kind, say very little about the matter of one's ill-health if it be necessary, and so far as possible encourage the hope of improvement. We know some people who exclude remarks of a personal nature entirely from their conversation, and they can not be deemed unwise. So some ignore the weather, and never introduce it except in the slightest passing way. There is a class of persons whose business it is to deal with the sicknesses of people—physicians; to them it is a duty to prescribe treatment for the ills of the flesh. As a rule we would leave to them the discussion of an invalid's appearance.

THE HINDU "SECRET MAIL."

IT would seem that in the far East among those peoples whose civilization belongs to the past—to antiquity rather than to the present, there exists a culture of the mental perception that is capable of strange achievements. The phenomena of what is known in India as

the "secret mail" have puzzled Europeans for many years and eluded all efforts on the part of Government officials to discover their source.

An editorial in the *New York Tribune* briefly alludes to it as follows :

"Anglo-Indians and all who have lived in Asiatic countries are aware that the natives have means of conveying news which at important junctures enables them to forestall the Government. Thus, throughout the Indian mutiny, the intelligence of all the important events—such as battles, captures of cities, massacres, and investments—was in possession of the bazaars usually hours and frequently days before it reached the authorities, and this notwithstanding the fact that the latter had often taken special measures to insure the quickest transmission possible. And it is also well known that this 'secret mail' is so trustworthy that the natives invariably act upon it with implicit confidence—speculating, for example, to the full extent of their fortunes. How the news is sent, however, has never been discovered, or at least no explanation comprehensible or credible by the average Western mind has been reached.

"The *London Spectator* of a recent date discusses this question at much length, and suggests the employment by the Asiatics of carefully laid 'dawks' or stages. This no doubt has the appearance of a common-sense explanation, but the difficulty about it is that no European during the whole time Hindustan has been occupied has ever seen such a stage in operation or come across any of its machinery.

"Now, it may be admitted that it is possible for Asiatics to arrange such stages or lines of communication over hundreds or thousands of miles without being discovered; but it is certainly extremely improbable that they should have been able to do this on the considerable scale it must have been done upon to account for the facts, without ever being discovered.

"Again, the circumstance that on one occasion when the Government had

made special arrangements for the swift dispatch of news from a distant point the 'secret mail' beat the Government couriers twelve hours, appears to warrant the conclusion that some means of communication more rapid than horses or runners must be at the disposal of the natives. The *Spectator* thinks it possible that they transmit news by signal; but while this may be the case where comparatively short distances are concerned, it is not applicable to routes covering several hundreds of miles. Anglo-Indians as a rule refuse to accept the native explanation of the 'secret mail,' which involves belief in what is just now being called 'telepathy.' The natives, when they are willing to talk of the matter at all, which is very seldom to Western men, say that neither horses nor men are employed, and that no 'dawk' is laid for the carrying of news, but that it results from a system of thought-transmission which is as familiar to them as the electric telegraph is to us."

The late developments, through special inquiries by the London Society for Psychological Research and through a similar line of investigation undertaken by the New York Academy of Anthropology, have well-nigh satisfied us that the claim of the Indian natives is true, and that they are in possession of a system of thought-transference or mental telepathy that has advanced beyond the stage of mere experiment as with us. The "sixth sense," if the reader will, or the "seventh" as Dr. Wm. Thomson thinks, is here brought into active exercise.

WAS IT THE HAT?

THE editor of the PHRENOLOGICAL was picking his way through a crowded down-town street not long ago when he was accosted by a spicily dressed man of the confidence order who evidently had selected him as a

likely victim. We were tapped on the arm; our reverie on things natural or supernatural, whatever they were, was suddenly interrupted. On looking up we found ourselves confronted by the spicily dressed man, who, with beaming face and extended hand, said :

"Why, how are you? Don't often see you in town. How's things up there?"

We did not take the hand, as it instantly occurred to us that our interlocutor was fishing for a "mullet head," but replied to his cheerful salutation :

"Things are going with their accustomed torpidity up *there*. How are they with you?"

"Oh, brisk, brisk," he returned, a change of expression passing over his face. "Why don't you drop in to see us? Fine, new stock. Glad to sell you any time."

"No doubt of it, but I'm not in selling humor just now, while you may feel just a trifle sold."

"Oh, ah. Good-day," and turning quickly he mingled with the throng.

We have wondered why we should have been selected for this experiment. To be sure, when in the street with our heavy beaver top-coat and slouch hat we may present a picture of rustic freshness to some eyes.

One of our lady friends said the other day that the slouch hat imparted a really *distinguee* air to our commonplace features, but another quietly hinted that we looked with it as if we had "just come down."

In one of the largest hotels in New York there is said to be a waiter who takes the hats of gentlemen as they enter the dining-room and returns them as they pass out and never makes a mistake in presenting a hat to its right owner—he recognizes the owner in the hat. It

might have been the hat that tempted the cheeky son of a depraved confidence to accost us. We suggest that he go to the hat-wise waiter and take a few lessons in hat personality; but certainly when he saw beneath the hat the citified impress, that comes unconsciously to be the property of the meekest in the course of long residence in a busy metropolis, it speedily undeceived him. At least we congratulate ourself that there was *something* under our soft and comfortable old hat that relieved us quickly of the varnished scamp.

GENERAL GRANT.—This eminent soldier has been very sick with a malignant ulcer at the root of the tongue. Several times it has been announced that he was dying, but at this writing his condition appears to have improved.

When the late war began he was engaged in his father's leather store in Galena, Ill., utterly unknown to fame. He lived in a small house well up the rugged hillside of the town. His chief concern was to secure a plain living for his family. His business career had been a failure. And even in the first rush of the rebellion, although a graduate of West Point, he was only thought of for the most modest duties—beginning at the lowest round, as a mere clerk, then organizer of troops into companies and regiments, then the colonel of an abandoned regiment, and later commander of a brigade.

His successful connection with the Army of the Mississippi smoothed the way to the more important command of the Army of the Potomac, that fell to him through the failures or misfortunes of men who had been regarded his supe-

rriors in talent and skill. A writer says fitly: "The public history of General Grant illustrates the strength and weakness of our form of government. Only under a republic could he have revealed what he was or made the progress he did."

For civil affairs as well as business affairs, however, he showed no competence. The military campaign ended, his sword sheathed, he was the simple, unaffected, ingenuous man of the year before. His military fame will be held in honor by the nation he so materially aided.



To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE CONTRIBUTIONS unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

THE ANCIENT YEAR.—A. B.—As far back as scientific records extend the length of the day or the time between sunrise and sunrise has changed so little that the question whether our year is shorter or longer now than the ancient year is not settled. The majority of astronomers incline to the belief that our day is lengthening. To account for the alleged longevity of Old Testament people by alleging that they lived at a time when the days were much shorter than they are now, would be to assign them to a period inconceivably remote, and a condition of things terrestrial bordering on the chaotic. It may be that the calendar in the days of Adam and Methuselah reckoned a

year that was but a month or two in duration, but the idea is scarcely out of the realm of conjecture.

MARRIAGE ADAPTATION.—E. E. R.—The temperament of candidates for marriage should differ. There may be a close resemblance in brain organization or mental faculty, but the temperament should be unlike. You will find this subject fully explained in the work on Temperaments by Dr. Jacques. It would be impossible to give a satisfactory answer in the small space allotted to this department.

REFLECTIVES LARGE AND MELANCHOLY.—W. K.—It does not follow that because a person has large reasoning organs he is inclined to melancholy. Some of the most genial and sunny persons we know are well endowed with the reflective intellect. In fact we think that ability to consider the causal relations of circumstances, to understand why things are what they are, and to separate the true from the false should contribute rather to balance of character, and not to that tone of unbalance that melancholy intimates. A person may have very large Cautiousness with small Hope and large Reflectives, and appear reserved, moody, and taciturn, but the condition is due to the depressing influence of his environment upon his Cautiousness and Hope rather than to his reasoning organs. Temperament and physical condition have most to do with the production of the melancholic expression.

MIND CURE AGAIN.—T. D.—We do not doubt your relation of the effect of the treatment you have received, and it is probable that if persisted in it will prove altogether curative. Functional diseases will yield to mental impressions far more readily than most people are disposed to believe. Lesions of tissue, like ulcers, cancer, necrosis, consumption, kidney granulation, etc., may test faith in mental cure to the utmost, but there are cases of such diseases that have been greatly improved and even cured. Every well-informed physiologist knows the wonderful influence of mind upon body, and will not pooch-pooch so extra-

ordinary a statement as that of the disappearance of a schirrous cancer of long standing under presumably mental influences.

ELECTRICITY AND CIRCULATION.—S. F. C.—Persons with the Mental temperament well indicated possess a higher electrical state than others; their circulation is more rapid; but we do not think that increase of electricity is dependent upon the rapidity of the circulation. The charge is derived from without; the peculiar activity and sensitivity of the nervous temperament being conducive to the frictional influences that are productive of electricity. If the charge were dependent upon the circulation of the blood current then one in a high fever or in that anæmic condition that is usually associated with a quick pulse should exhibit a high electrical excitement. What is your opinion, or that of other observers?

EMINENT PERSONS OF THE WORLD.—G. P. Mc.—Yes, there are books giving sketches of the eminent men and women of all ages, but aside from a Cyclopaedia you will not find them grouped in a single work. As for portraits, comparatively few of authentic source are to be had. A good biographical Cyclopaedia costs from \$6 to \$10.

BIBATIVENESS.—J. D.—We think that there are strong grounds for the existence of this organ, but until phrenologists are generally agreed we do not care to present it as accepted. Alimenteriness covers it.

SALT IN FOOD.—J. G. W.—If we eat the grains, vegetables, and fruits and other foods as nature supplies them, we should have no occasion for salt on our tables, as that substance exists in natural food in the quantity and organized state adapted to our purposes. But the common processes of cooking destroy a good proportion of the saline elements, and hence the craving of the system that is sought to be met by the inorganic product of chemistry. The quantity needed is very small compared with what people get into the habit of taking with their food. One leading objection to the immoderate use of salt is the fact that it impairs the taste for the delicate and choice flavors of simple foods.

SHOES AND CHARACTER.—W. J. M.—From time to time articles have appeared on the indications of the shoe. A few months ago we published one from the opinions of a shoemaker. As you say, there is much in the subject, and the manner of wearing one's pedal envelopes shows some of the chief traits of character. Habit, some will say, has much to do with it, and a corn or sore foot will sometimes initiate a bad movement in walking, but a steady head will make a steady foot.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

Editor PHRENOLOGICAL JOURNAL:—I am a reader of your magazine, a believer in Phrenology, and a member of the Roman Catholic Church. As the JOURNAL is not the professed defender or antagonist of any particular system of religion, whatever appears in its pages concerning the doctrines of various churches is likely to be taken by its readers as free from misstatements. For this reason I beg leave to point out some inaccuracies in the article on the Roman Catholic Church in the February Number.

In giving the origin of the doctrines of the Trinity, and of a personal God, and personal devil, which are held by most other Christians as well as by Catholics, the writer did not say that they are both found in the Bible, which, according to Christian ideas, is itself of Divine origin. And it was scarcely necessary to go to Egypt for the worship of the Virgin Mary, since it is the natural consequence of the adoration given to her Divine Son. In the first part of the article there are other statements of a general and indefinite character, which might be safely disputed, but not briefly; I therefore pass on to the second part, which treats of "points of belief." Of the Scriptures he says: "The reading of them by the masses is not approved." This is not quite true. The reading of the Scriptures is not only approved but encouraged by the Catholic Church; but the use of copies of the Bible unprovided with notes by approved commentators is forbidden to the ignorant and uneducated, for the good reason (taken from the Scriptures) that in them "are certain things hard to be understood, which the unlearned and unstable wrest to their own perdition" (2 Pet. iii. 16). Further on he says: "Roman Catholics deny that indulgences, as promises of remission of sins that may hereafter be committed, are now given." So they do; but they also deny that *such* indulgences ever were or ever can be given by the Church. Again, he speaks of "baptism of adults, which is administered only after repentance, confession, and absolution." The Church teaches that baptism remits all sins committed before its reception, and therefore confession is not required before baptism nor after it—for things done before. "Confirmation is" not "required before partaking of the Lord's Supper." Of marriage he says: "The union of the sexes is among the oldest institutions of society"—a remarkable discovery; "but before the eleventh century it was considered as a civil contract only." St. Cyril, Tertullian, St. Irenæus, St. Ambrose, and St. Augustine wrote, the latest of them six centuries before the eleventh, and they

call marriage a sacrament; and being "Fathers," according to the writer himself, they are good Catholic authority. That "no marriage is now recognized by the Roman Catholic Church that is not solemnized by its clergy" is also untrue.

The writer seems to have aimed at fairness, and he probably erred from want of full information. With his concluding remarks I heartily agree, for the amount of misinformation concerning the doctrines and practices of the Roman Catholic Church possessed by outsiders would fill a tremendous hole.

JOHN CULLETON.

TEA, COFFEE, AND TOBACCO.—The treatises on the use of these substances which I recently received from the publishing house of the F. & W. Co. I have perused with much interest and I hope too with profit. Many sad cases are noted in them that are similar to what I have known in America and Europe. The occasional use of these substances, like opium and quinine, may sometimes bridge us over a fearful chasm of sickness, but being non-nutritious, they are deleterious to man's physical and mental organism. There is no doubt in my mind but that the use of tea and coffee beverages, or of any beverages whatever, be they good, bad, or indifferent, while we are partaking of food, may impede good digestion, and hence tend to weaken the system. Let us take a good lesson from the lower animals, especially the wild ones, which drink water only when they are thirsty, and either before or after eating. Invented beverages by interested and avaricious men, and those issuing from the earth adulterated with mineral and organic matters should be shunned. For some time I have refrained from drinking any liquid during meal-time, drinking only water between meals when thirsty. This proceeding on my part astonishes and alarms my friends, but I feel no inconvenience from it, but on the contrary I am stronger and enjoy better health. Some people say, use these substances with moderation, because they cheer and gladden; but, in my opinion, it is far better to be more radical and shun them altogether.

H. N.

Turin, Italy.

THE ORGAN OF FORM DEFECTIVE.—A Nebraska correspondent sends us an extract from the *Christian Union*, in which the writer quotes an artist's experience in relation to persons who are lacking in the perception of form, as follows: "I have, during many years of art teaching, and in various other ways, encountered a peculiar form of visual defect which is akin to color-blindness. Instead, however, of being insensible to a difference in color, these people appear to have lost, if, indeed, they have ever possessed, the power of perceiving clearly defined forms—form-blindness, in other words. I have sometimes placed objects in the shape of hexagons, or octagons, or decagons, or even so common a shape as a pentagon or a five-pointed star, before these pupils as a test, and almost

invariably they were unable to distinguish one form from another, even when with careful distinction the differences were explained to them. Then, again, I have tested them by asking one to draw a figure with a certain number of sides, and the result in this case would be the same. A request to draw a decagon would bring forth a figure whose shape has never been, and never could be, named; and if asked to draw a square the result would be rhomboid, or some fearful atrocity of angles and lines. It was very amusing. This fact is a curious one, and I do not know whether it has ever been treated scientifically or not. There certainly seems to be a good field for scientific investigation in this strange defect, and I suspect that the trouble would be found to lie very near to that which causes color-blindness, if ever it is investigated."

PERSONAL.

DR. CHRISTOPHER GRAHAM, one of the three centenarians lately sketched in the *PHRENOLOGICAL*, has died. He had never lost a tooth, and three years ago could shoot a rifle with the best marksmen of his State.

MR. YAN PHON LEE, a Chinese by nativity and sophomore by courtesy, has carried off the first prize in English composition in his class at Yale College, while some of the other boys were perfecting themselves in foot-ball. Good for the Mongol brain; there's stuff in it.

JOHN NICOL, or Uncle John Nicol as they call him in Orange, N. J., where he lives, celebrated his one hundredth birthday March 14th last; and that lively village made it the occasion for toasting the old gentleman, who was in fair health and able to participate in the festivities. Jersey has a good proportion of old people.

THE appointment of Norman J. Colman, of Missouri, to be Commissioner of Agriculture must please our Western friends. Mr. Colman is a journalist, but as the conductor of the *Rural World* he has shown high practical ability in the consideration of important topics relating to American agriculture. He owns a large stock farm, and knows a thing or two about sugar culture.

MR. THOMAS COOK will visit America again this year, and announces it as his last visit. We trust that he will live to repeat his "last appearance" among us. The travelling and tourist public of America have reason to be grateful to Mr. Cook for the great facilities now afforded them for agreeable and economical travel in all parts of the world. It is twenty years since he projected the first scheme of American excursions.

THOMAS DUNN ENGLISH, of Newark, N. J., said to be a zealous opponent of the Temperance cause, is a sufferer from the effects of the prolonged use of tobacco. According to the *New York Tribune*, "When the case of General Grant was

brought prominently to public notice, with the statement that the cancerous growth was caused by smoking, Dr. English became alarmed, and was convinced from the similarity of symptoms that he had a similar affection, caused by the use of tobacco. During the last two months his throat has been gradually closing up; he has suffered intensely from pain and been under constant mental strain from the danger of suffocation."

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

TRUE nobility is shown in caring for the helpless.

THE only reward of virtue is virtue. The only way to have a friend is to be one.—R. W. EMERSON.

EMPTY hours, empty hands, empty companions, empty words, empty hearts, draw in evil spirits as a vacuum draws in air.

A SWORD of the best tempered metal is very flexible; so the truly generous are most pliant and courteous to their inferiors.—FULLER.

THE way to conquer men is by their passions; catch by the ruling foible of their hearts and all their boasted virtues shrink before you.—TOLSON.

THROUGH wish, resolve, and act, our will
Is moved by undreamed forces still;
And no man measures in advance
His strength with untied circumstance.

THE world is a looking-glass, and gives back to every man the reflection of his own face. Frown at it, and it will in turn look surly upon you; laugh at it and with it, and it is a jolly, kind companion.—THACKERAY.

LEAVES are light and useless and idle and wavering and changeable; they even dance; yet God has made them part of the oak. In so doing he has given us a lesson not to deny the stout-heartedness within because we see the lightness without.—J. C. HARE.

MIRTH.

"A little nonsense now and then
Is relished by the wisest men."

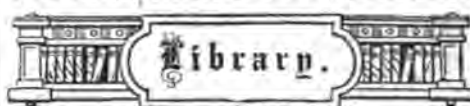
SHE—What are you thinking of? He—Nothing. She—Egotist.

"WHAT is the name of your cat, sir?" "His name was William," said the host, "until he had fits. Since then we have called him Fitzwilliam."

WAITER—"What will you have, Miss?" Customer (looking over the restaurant bill of fare)—"Permit me to cogitate. In the correlation of forces it is a recognized property of atomic—" Waiter (shouts across the hall to head server)—"Baked beans for one."

A COLORED preacher remarked, "When God made the fust man, he set him up agin de fence to dry." "Who made de fence?" interrupted an eager listener. "Put dat man out!" exclaimed the colored preacher; "such questions as dat'd destroy all de theology in de world."

"I HAVE neither time nor inclination to pass paregorics on the deceased," remarked Mrs. Fishwacke, at a recent funeral. "Panegyrics," corrected a person present. "As you please, sir," she remarked, stiffly. "The words are anonymous."—*Independent*. She was equal to the old lady who liked all of her furniture to corroborate.—*Orange Journal*. And she reminds us of the proud father who said his son Dick was "the most perspirin' boy in town and like's not he'd be President some day."



In this department we give short reviews of such NEW BOOKS as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

MAN: HIS ORIGIN, NATURE, AND DESTINY. By E. L. Dohoney. 12mo, pp. 370. St. Louis: John Burns Publishing Company.

Within a moderate space the author of this book has covered a broad area of thought relating to questions of the highest importance. He discusses the origin of man from the points of view of the theologian, philosopher, and scientist. He looks into the nature of man from the sides of the physiologist, psychologist, and phrenologist. He considers the future of man from the grounds of Biblical declaration, science, and spiritism. He has read extensively and observed much in the different realms to which allusion is made, and he feels that his conclusions are worthy to be recorded in a volume for the help they may confer on others who are seeking light in similar paths. In his study of man as a member of the fourth class of animals or mammalia, he infers that the relations of species show that Darwin's theory of transmutation has no proper foundation, although the universe of matter shows progressive development. Three or four chapters are devoted to researches in ethnology that have one result that must strike the reader, that of the much involved and enigmatic character of the historical relations of the races. That part of the book which will probably be of most interest to readers is devoted to the psychological and spiritual relations of man. Here Mr. Dohoney has accumulated a large number of incidents from sources

deemed authentic, writers of accepted prominence for the most part, the bearing of which is toward a demonstration of a soul or a psychic life in man that indicates a destiny higher and beyond this earthly sphere. The volume bears the impress of a sincere purpose, and its style is clear and agreeable.

ABRAHAM LINCOLN: The True Story of a Great Life. By William O. Stoddard, one of President Lincoln's secretaries during the war of the Rebellion. With illustrations. 8vo, pp. 508. Cloth, price \$2.75. New York: Forda, Howard, & Hulbert.

Twenty years have elapsed since that awful deed by a semi-demented actor plunged our nation into a depth of sorrow that it had never known before, even in the most trying days of the war between North and South, and several biographies have been given to us of the man whose strange equipment of body and brain proved so fitting to meet the tremendous emergencies that met him as he stepped from the platform of the Capitol after taking the oath of office, on the 4th of March, 1861. These biographies for the most part were fair accounts of the late President's career, but written in prompt response to the demand of public sentiment, and by professional writers who procured their facts chiefly at second hand, they were lacking in those elements of personality that contribute the highest charm to biography. A man of such peculiar individuality as Abraham Lincoln must needs have a Boswell to represent him in true colors, and Boswells are exceedingly rare in the American climate. But now comes Mr. Stoddard with his nearly four years' association in the close familiarity of a secretary to Mr. Lincoln, and presents us with a picture of the great man in his private life. An examination of the book satisfies us that the author has labored with conscientious fidelity to the truth as it could be obtained, and his method of treating the homely facts of Mr. Lincoln's early life abounds with picturesque attractions. We are at a loss how he could have gleaned so many interesting incidents from years that were hidden in a very obscure past. A writer in the *New York Times* says appreciatively of the book: "It is as entertaining as any story of hardy and adventurous life in a new country. So picturesque is it that one can hardly avoid the reflection while reading that if put into the hands of the dime-novel reader even he would be moved to an excitement and incitement quite as pleasant and almost as intense as that which his darkened intelligence and perverted taste receive from the unwholesome fiction his mind is accustomed to feed on. And perhaps no better test than this could be applied to a story of actual frontier-life more than half a century ago, some survival of which may yet be found in the Territories of the far West. That a youth brought up amid such surroundings should develop a character that should lead him to be the chosen ruler of a great nation is a marvel the dullest imagination can not apprehend." For the general reader, for the home, for youth, this story

of the life and character of the revered Lincoln is highly appropriate, and can in all respects be cordially commended.

CHRONIC SORE THROAT; or, Follicular Disease of the Pharynx, its local and Constitutional Treatment, with a special chapter on Hygiene of the Voice. By E. B. Shieldham, M.D., Trinity College, Dublin, etc. 12mo, pp. 85. Chicago: W. A. Chatterton.

A practical homily on the effects of mal-nutrition and abnormal habits in producing and aggravating diseases of the throat. Good suggestions drawn from the author's personal observation are given on breathing, speaking, etc. The remedies he advises are numerous, notwithstanding he considers his list of drugs "short." In comparison with the flood of prescriptions one finds in Ziemssen it is short, however. The chapters on the Art of breathing and Hygiene of the voice are valuable to all who use the organs of articulation, as speakers, singers, or otherwise. Dr. Shieldham has packed his best thoughts in them.

PUBLICATIONS RECEIVED.

ORIGIN OF SPECIES. By H. B. Philbrook, Editor of *Problems of Nature*. 8vo, pp. 76. Price, 50 cts. A vigorous presentation of views that are for the most part the writer's own. And in marked disagreement with the leading philosophers of the Darwin school, Mr. Philbrook believes that electricity is the source or moving force of life from its protoplasmic expression upward. He commands our admiration for the audacity of his opinions, and for the elaboration of the reasoning that is employed in the endeavor to demonstrate them.

THE DRAGON AND THE TEA-KETTLE: an Experience. THE DOPPLEGÄNGER. By Mrs. Julia McNair Wright. Cloth, price \$1.00. National Temperance Society, New York. Another book from the pen of Mrs. Wright, written in her usually attractive manner. As the title indicates, it has to do with a cheap coffee-house in England, which was started directly opposite an enterprising gin-palace. The proprietor of the coffee-house was a woman, and by placing her coffee-room there, she thought that she could better fight the demon of intemperance. The story goes on to show the difficulties that were encountered in carrying out the purpose of the effort. Much good was done in reclaiming those who had become victims of drink. The book is useful, in that it supplies good advice for the conduct of such reformatory work. The second story, entitled "The Doppiegänger," is a narrative of personal experience vividly told.

GERMAN SIMPLIFIED is a series of numbers in paper, by Augustus Knoflech, New York, especially intended for self-instruction, but well adapted to use in class-rooms. An examination has satisfied us that this method of teaching German is exceedingly well arranged and effective. Three parts are ready.

"WORKING PEOPLE AND THEIR EMPLOYERS." By Washington Gladden. No. 132 of the Standard Library. Published by Funk & Wagnalls, New York. Price, 25 cents. Mr. Gladden in this series of essays treats of topics with which he is familiar, having been for many years an observer of people, especially the working classes. He is clear and forcible in expression, avoids fine writing or any tendency to the use of hard and mysterious terms. He enters into many of the questions relating to the very difficult subject of labor, and says a great many things that are useful. He endeavors to be impartial, an exceedingly difficult thing for a man of culture. An appendix contains practical suggestions that for the most part touch the marrow of social problems.

CREMATION SCIENTIFICALLY AND RELIGIOUSLY CONSIDERED, by Henry Houston Binnell, is an earnest plea in behalf of destroying the bodies of the dead by fire. Opinion in favor of this method is growing.

RATIONAL DRESS; OR, THE DRESS OF WOMEN AND SAVAGES. By E. M. King. This is the reprint of a paper read at the Brighton Health Congress, London, in 1881, and is a strong argument for sanitary reform in the dress methods of women. The savage, not perverted by contact with so-called civilization, is certainly more comfortably clothed than the automatic displayers of fashionable costumes who wearily lounge in modern parlors.

AGRICULTURAL GRAPHICS. A report of exhibits illustrating agricultural statistics in the Cotton Exposition at New Orleans. By W. R. Dodge. Published at the Government Printing Office, Washington. A good deal of valuable information is packed into these forty pages, which it would be well for farmers to know; their ideas would be enlarged, and we think their hopes strengthened by the prospect opening for the future of agriculture in this country.

MIND AND NATURE is a new attempt in the way of a monthly publication. Its field is in great part psychological, supplying information with regard to later movements in research on the influence of mind upon body, mental transference, hypnotism, magnetism, etc. J. J. McCormick, Chicago.

SEVENTEENTH ANNUAL REPORT of the Commissioners on the work of the Reformatory Prison for Women, Massachusetts. With the annual report of their officers for the year ending September 30, 1884. A good work this has proved. The results are certainly very encouraging for the enlargement and permanence of the institution. It would be well that it were imitated in all the States.

DISSECTED REPRESENTATION OF THE HUMAN BODY. Diagram showing position of the muscles, ribs, respiratory organs, stomach, liver, heart, intestines, etc., with descriptive text. Translated by William Geers. An admirable method for instruct-

ing young and old in Anatomy; those contemplating the study of medicine will find it both cheap and very useful as an introductory aid. Published by G. H. Keyler & Co., Indianapolis, Indiana.

EASTER BELLS, containing an original poem by Helen Jackson, with designs of Pansies, Anemone, Hepatica, Daffodils, and Narcissus, by Susie B. Skelding. Another of those charming collections of poetry and flower designs that Messrs. White, Stokes & Allen, of New York, have shown so much enterprise in offering to the community. The work is elegant in every respect, and charmingly appropriate for the season. Price, \$1.50.

HARPER'S BAZAAR still continues to supply its readers with the novelties of the fashion world, besides miscellaneous data relating to society and home. Harper & Brothers, New York.

HISTORY OF THE MORGAN HORSES. Illustrated. A book that must prove interesting to stock-raisers, especially those who have a special bias for the dumb animal that does so much for us in carrying burdens. We have been somewhat familiar with Morgan horses from childhood; their qualities of strength, speed, and beauty always commanded our admiration.

COOK'S EXCURSIONIST in its late numbers contains elaborate schemes of foreign travel, in which the moderate cost and provisions for comfort are fascinating indeed to one inclined to nomadic life. A few hundred dollars will now enable one to see many of the historic centres of Europe. Schemes of travel in our own country are provided, with pretty full information.

OGILVIE'S POPULAR READING, No. 16, price 30 cents—containing eight stories: "A Golden Dawn," "Down with the Tide," "A Frozen Sea," "The Dean's Watch," "Barefoot Billy's Fortune," "Miss Silmmens' Boarding-House," "Perfect Etiquette," "A Heart for a Heart." J. S. Ogilvie & Co., New York.

A **HANDSOME** and original idea in chromo-lithography is the Columbia Valentine, issued by the Pope Manufacturing Co., of Boston, Mass. The design is in twelve colors, from a painting by Copeland, and is a genuine work of picturesque art, representing, in three sections, the morning, noon, and night of 'cycling.

CHRISTIAN THOUGHT, for January-February, is full of unusually good matter. The opening paper by Prof. Hamilton will probably attract attention as the proposal of a new philosophy of conviction. A more popular article is on "Philosophical Topics and the Pulpit," that is full of practical sense. A paper written in easier style is on "Great Believers." That on "Agnosticism" is good for our church people generally. *Christian Thought* is not a dry periodical, but like its chief promoter, Dr. Deems, is alive and fresh with each number.



NUMBER 6.]

June, 1885

[WHOLE No. 558.]



EDWARD J. PHELPS, MINISTER TO ENGLAND.

NEW AMERICAN MINISTERS TO FOREIGN POWERS.

THE effect of what has been done in the past ten or more years toward rendering our civil service methodical and competent, is manifest in the spirit that characterizes the new appointments generally of the Cleveland administration. There has been no wholesale turning out of old office-holders, as was ex-

pected by many politicians, and in the changes that have been made the sentiment of reward for service rendered rarely appears to have exerted a dominant influence to the exclusion of the thought of merit. We are of opinion that in the foreign appointments, as a whole, a degree of prudence has been

shown that deserves special commendation, and that the candid man, whatever his political color, will say of President Cleveland, "He has done well." The selection of a successor to Mr. Lowell as our representative to the Court of Victoria resulted in the appointment of

EDWARD J. PHELPS, MINISTER TO ENGLAND,

who is a resident of Burlington, Vt. The engraving shows a man of much more than average brain power, with a good degree of physical capital to sustain mental effort. The crown is very high, the forehead prominent, the temples full. Mr. Phelps possesses ability as an observer and reasoner, a ready knowledge of men and a clear, well-poised judgment of measures in general. He should be known for capacity as a speaker, for feeling and sympathy, steadiness of opinion, and candor. He is not wanting in prudence and circumspection, promptly detecting the unsafe and doubtful in whatever he has to do, and showing tact, skill, and sagacity in providing for emergencies. He is naturally disposed to consider all sides of a subject, and although highly endowed in intuitive susceptibility he is never hasty in judgment. The judicial type of organization is well expressed in this face.

Mr. Phelps was born at Middlebury, Vt., in 1823; his father was a man of some prominence in his time, having been a paymaster in the war of 1812, a judge of the Supreme Court of Vermont, and a United States Senator. After receiving careful preparation, Mr. Phelps became a student at Middlebury College, where he was graduated. He then read law and was admitted to the bar. He commenced practice in New York City, and remained here several years, finally removing in 1866 to Burlington, Vt. He soon built up a large practice, and was recognized as one of the leading lawyers in his State. For two successive terms he was President of the American Bar Association. In 1881 he was elected Kent professor of law in Yale College,

and thus assumed an influential position in the academic and social circles of New Haven. His duties at Yale comprise, in addition to the usual instruction given in the Law School, lectures before the theological department upon legal topics of interest to the ministry, and to the academic students upon international and municipal law. He is exceedingly popular in college, and his resignation to take the foreign appointment is deeply regretted.

For twenty-five years Mr. Phelps has been one of the leading representatives of the Democracy in a State which is overwhelmingly Republican in its political sentiment. He was a pro-slavery and anti-war Democrat when such views were most repugnant to the vast majority of his neighbors. In the campaign of 1876 he was promised by Mr. Tilden the position he has just accepted, in the event of Democratic success. In June, 1880, Mr. Phelps was nominated for Governor of Vermont by the largest State Democratic convention ever held in that commonwealth; but as was regarded a foregone conclusion, he was defeated in the ensuing campaign. Mr. Lowell certainly cherishes no ill feeling toward his successor if the following good words recently uttered by him mean anything:

"He is a gentleman of high character and marked independence. He is most agreeable in his manners, and has fine social qualities. None but a distinguished and agreeable man could have been chosen to be President of the American Bar Association. Both countries are to be congratulated on Mr. Cleveland's wisdom as shown in his selection of Mr. Phelps as my successor."

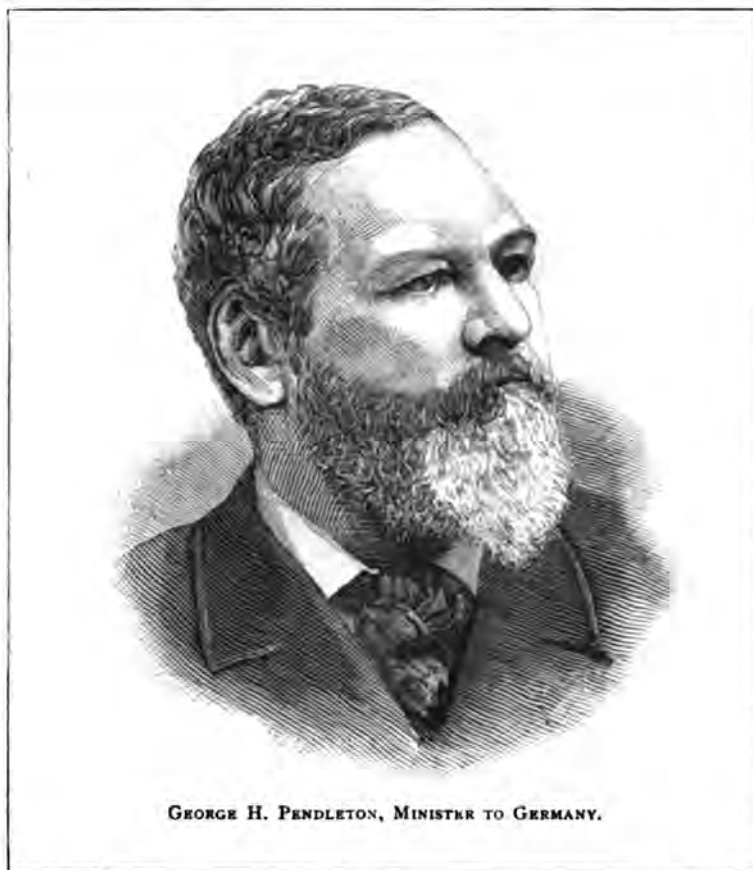
GEORGE H. PENDLETON, MINISTER TO GERMANY.

One who knew the late Bayard Taylor, who died while in the discharge of his duties at the Court of the Emperor William, will at once notice a strong resemblance of the face of Mr. Pendleton to that of the distinguished traveller and author. In the expression and pose of

this face are marks of spirit, energy, ambition, courage, refinement. Mr. Pendleton should be distinguished for the extent and accuracy of his knowledge; his observing faculties are alert, and their capacity omnivorous. He is eminently a practical man—keen in discerning the uses and purposes of things. He gathers from all sources, and is prompt and facile in the use of his data. The indications

years prominent in Western politics, and served many years as the Whig representative of Cincinnati in Congress. He received the advantages of a very thorough education, which included attendance at one of the German universities, and before his return home he made one of a party of students in a journey on foot through Germany.

He was married in 1846 to Alice Key,



GEORGE H. PENDLETON, MINISTER TO GERMANY.

of health are fine; we rarely meet with so much of elasticity and recuperative force; he is more capable of meeting and mastering trials that demand mental endurance than the great majority of brainy men. He is a warm friend and an earnest opponent; believes in success, and will work assiduously to secure it.

Mr. Pendleton belongs to an old and honorable family, and was born in Cincinnati in 1825. His father was for many

daughter of Francis S. Key, author of "The Star-spangled Banner." The lady of his choice was also a niece of Roger B. Taney, Chief-Justice of the Supreme Court of the United States. Mr. Pendleton's career as a statesman began when he was about thirty years old with his election to the Ohio State Senate, of which he was a member in 1854 and 1855, giving him the experience of statesmanship in connection with the practice of

his profession as a lawyer. This he has pursued with assiduity when his public services have permitted, from his admission to the bar until now.

He was a member of the House of Representatives for eight years ending with the Forty-eighth Congress. In 1864 he was nominated for the Vice-Presidency on the ticket with Gen. McClellan.

clined to bold experiment, he is tenacious of his rights and scrupulous in the performance of responsibility. We like this face; it has many of the elements of homely kindness, friendliness, and honesty, while there are dignity and manliness enough to command the respect of all comers. The intellect shows capacity to reason, organize, plan, direct, and lead



ROBERT M. McLANE, MINISTER TO FRANCE.

ROBERT M. McLANE, MINISTER TO FRANCE.

In the portrait we have the physique and expression of the Motive-Mental temperament; a strong, enduring, tenacious body supplements a well-balanced brain. The character should be known for evenness, self-restraint, and positive energy. He is thorough in his method of action, decided in his judgment. Not wanting in sensitiveness as regards criticism, and far from being venturesome or in-

in large affairs. As an engineer he would be the man to prepare the specification for a great work; as the president of a university he could place in effective operation the different departments; as the chairman of a State Executive Committee he could organize the work of the official term, and show a conscientious solicitude for its performance. Such men as Mr. McLane are eminently useful wherever they may be, in public or private life.

Mr. McLane was born at Wilmington, Del., June 23, 1815, the eldest son of Louis McLane, a distinguished public man who in his time served in both branches of Congress, as Minister to England, Secretary of the Treasury, and Secretary of State. He was educated at Washington College, in the District of Columbia, and at St. Mary's College, Baltimore. After the completion of his course he went with his father to Europe, where he studied for two years at the College Bourbon, Paris. On returning he was appointed a cadet to West Point by General Jackson. He was graduated from that institution in 1837, and subsequently served with the topographical survey in Florida, and also as an army officer in the Cherokee country and in the Northwest. In 1841 he was sent to Holland to examine the system of dikes and drainage of that country. While in Europe he married Miss Georgine Urquhart, a young lady of Louisiana. In 1843 he left the army to study law, and was admitted to the bar in Baltimore.

His experience as a legislator began with his election to the Maryland Legislature, serving as a member in 1845 and 1846. The next year he was sent to Congress by the Democratic party of Baltimore, and continued a member of the House of Representatives until 1851. In 1852 he was a Presidential elector. President Pierce sent him to China in 1853, but he was recalled, at his own request, not long afterward, and resumed the practice of law in Baltimore. His second diplomatic appointment was in 1859, when President Buchanan sent him to Mexico. While there he recognized Juarez as President, and negotiated a treaty with the neighboring republic for the protection of lives and property of citizens of the United States. He resigned in 1860, and again resumed professional work, which he continued, broken only by several trips to Europe, until 1877, when he was elected a State Senator. In 1878 he was elected to the House of Representatives at Washington, to which he was re-elected two years after. He declined a

nomination for the Forty-eighth Congress, and in 1883 was elected Governor of Maryland. As the term lasts four years the greater part of it will now be filled by another man. Mr. McLane was a delegate to the Democratic National Convention of 1876, and a commissioner for Maryland at the last Paris Exposition. Few men in public life have had a more varied experience than Mr. McLane, and as he adds to his knowledge of statesmanship a good acquaintance with the French language, he is certainly well fitted for his important mission.

SAMUEL S. COX, MINISTER TO TURKEY.

Of this gentleman so well known, especially in the Northeastern States, the portrait declares several conspicuous traits. We are not personally acquainted with him, and the same can be said of the others who have just been sketched. The head is of unusual height both in the crown and sincipital region; it has great relative projection in front of the ears, especially at the brows, and it is not wanting in breadth. This development indicates aspiration, will, emphasis, sympathy, integrity, knowledge of human nature, quickness of judgment, desire for information, practical ability, mechanical discernment, taste, and refinement. Few men are more prompt to see and more ready to act. Mr. Cox should be known for the extent and variety of his knowledge; he has an inveterate thirst for the facts of science and art; is never satiated. His temperament is strongly mental or nervous, which contributes to the great activity of his intellectual organs. His language is ready, and being supplemented by an excellent memory, it is replete with facts and illustrations, and decorated with the graceful foliage of rhetoric. Yet, we judge by the anatomy of the eye that he is not given to tautology in speech, but uses words with a purpose, is incisive, expresses himself clearly, and knows when to stop.

He was born in Zanesville, Ohio, Sept. 30, 1824. After a long course of study in the Ohio University, Athens, he entered

as a student at Brown University, Rhode Island, where he was graduated in 1846. During his college life he maintained himself by literary work, which renders the fact more remarkable that while at Brown University he carried off the prizes in classics, history, literary criticism, and political economy.

After leaving the university, Mr. Cox read law for admission to the bar. He

a bit of gorgeous description that was the origin of the nickname, "Sunset." He was offered by President Pierce the position of Secretary of Legation in London in 1855, but declined it. Later, the opportunity was given him of going to Lima, Peru, in a similar capacity, and he accepted it and went. In a short time after his return, in 1856, he was elected to Congress. This began a period of eight



SAMUEL S. COX, MINISTER TO TURKEY.

was successful, and practiced two or three years. Then he made an extended European trip, taking those notes by the way that were the chief data of his book, "The Buckeye Abroad," published shortly after his return home. In 1853 he became owner and editor of the *Ohio Statesman*, published at Columbus, at that time the Democratic organ of the State. It was, we believe, while editing the journal indicated, that he published

years' continuous service in the House of Representatives. He supported the Union cause with earnestness during the war. In 1863 he was the Democratic nominee for Speaker against the late Schuyler Colfax, to whom the honor fell.

Mr. Cox removed from Columbus to New York in 1865, when he published "Eight Years in Congress." His first election to Congress from the Empire City was in 1868. The following winter

he made his second tour abroad, collecting materials for his book, "A Search for Winter Sunbeams." He was re-elected to Congress in 1870, but was defeated in 1872, when he was nominated for Congressman-at-large. The death of James Brooks before Congress met necessitated another election, which resulted in Mr. Cox's success. Since then he has been continuously elected to the House of Representatives, of which he was Speaker *pro tem.* four months in 1876, when Speaker Kerr had been compelled by ill-health to resign that position. "Why We Laugh," Mr. Cox's most popular work, was published in 1877. After making another foreign tour, in the summer of

1882, he published his "Arctic Sunbeams."

His family relations are worthy of mention, as his grandfather, James Cox, was a general in the revolutionary army, an intimate friend of Thomas Jefferson, and when he died he was member of the House of Representatives. Ezekiel Taylor Cox, his father, was a prominent politician in Ohio, and a member of the Senate of that State in 1832 and 1833. His mother was the daughter of Samuel Sullivan, Treasurer of Ohio in 1818. In the event of a war between England and Russia, Mr. Cox will find his place in Turkey invested with no light responsibilities.

H. S. D.

THE SCIENCE OF MIND IN TEACHING.

THE ORGAN OF VENERATION.

THE part of the brain with which this faculty is connected is located in the middle of the top of the head. When developed it gives distance from the base of the brain upward.

"The propensity to obey," says a late writer, "commands to submit to authority, and to admit others to be superior. It recognizes excellence or superior power with pleasure, whether it is found in nature or in society. The immensity of space, the vastness of the celestial system, the velocity of the planets, the destructive force of earthquakes, the power of genius, the greatness of moral heroes, and above all the omnipotence of God—these are objects calculated to excite this propensity.

"It induces respect for parents, teachers, magistrates, and superior persons of all classes. It is probably the principal element in the sense of the sublime, the grand, the awful. When small, there is an unceremonious bluntness, a want of respectfulness in the manners, and a tendency to treat superior persons with undue familiarity. This kind of irreverence is still more manifest when Imperativeness (Self-esteem) and Combativeness

are large, and Approbativeness, Secretiveness, and Equitableness (Conscientiousness) are small."

Veneration is one of the principal religious emotions. It imparts submissiveness and resignation to the character. It is the opposite of Self-esteem, and its natural language is, "Not my will, but Thine be done." The activity of this emotion produces a marked effect upon the bodily activities. It checks the flow of blood to the surface and to the brain, and the result of this is that a calmness comes over the body, the brain becomes quiet, and the other feelings are extinguished. A restful peace and resignation pervade the entire being. Its most powerful activity occurs in prayer and other devotional exercises.

When the temperament is an impressible one, and this faculty with others of the "Conforming" group is greatly excited the diminution of the blood in the brain is so great that a state of semi-unconsciousness sets in, and the activity of this faculty then produces the highest religious ecstasy. It is the effect of the conforming emotions upon the mind and body which has much to do with the

peculiar state known as the mesmeric trance. The spiritualistic "medium," instead of being controlled by disembodied spirit, is, I think, controlled unconsciously by his conforming faculties. These influence the will in such a way as always to do what the "medium" believes the spirit can do. Credulity and over-powering reverence so act upon the nervous system as to produce the gravest hallucinations. Spiritism, ghost-seeing, and witchcraft are all related to credulity, reverence, fear, and ignorance. The effects of Veneration in producing a due degree of submission, trust, and resignation are



MISS —. LARGE VENERATION.

most beneficial. So also its perversion is the most destructive to the progress of truth and happiness among mankind. All religious intolerance and fanaticism come from its perversion. Says George Combe: "It seems to maintain the unenlightened devotee in a state of bigoted subjection to his priests; an emotion of profound and sanctified respect springs up in the mind on contemplating the doctrines which they have instilled into him in his youth; and every suggestion of the understanding, in opposition to this feeling, is expelled as profane. In short, Veneration, when vigorous and unenlightened, produces complete prostration

of the mind before the object to which it is directed."

The history of the human race in many respects is a sad one. But it is difficult to say whether the tyranny of ambition or the tyranny of credulous submission has made the saddest record. It is plainly to be seen that a knowledge of the truth is most essential to secure the well-being of the race. In ignorance our best as well as our worst feelings lead us into misery. Then all honor to him who brings to light one truth in any field of human knowledge.

Veneration is the source of true politeness. It disposes men to submit to others, and to treat them with respect. Impoliteness which manifests itself in abruptness, bluntness, and disagreeable familiarity has much to do with deficiency of this faculty.

CULTIVATION.

The feeling manifests itself toward two objects: toward God and toward man. The public school is not the place to teach dogmatic religion; nor is it the place to undermine the faith which the parents have seen fit to inculcate into their children. But the school is the place in which to train children to revere the true, the beautiful, and the good. The teacher should teach the children to respect those feelings which are sacred to any one. There is no one who understands the awful mystery of human life. Where our knowledge can not guide us we must rest upon Faith, and Hope, and Love. He must be a blatant ignoramus indeed who would take away these in the present state of uncertainty as to human destiny. The man to whom nothing is sacred reminds one much of a swine in the midst of all the works of art and human affection.

Nothing is more deadening to true reverence than the familiarity with which some people handle sacred things. They talk about religious matters in the same tones in which they instruct the servants to do the work about the kitchen or the stable. One's religious convictions ought

to be so sacred that he is not willing to drag them before the public gaze on every conceivable occasion.

The teacher should keep it in mind to inculcate respect for every human being. All are capable of the highest attributes. Sincerity, affection, honesty, goodness, or any other manifestation of the noble qualities of the human heart, should make us prone to bow in respect before them. To scoff at these things which are of so much worth is wrong, and injurious to the one who scoffs.

In this sentiment as in all others of the higher kind, a good example is the best stimulant. If you would receive respect

from your pupils, you must treat them as if their feelings and thoughts, and they themselves were (as they are) as worthy of respect as those of any man. If you are polite and respectful to your pupils, they will be so to you. If other than respectful conduct be shown you, do not resent it in an ungentlemanly or unlady-like manner; but treat the offender with the greatest politeness, and show him that you are the true gentleman or lady, even when most provoked to other conduct, and the reaction which will set in will be the best preventive against further transgression.

U. J. HOFFMAN.

CONCERNING THE EXPLORATION OF HUMAN NATURE.

NOTHING to a man, besides himself, is so interesting as another. If, as Pope tersely says,

"The proper study of mankind is man,"

we should spend as much time in studying our neighbor as in the making of a fortune.

Some scientific knowledge, as any one will claim, is requisite for a pursuit so scientific. One should know previously something about mankind in general: as to his variation in different localities, his development under various eras, as well as his ordinary haunts and ways.

Of the sciences of phrenology, graphology, physiology, even of astrology, each contributes its quota of information in the way of deductions from data. The wise observer shuns no facts which make for the illumination of his pursuit. All, or most, of the varied practical sciences depend upon the combined observation and assemblage of facts among enthusiastic scientists. What can be learned from them all, and in what way can the knowledge they offer be available for the study of a certain individual subject, as the exploration of character?

This question is easy to be answered. We should test such facts or assumed facts as these sciences furnish, and accept

only such for our own use as prove true when tested by our own observation.

The hand is a common index of capacity. What is plainer than that an instrument is capable of performing only what it is fitted for? A clumsy one can not do delicate work, a heavy one fine work; so a facile hand is capable of varied work; a terse hand of clean, sharp-cut work. As the eye which can see clearly, the brain which can discriminate nicely, the muscular organization which can work glibly, are the most efficient, so is the hand which is primarily fitted to a certain labor most likely to be able to perform that labor to the greatest advantage.

But aside from what may be judged from the native organization, much may be learned from the comparison and observation of certain forms of hands, as associated with the known capacity and chosen vocation of the subjects investigated. This labor having been already performed by the advocates of what is commonly known as modern palmistry, it will doubtless be interesting to the present reader to learn how far the writer's own examinations bear out the prevailing theories.

On examining a stranger's hand—sometimes an amusingly hazardous proceeding—I have found

1, That a long hand presages a planner rather than a builder, an inventor, an originator—one who dreams and projects.

2, That a hand with spatulated (the tops shovel-shaped) fingers indicates a practical character, who takes what the inventor designs, and carries out another's schemes. He despises the unpractical, the visionary, the sentimental, and will have nothing to do with people who do not do useful things.

3, That a small and short thumb—proportionally to the hand—indicates a small disposition ; and

4, That a large, well-shaped, and facile hand indicates a broad, strong character, grand in his plans and great in the execution of them ; a liberal, whole-souled man.

Many other things could be added, which would make the material of this paper too large for the design. This may suffice as an interesting illustration on a line of recent investigation.

The student of human nature will understand his quest to lie in all directions.

Not a fact concerning man, whether historic, scientific, or phenomenal, should escape his investigation. He should assemble all the data he can.

To come rather nearer to the topic under examination :

On approaching a human being, several very interesting queries arise : What is this man : in his education, his physical training, his original impulses, tastes, passions ? These questions are in some degree immediately answered to the eye. As a sunburned skin is a sign of out-of-door life, a robust habit of good training and constitution, so the features, entire and in detail, signify the quality of the passions and the range of emotions, the intellectual construction and æsthetic powers.

What are the antecedents of this person ? what is his history ? As the gnarled and blistered tree shows the prevalence of adverse gales, as the weather-beaten sailor is a sign of the tempests he has weathered, so the marked and seamed complexion ; the gait, brisk or heavy ;

the posture, easy or constrained, show what psychic storms have prevailed. Or, to be a little plainer, as Holden in his "Landmarks" declares, "The habitual recurrence of good or evil thoughts, the indulgence in particular modes of life, call into play corresponding sets of muscles which, by producing folds and wrinkles, give a permanent cast to the features, and speak a language which all can understand, and which rarely misleads."

But the qualities of a man which may be called psychic, are best known by a conversation with him. How well he is educated, what he is capable of understanding, what he likes and dislikes ; in what pursuit he delights : are ascertained by the kindly question, put sharply and clearly. Having availed one's-self of all these varied means of inquiry, a satisfaction now arises in knowing of an interesting subject, what is his family name ; his nativity, or race-origin ; his occupation ; his physical, mental, and moral training. And to these a sufficiently accurate estimate of his physical proportions, regarding stature, weight, girth of waist and chest, adds a new interest.

And now by the intelligent observer much can be predicated as to the probable career of the subject, in past and future. Reasoning from abilities and capacities, it is permitted by logical methods to judge that what he has been inclined to do or fit to do, he either has done or will be ready to do ; as, for instance, if a man has fine hands, fine work ; if he has a quick apprehension, and is of an intelligent family, ingenious work, and the like. C. P., for instance, is an officer in the Salvation Army—an organization pretty well known. This person, on a distant inspection, appeared of a little above average height ; of robust and athletic habits. His head, well poised upon a full, muscular neck, was small, with a lower jaw square and heavy ; ears well marked by generally even contour, a little pointed at the summit ; eyes dark, large, and round ; hair and mustache rather dark ; general posture firm and

very erect; motions deliberate; voice medium pitched, strong, and full; hand large and facile.

Now the inference from a rude inspection showed—in the order of enumeration chosen for the last preceding paragraph—an athletic training, enduring constitution, moderate intellectual capacity, pertinacious spirit, even disposition, with periodic impatience of restraint; a disposition easily imbued with conviction by a master; of a race dwelling in north latitudes; healthy in aspect, having a good nervous organization by inheritance, though somewhat impaired by his pursuit; quiet in his tastes, broad and generous in his plans.

I regret that I am entirely unable to confirm some of these deductions, owing to the inability I had for pursuing the study of this subject, as I hoped I could do; for the man was so absorbed in his enterprise and withal so shy, that the few opportunities I found were unsatisfactory. Most of the radical deductions were approved by a brief conversation I once enjoyed, for he was very amiable, agreeable, and quiet. I have, however, I think, gratified the reader with a succinct statement of the qualities which one may be expected to discover, and how he may discover some of the psychical qualities of a stranger with only a close and brief exploration.

HENRY CLARK.

THE POET-KING OF SWEDEN.

STRETCHING upward from the northernmost verge of the temperate zone, rising far into the frozen Arctic, is the picturesque kingdom of Sweden. One-fourth of her vast area is covered with dark, gloomy pine forests, hanging their evergreen fringe along her rugged mountain sides, or casting their sombre shadows over her snow-shrouded plains. Between Sweden and Norway rises a tall mountain chain passing through the Norwegian realm, rearing here and there its lofty crest three thousand feet, lowering its range through Lapland, till nearing the North Cape, its towering glory faces with majesty the ice-bound Polar Sea.

Though bordered with mountain peaks, sublime in this northern land, through her central heart wind in almost unbroken chain three magnificent lakes, with their many smaller yet beautiful sisters. The Maclar, loveliest of them all, has more than twelve hundred green islands glowing in its blue waters, its winding shores varied with "wood, lawn, and cliff," and adorned with romantic castles, lovely country-seats, and charming villas.

These wild lakes, with their rock-bound, forest-fringed shores, have given to more than one-third of Sweden a

rugged charm, tuning her sweetest song and thrilling her noblest saga.

At the foot of her mountains and by the side of her lakes have lived and sung some of the noblest children of song. No hymns the world over are more spiritual, more melodious than hers. Her simplest peasants' hearts, and her saintliest bishops' souls, seem touched and thrilled alike with the fire divine, and around her royal hearthstone have gathered poets whose songs are soaring like her mountain peaks, and clear and flowing as her winding lakes. For many years the kings of Sweden have as gracefully swept the lyre as they have bravely wielded the sword. Eloquent in speech and tuneful in verse, their anthems have thrilled her cathedral arches, their genius adorned her halls, their verses wreathed their crowns with laurels. Toiling and triumphing in every field of art and literature, they have guided as skilfully on land the stormy waves of strife, as they have fearlessly ruled the restless billows of the bounding deep. They have been kings of land and sea, these royal poets and poets royal of Sweden. They may trace much of their strength and grace to their soldier-king Bernadotte, who

ascended the Swedish throne in the dark hour of her calamity when Gustavus was dethroned, Finland lost, and the beloved young Crown Prince dead.

His commanding form, noble face, firm yet graceful manner, energetic and patriotic administration won the admiration of all. He encouraged art and literature, secured to Sweden the possession of Norway, preserved her independence and revived her prosperity, and left to his son

political, and military works, his paintings, his operas, waltzes, and marches, his melodious songs and hymns, are still popular in Sweden. His paintings adorn her palaces, and his humanity has lifted the shadow from her prison walls, and brightened and redeemed the dreary lot of countless sons of sorrow.

Winning, eloquent, graceful, he was, say those who knew him, the handsomest man in all Sweden. At twenty-three



KING OSCAR II. OF SWEDEN.

Oscar, and his grandsons, Kings Charles and Oscar, a peaceful, prosperous kingdom.

Oscar, the father of the present king of Sweden, began to reign at forty-five, but his previous career as a prince had been brilliant and honorable. Most carefully trained by the poet Atterborn, he had won distinguished honors at the University of Upsala, was well versed in Italian and Latin, spoke fluently Norwegian, French, German, and English. He was a graceful poet, a skilled musician, and a fine artist. His educational,

he married the lovely princess, Josephine, granddaughter of the Empress Josephine, and of Alexander Vicomte de Beauharnais, who fought for us in the war of our American Independence. It is a matter of interest to us that one hundred and three years ago the great-grandfather of the present king of Sweden, when only twenty-one years of age, served under Marshal Rochambeau in our American war of Independence. He distinguished himself in the French army, acting in concert with Washington in bringing about the capitulation of Cornwallis at

Yorktown. So King Oscar's great-grandfather helped us to conclude our peace, and the Swedes in America are now some of our most peaceful, useful, loyal citizens. Oscar and Josephine were both very much beloved, and their memory is most tenderly cherished. Queen Josephine was a most devoted mother to her five gifted children,—Prince Carl, Prince Gustav, Oscar Fredrik, the Princess Eugenie, and Prince Nicolaius. In this

ble face, and a rich, powerful voice. The early death of this lovely young prince cast a deep gloom over the royal palace, and saddened the life of his only sister, the Princess Eugenie, whose time and fortune have since been devoted to doing good. She is an accomplished musician and a composer of music, and she too has written verses full of delicacy and tenderness. The shock of her brother's death seriously injured her health, and



QUEEN SOPHIE OF SWEDEN.

happy royal family there were five poets, the father, King Oscar, the three sons, Gustav, Oscar, and Carl, and the daughter Eugenie. All these have written tender and tuneful verses, and have been accomplished scholars as well as poets.

In how few families have there been five poets, or even five gifted children.

Prince Gustav died at the early age of twenty-five, but he had become a distinguished writer, a celebrated musical composer, and was the author of many beautiful lyrics. He had a graceful form, no-

she has ever since been an invalid. A sweet spirit of resignation breathes through all her writings. This is the closing verse of one of her simple evening hymns:

Thanks! O Lord! for comfort given,
All the day hath brought;
On us through the darkest Heaven
Beams Thy loving thought.
Soon earth's closing hour resounding
Calls away the beating, bounding,
Long weary breast
From its sorrow,
From its darkness,
Calls it home to rest.

Queen Josephine lost also her youngest child, Nicolaius. But her own sorrows made her more tenderly soothe the sorrows of others. She was an untiring friend to all the helpless and suffering, and her memory will ever be tenderly cherished.

King Oscar died in 1859. His death was most deeply mourned. His eldest son, Carl the Fifteenth, was crowned king. By his irresistible charm and grace he won the hearts of all. He had been a brave soldier. He was a powerful and brilliant writer, a good poet, and a fine artist. In the Queen's gallery now in Stockholm are some of his finest paintings. He wrote many musical poems. He was king for twelve years, and died at the age of forty-five.

No one who ever looked upon his face can forget his kindly smile. The Swedes speak of him with enthusiastic admiration. We translate these lines from his poem, the Heart's Home. All the eight verses, addressed to his heart, are full of tenderness and pathos:

Where is thy home? Upon
the shining strand
Of that ever blessed, glo-
rious land,
Where the freed spirit
back so eager flies,
When broken are all
earth's binding ties.
On that unknown shore,
may thy bright home be
Through the starry cur-
tains waiting for thee!
Yes, there, she cries, my
home will be.

Though earthly fires so
oft are fanned by thee
I know a heavenly flame
hath kindled me;
While in this dust its faint-
est spark remain
To that dear home I shall
return again,
To God my King, return
again.

The soul of the noble and brave king Carl went home in 1872, and his brother, Oscar

the Second, the present king, was crowned. King Oscar is one of the most genial, graceful of men. He is tall, with a noble head, and a face much handsomer than any of his pictures. His blue eyes beam out from under dark lashes. He has a very winning smile, and a voice clear and full. He is a fine singer, and an accomplished performer on piano and organ. His dress is plain and simple on ordinary occasions, and this is said to be a very good picture of him in citizen's dress, but on great gala-days his appearance is brilliant and imposing. He speaks fluently English, French, German, and Italian. He has translated "Faust" into Swedish, a very difficult task. His metrical rendering of Swedish into Italian won a prize. He has also received the prize from the Royal Academy for his poem, *Svenska Flottans Minner*—Memories of the Swedish Fleet. In his volumes of poetry dedicated to his beloved wife are many verses of musical ring and rhythm. This is the dedication copied from his own elegant handwriting:

*Min sträfvans frukt, min mors lön
De läggas för din fot,
Du kan ej neka Sångarns bön
Att taga dem emot,
Du glädde dig åt sädens sedan,
Att plantans växt och blomning, sedan.*

*Ditt namn, Sophie, skall riktadt stå
På detta första blad,
Ty framåt ditt bifall var ändå
Mitt mål för hvarje rad,
Och så mig dubbelt dyrbart blifvit,
Hvad har jag tankt och känt och skrifvit!*

Stockholm i Januari 1861.

KING OSCAR TO HIS WIFE. (FAC-SIMILE.)

The Queen's health is very delicate; when able to ride out in public, the people, as she passes, have sometimes almost filled her carriage with roses. She has endeared herself to them and richly deserves this simple tribute of her husband's affection.

King Oscar has four sons, Prince Oscar Gustav Adolf, Prince Oscar Carl August, Prince Oscar Carl Wilhelm, and Prince Eugene Napoleon Nicolaus. Prince Oscar Gustav, the Crown Prince by his marriage with the Princess Victoria of Baden, granddaughter of Emperor Wilhelm of

ron"; at twenty-five, flag-captain of the only combined squadron of Swedish, Danish, and Norwegian ships that ever maneuvered together. As a boy with his play-ground, he is familiar with the boundings and windings of the Baltic, whose great basin occupies at least 880,000 square miles, or one-fourth of all Europe. Through its islands and shoals often whirl the wildest tempests, the low coasts of Prussia lying on the one side and the tall rocks of Sweden on the other. Yet along the treacherous shores, the stormiest waves cast up the beautiful amber.



THE WASABRON BRIDGE AT STOCKHOLM.

Germany, has united the lines of Vasa and Bernadotte.

The noble old Emperor is very fond of his little grandchild, the youngest of the Bernadottes. King Oscar is a good artist. His picture of a lake with water-nymphs smiling and eddying about it, was much admired at the Paris Exposition. The King is a great lover of the sea. He made, at eleven years of age, his first voyage in a man-of-war; at thirteen he was a cadet in the Norwegian corvette; at fourteen, going with a frigate to Gibraltar; at sixteen, he was made second lieutenant of the Royal Navy; at twenty, he commanded a ship cruising in the Baltic; at twenty-one, "commander of a squad-

Besides King Oscar's poems, he has written many scholarly prose articles, literary essays, and sketches of travel. We are astonished that the King has done so much and done it all so well.

As we turn over his poems, we find many a tuneful Swedish verse where a flower blooms, a star shines, or a soft wind blows—and many elegant renderings into Swedish from the odes of Horace, the German of Goethe, the French of Victor Hugo, or the English of Moore and Byron. As graceful as any of these, are his renderings of Italian into Swedish.

Mossy carpet and mountain crystal, medallion and damask, candelabra and console, marble and bronze, porphyry

and porcelain, agate and arabesque, make Stockholm's royal palace beautiful. These we have not seen, but through thought's blue and golden curtains we have looked into the hidden palace of the royal soul. The royal songs born there, can bring us nearer to the kingly heart than Stockholm's stately palace doors.

"Angels have hung those hidden halls
With star-lamps gleaming bright;
With living flowers frescoed its walls,
And bathed its floors with light."

Beyond the palace walls and over the seas comes the voice of royal song—as wrote the tuneful Tegnér—

"Beyond the clouds, she soars and sings
O'er earth and sea her lyre to sound;
She hath Aurora's rosy wings,
Her robe is with the May-sky bound.
Like morning bird, she thrills the air,
Like thunder rolls her music tide,
And in the roses round her hair
Doth the eternal circle hide."

Fair as fancy's fairest dream is the outlook from Stockholm's royal palace. You may walk nearly a thousand paces on its airy castle top. There you think you see giant-born Night, with her daughter Earth, and her fair son Day, with his horse Skinfaxi, from whose shining mane light beams over heaven and earth, and there, the rainbow's bridge Bifrost, that joins Midgard, the dwelling-place of men, with Asgard, the city of the gods, "over which the gods ride daily to the sacred fount of Urd and sit in judgment." Craggy rocks and clustering trees arise from the waters beneath you. Green islets with their terraced rows of houses gleam out from the blue waters beyond. Around you arise towers and palaces and cathedral spires, and near is the Rid-darsholm Kyrka, where all the kings of Sweden since Charles X. have been buried. Once a year service is held here, and the people may see where the departed kings rest in their vaults. Around the walls hang the flags, spears, drums, and swords their royal hands once held, but their royal names and praises inscribed on the stones beneath, are worn away by "the feet of strangers." The forms of those iron-hearted, iron-willed

old kings, lie forever veiled and shrouded, but the iron spire of the old church still towers majestically upward, defying the clouds and storms, and still from the royal castle top waves the flag they loved, its golden cross and azure bosom glowing in the light. You think as you see it always unfurled when the King is at home, of his own spirited national hymn, Svenska Flaggan. When his own brave and skilful hands are folded forever to rest, may his tuneful and tender words be read and sung—until Time's last tide hath rolled.

SVENSKA FLAGGAN.

Raise the flag, world-honored banner,
Raise her on the highest top!
Droop your sword, each laureled hero!
Golden Memory! glowing Hope!
Go with Svea's banner up!

See the cross on her blue bosom,
Glory's gold on honor cast,
Sacred pledge in battle's fury,
Every hour he conquers surely,
Who in God alone stands fast.

Dragon tongues, so tireless waving,
Like a viking's lance of flame;
Every danger fearless braving,
Through the sea's blue hall proclaim,
Tell to all, your fadeless fame.

What a grand illustrious story
Writes upon our flag our braves,
When to some far countries go they
And o'er war-fields won with glory,
High their deathless valor waves.

Hail thee! guardian of our glory!
Hail thee! tears and triumph's friend!
Be thy past, thy future story
Still through death and dangers gory,
Thou our fathers' faith forsend.

Wave on high, thou faithful banner,
Guard our glory as of old,
Where the blue waves rock forever,
Wide unfurl thy blue and gold,
Until time's last tide hath rolled.

LYDIA M. MILLARD.

WHAT important personages we imagine ourselves to be! We think that we alone are the life of the circle in which we move; in our absence we fancy that life, existence, and breath will come to a general pause; and, alas! the gap which we leave is scarcely perceptible, so quickly is it filled again.—GOETHE.

MUSINGS IN THE WAY.

"She uttereth her voice in the streets."

AS I walked in the way—but not alone, for Wisdom, the watcher in the ways of men, was there, and she was with me,—a horse came on the way as though he scorned the earth in the pride of his power and the glory of his great strength. The one who rode him was not more noticeable than other men. But the horse was a grand and lusty beast; his neck was "clothed with thunder," and he seemed to "swallow the ground in his fierceness and rage" as he strode over it. I saw that he went on his way like many others in their strength, without thought or consideration, not knowing there was a will above and even upon him that had power to kill or to keep him alive. In admiration of his beauty and wonder at his strength I paused to observe him, and as he passed on, I followed him with my eyes. And when I saw his way, that it was high, and his manner, that it was haughty, and also that he had a master who was above him, and whom he knew not, and neither did he know, in his blindness and ignorance, that he was in the service of one who was greatly above him, I considered within myself, for consideration is where-in a man hath pre-eminence above a beast, and said:

"What is he like, and unto what shall I liken him, and wherewithal shall I compare him?" It was at the time when the Lord had caused me to open my eyes and incline my ears to see and receive instruction in whatever way it should come to me. And it came to me that he was the figure of a man who is fleet of foot and strong of limb, and with strength of back to bear a burden, and full of the lusty power and pride of life, but void of understanding and without consideration and empty of fear or reverence of the Above, being without the knowledge of God. Until the day of his deliverance comes, when it shall please God to open his eyes and unstop his ears, and give him knowledge and understanding, and

fill him with the spirit of wisdom, so that he shall know and understand that he has a master who is also his maker, that man shall remain as the horse. And if it dawns not on him in his present life, he shall be bridled and bitted, he shall be saddled and ridden, and harnessed and driven, all the days of his life. If it is not so in his outward circumstance, it will be so in his inward state.

The fable of the Centaur is not wholly vain, if perchance it is not wholly wise. But all wisdom, whether it comes down in the vehicle of antique fable, or through the sight of the eye, or is uttered in the streets, is from the Above, the Sovereign, the Lord. I had read in the Holy Word, and knew also in my own soul—which is the test of all written truth—that God had made man in His own likeness, and had read in the inward script of my own understanding, and knew that He had made the world and the things that are in it in the likeness of the invisible world and the things that are in it. Otherwise the science that form stands for idea, that shape, size, quality, represent power, would be vain and "science falsely so called." Whereas, being based on the true principle of outward and inward correspondence, it is both science and philosophy *truly* so called.

And this science is the true order and revelation of God. And they who teach it are servants of the Most High. But it is of the whole world as well as of the human form. I knew also that He had sent Wisdom into the world, and that she stood in the way and walked among men in the streets of the city and the lanes of the country as well; and that she was ever speaking in a low voice, and anon crying aloud, to the passers-by, concerning the signs and tokens of truth that the maker of the world had set in the way, and that she would interpret them to me. So I now looked upon her and listened to hear what she would say—for I admired her much for her beauty, far surpassing that of the daughters of earth,

and loved her for her exceeding goodness and gentleness, and I knew she was Wisdom. And when I had considered the horse and found what he was like and wherewithal to compare him, then I also considered him that is above, in the form and likeness of the rider that sat on the horse and said :

"What is he like, and unto what shall I liken him, and to what shall I compare him?"

And she gave me what to answer,—for how could a man derive and show forth the instruction of Wisdom from the sight of a horse carrying a man and a man riding on a horse, without the inspiration of wisdom to aid him?

And she showed me that as the horse, in the pride and glory of his strength and in the darkness and ignorance of his mind—bearing his burden he knew not where nor when, nor whether he should return,—serving he knew not whom, nor to what end or purpose he served, nor indeed that he did any service,—was a visible sign and representation of human pride, and folly, and ignorance in the blind and unwitting service of Divine wisdom, which directs all below to its own ends, and conscripts all slaves to its own service; so his rider, guiding and directing him whichever way he would, and conducting him to whatever end he chose, was the clear image of the wisdom that is "better than strength," and is above it.

And I answered :

"He is like to the wisdom of God, riding upon and ruling over the folly of men, and directing it all to wise and good ends."

And she said, "It is so."

And I saw it was from the Lord, who is also Wisdom. Then I returned and entered into the strength of the horse and saw it was great. So, holy men of old, seeing the great strength of the ungodly and the unwise, have despaired—forgetting for the moment their end—and recovered, saying: "But when I entered into the sanctuary, then understood I their end."

Then I said: "Show me the end of this

parable of the horse and his rider." And she said: "The end is this: the strength of the proud, the unwise, the ungodly, though great in the world, is but for a brief time; but he that rules over them, with all them that with him rule over themselves, shall endure forever. A little I kept for myself; it was this: that one who reigns over himself in reason and rightness of spirit, who guides his passions and rules his spirit, is better than one who rides on a horse and is himself subject, though the former is a foot-sore and weary pilgrim in the way."

So, musing in the way, I went on. The horse and his rider had left me behind, but Wisdom—ever blessed companion of pilgrims in the way—remained and walked with me, and gave what to say when I reached my journey's end. It was this: "Though never so weak in the flesh nor so weary of foot, I would rather walk alone with Wisdom in the way, looking on her beauty and listening to her truth, than to ride in a gilded chariot with the ungodly and hear the words of the unwise." For I saw while I was with her that she was full of riches, though she gave me but a little, because only a little could I receive, and that she carried at her girdle the key to the infinite treasures of the Lord. Her own treasures are as the sands of the sea for number, and from little to great, extend to the stars of heaven for beauty, and are filled up in the knowledge, understanding, and reverence of God. Therefore it is that I earnestly recommend every pilgrim in the way of life to form acquaintance with her, and thereafter to do nothing without her counsel, nor walk anywhere without her company.

H. P. SHOVE, M.D.

WOMEN IN ART.—The feminine mind is sensitive and recipient, responsive to beauty and purity, with just intuitions. Art therefore is a sphere suited to women, being the region of imagination rather than of strict reason; art, in fact, is cognate with the feminine side of genius, while science has closer affinity to the masculine intellect.

MIND-CURE.

IN these days when there is so much said and done in the way of mind-cure, it is interesting to turn back the pages of history and read the records of like movements, based, no doubt, on the very same principles.

Imagination is a wonderful factor in the cure of diseases, and we purpose in this paper to give our readers some striking illustrations of this fact, in the light of which it will not be difficult to understand why there are so many instances of remarkable cures connected with this re-awakened mode of healing.

Many may have read an account of the device of the Prince of Orange at the siege of Breda in 1625, to cure his soldiers of the scurvy after all of the efforts of the physicians had failed. Obtaining their consent, he sent them a few small phials containing a decoction of camomile, wormwood, and camphor, telling them to pretend that it was a medicine of the greatest value and extreme variety, which had been procured with very much danger and difficulty from the East; and so strong, that two or three drops would impart a healing virtue to a gallon of water. The soldiers had faith in their commander; they took the medicine with cheerful faces, and grew rapidly well. Their expressions of gratitude to the Prince, and praises of his skill, were very demonstrative.

Paracelsus, a celebrated Swiss alchemist, was born 1493, at Einsiedlen, in the canton of Schwitz. Having performed some very remarkable cures, he was invited in 1526 to fill the medical and surgical chair at the University of Basle. He held it, however, only little more than a year, when he began a wandering life. He was the introducer of mercury into medical use, and was, with Dr. Dee, the founder of the Rosicrucian philosophy, according to some historians. This has, however, been disputed; but his claim to being the first of the magnetizers has not been denied. He travelled very extensively in foreign countries, searching

for the philosopher's stone, and new discoveries in alchemy. He claimed to have the art of transmutation, and to have the *elixir vitæ*. He boasted of having a legion of spirits at his command, and of one especially which he kept imprisoned in the hilt of his sword.

A citizen of Basle lay at the point of death, given over by all the physicians. Paracelsus was at the last extremity called in, and promised a magnificent reward if he could cure him. Paracelsus gave him two small pills, and he rapidly recovered. When the doctor sent for his fee, the man refused to pay more than the ordinary sum for a single visit, as the cure had been so very simple and speedy.

Paracelsus claimed that the magnet could cure all diseases, arrest the progress of decay, and soothe all human suffering. He said that he could transfer diseases into the earth by means of the magnet. One method was this: "Take a magnet, impregnated with mummy, and mixed with rich earth. In this earth sow some seeds that have a congruity or homogeneity with the disease; then let this earth, well sifted, be laid in an earthen vessel; and let the seeds be watered daily with a lotion in which the diseased limb or body has been washed. Thus will the disease be transplanted from the human body to the seeds. Having done this, transplant the seeds from the vessel to the ground, and wait till they begin to sprout into herbs; as they increase, the disease will diminish; and when they have arrived at their full growth, it will disappear altogether."

The new doctrine took amazingly, and the deluded were ready to accept of any new methods of cure with the wonderful magnet. Among these was the following: the magnetizing of any metallic substance which had caused a wound, would cure the hurt. This was the origin of the famous "weapon-salve" of the seventeenth century. This was the recipe of Paracelsus: "Take of moss growing on

the head of a thief who has been hanged and left in the air; of real mummy; of human blood, still warm—of each, one ounce; of human suet, two ounces; of linseed oil, turpentine, and Armenian bole, each two drachms. Mix well in a mortar, and keep the salve in an oblong, narrow urn." With this salve the weapon, not the wound, was to be anointed after being first dipped in blood from the cut. The wound itself was to be washed with pure water, and covered with a clean, soft linen rag daily.

It would seem as though the absurdity of the recipe, and the difficulty of obtaining the compounds, would have prevented its acceptance, but there are in every age fools enough to credit the most apparent humbugs, and thus it was the "weapon-salve" had many advocates and eager claimants for the honor of the invention, and Dr. Fludd, a disciple of Paracelsus, was very zealous in introducing it into England. Of course the success was all due to the common-sense treatment of the wounds, but the infatuated victims gave the credit to the anointing of the sword with the "weapon-salve." Reference to this mode we find in Scott's "Lay of the Last Minstrel," Canto 2, stanza 23:

"She drew the splinter from the wound,
And with a charm she stanch'd the blood;
But she has ta'en the broken lance,
And washed it from the clotted gore,
And salved the splinter o'er and o'er."

Dryden, in the "Enchanted Island," says:

"Anoint the sword which pierced him with this
Weapon-salve, and wrap it close from air,
Till I have time to visit him again."

Again in scene 4th Miranda enters with Hippolito's sword wrapped up:

Hip. O my wound pains me!

Mir. I am come to ease you. (She unwraps the sword).

Hip. Alas I feel the cold air come to me;
My wound shoots worse than ever.

Mir. Does it still grieve you? (She wipes and anoints the sword).

Hip. Now, methinks there is something laid just upon it.

Mir. Do you find no ease?

Hip. Yes, yes; upon the sudden all this pain is leaving me. Sweet heaven, how I am eased.

Later on, one Digby, the son of Sir Everard, who was executed for his participation in the Gunpowder Plot, became infatuated with the chimeras of the alchemists, and a believer in the elixir of life, philosopher stone, etc. In his hands the "salve" was changed into a powder, and called the "powder of sympathy." He claimed to have obtained the secret from a Carmelite friar who had learned it in Persia from an oriental philosopher of great renown.

We have an interesting incident illustrative of his method of cure, but it is too long to quote. Those who have Scott's "Lay of the Last Minstrel" with notes, will find it there.

Contemporary with Sir Kenelm Digby was Mr. Valentine Greatraks, the son of an Irish gentleman of good education and property. While young, he fell into a state of melancholy derangement. After some time he had an impression, which followed him constantly, that God had given him the power of curing the King's evil. He told this to his wife and she bluntly told him that he was a fool. He did not quite credit this and decided to try an experiment. So he went to one William Maher, of Salters-bridge, who was grievously affected with the King's evil. He laid his hands on him, made passes, and prayed fervently. He soon began to improve, and with the help of other remedies, was speedily cured. This greatly encouraged Greatraks, and he continued his experiments, meeting with such wonderful success in the cure of epilepsy, ulcers, pains, and lameness that his fame went abroad and multitudes resorted unto him from many places. He was obliged, says the writer, to set aside three days in the week for the special purpose of laying hands on the sick. The crowds which thronged him were so great that the neighboring towns were not able to accommodate them. They not only came from parts of Ireland, but many from England. "Several of these poor, credulous people no sooner saw him than they fell into fits, and he restored them by waving his hand in their faces, and

praying over them. Nay, he affirmed that the touch of his glove had driven pains away, and on one occasion cast out from a woman several devils or evil spirits who tormented her day and night. 'Every one of these devils,' says Greatraks, 'was like to choke her when it came up in her throat.'" The woman's trouble was probably hysteria.

The clergy set their faces against him, and forbade his laying on of hands, but he declared that he was God-commissioned, and refused to obey. Lord Conway, of London, sent for him to come and cure his lady, who had suffered for several years with a grievous headache which none of the doctors could relieve. Greatraks went, but his skill failed. He, however, lived for several months in Lord Conway's house, and performed cures as he had done in Ireland.

"Catholics and Protestants visited him from every part, all believing that power from heaven was in his hands. . . . So great was the confidence in him, that the blind fancied they saw the light which they did not see—the deaf imagined that they heard—the lame that they walked straight, and the paralytic that they had recovered the use of their limbs. An idea of health made the sick forget for a while their maladies; and imagination, which was not less active in those merely drawn by curiosity than in the sick, gave a false view to the one class, from the desire of seeing, as it operated a false cure on the other from the strong desire of being healed. Such was the power of the Irishman over the mind, and such was the influence of the mind upon the body. Nothing was spoken of in London but his prodigies; and these prodigies were supported by such great authorities, that the bewildered multitude believed them almost without examination, while more enlightened people did not dare to reject them from their own knowledge. The public opinion, timid and enslaved, respected this imperious and apparently well-authenticated error. Those who saw through the delusion kept their opinion to themselves, knowing how use-

less it was to declare their disbelief to a people filled with prejudice and admiration."

Maxwell, an admiring disciple of Paracelsus, whose works were published in 1673, says: "If you wish to work prodigies, abstract from the materiality of beings; increase the sum of spirituality in bodies; rouse the spirit from its slumbers. Unless you do one or the other of these things; unless you can bind the idea, you can never perform anything good or great." What is that but working upon the imagination?

Anthony Mesmer was born at Marsburg, Germany, 1734. He was the father of Animal Magnetism. He experimented for a time with magnetized metallic plates, and such was the faith of their wearers, they wrought wonders. He finally found that he could produce the same results without the plates, by simply passing his hands downward toward the feet of the patient, even when at quite a distance. He claimed that a magnetic matter or fluid pervaded all the universe, and that by the power of the will, one person could communicate it to another, and to inanimate objects as well. He says: "I have rendered paper, bread, wool, silk, stones, leather, glass, wood, men, and dogs—in short, everything I touched—magnetic to such a degree, that those substances produced the same effects as the loadstone on diseased persons." His success was great. He went to Paris, where he created a great sensation. Some denounced him as a fool and a quack, others believed and eulogized. Finally a committee of examination was appointed, and they reported that "the only proof advanced in support of animal magnetism was the effect it produced upon the human body; that those effects could be produced without passes or other magnetic manipulations; that all these manipulations and passes and ceremonies never produce any effect at all if employed without the patient's knowledge; and that therefore imagination did, and animal magnetism did not, account for the phenomena." This report ruined

Mesmer's reputation in France, and he shortly left and returned to his own country. After he had gone the Marquis de Puysegur, the owner of quite a large estate, began to try animal magnetism upon his tenants, and so many of the sick flocked to him for healing that within the circumference of twenty miles he was regarded as having a power almost divine. He was the first discoverer of that state of magnetic somnambulism denominated *clairvoyance*. His gardener was his first subject. So famous did he become, he found it difficult to obtain needful repose, and remembering that Mesmer had said he could magnetize bits of wood, he thought it possible he might *magnetize a whole tree!* There was a large elm on the village green much resorted to on fine summer evenings. This he proceeded to magnetize by making passes and touching it with his hands. He directed streams of the magnetic fluid from his body to the branches and then to the trunk; after which he had circular seats erected all around it, and cords suspended from it in all directions. "When the patients had seated themselves, they twisted the cords round the diseased parts of their bodies, and held one another firmly by their thumbs to form a direct channel of communication for the passage of the fluid."

The results of thus magnetizing by the mass is related in a letter to his brother, dated May, 1784:

"I continue to make use of the happy power for which I am indebted to M. Mesmer. Every day I bless his name, for I am very useful, and produce many salutary effects on all the sick poor in the neighborhood. They flock around my tree; there were more than one hundred and thirty of them this morning. *Not a leaf of it but communicates health!* All feel, more or less, the good effects of it. I have only one regret—it is that I can not touch all who come. . . . Madame de Puysegur, the friends she has with her, my servants, and in fact all who are near me, feel an amazement mingled with admiration, which can not be described.

Without my tree, which gives me rest, and which will give me still more, I should be in a state of agitation inconsistent, I believe, with my health."

What could more fully illustrate the power of imagination than this narration of the healing tree?

In 1798, one Benjamin Perkins, an American practicing surgeon in London, invented and took out a patent for "Metallic Tractors," two small pieces of metal strongly magnetized, which he claimed would cure gout, rheumatism, palsy, and other diseases if applied externally to the afflicted part, and moved about gently over the surface. The wonderful curative power of these "tractors" was soon spread abroad, and pamphlets of testimonials were abundant. The all-healing steel plates sold for five guineas the pair; for what was cost, if from them the most painful diseases fled aghast? The Society of Friends, desirous that the poor should be also benefited, subscribed a large sum, and built an hospital called the "Perkinsian Institution."

"Dr. Haygarth, an eminent physician at Bath, recollecting the influence of imagination in the cure of disease, hit upon an expedient to try the real value of the tractors. Perkins' cures were too well established to be doubted; and Dr. H., without gainsaying them, quietly, but in the presence of numerous witnesses, exposed the delusion under which people labored with respect to the curative medium. He suggested to Dr. Falconer that they should make wooden tractors, paint them to resemble the steel ones, and see if the very same effects would not be produced. Five patients were chosen from the hospital at Bath, upon whom to operate. Four of them suffered severely from chronic rheumatism in the ankle, knee, wrist, and hip, and the fifth had been afflicted for several months with the gout. On the day appointed for the experiments, Dr. Haygarth and his friends assembled at the hospital, and with much solemnity brought forth the fictitious tractors. Four out of the five patients said their pains were immediate-

ly relieved; and three of them said they were not only relieved, but very much benefited. One felt his knee warmer, and said he could walk across the room. He tried and succeeded, although on the previous day he had not been able to stir. The gouty man felt his pains diminish rapidly, and was quite easy for nine hours, when the twitching began again. On the following day the real tractors were applied to all the patients, when they described their symptoms in nearly the same terms.

"To make still more sure, the experiment was tried in the Bristol infirmary, a few weeks afterward, on a man who had a rheumatic affection in the shoulder, so severe as to incapacitate him from lifting his hand from his knee. The fictitious tractors were brought and applied to the afflicted part; one of the physicians, to add solemnity to the scene, drawing a stop-watch from his pocket to calculate the time exactly, while another, with a pen in his hand, sat down to write the changes of symptoms from minute to minute as they occurred. In less than four minutes the man felt so much relieved that he lifted his hand several inches without any pain in the shoulder."

Dr. Haygarth published a small volume entitled, "Of the Imagination, or a Cause and Cure of Disorders, exemplified by Fictitious Tractors." The Perkinsian Hospital fell into disrepute, and

Parker left England disgraced, but carrying with him about ten thousand pounds, the fruits of his fraudulent tractors.

One can not help querying whether the magnetized metals worn suspended around the neck, the "magnetic belts," the "pads," and "electric corsets," possess any more virtue than the famous "metallic tractors." But if cures were truly wrought by means of the "weapon-salve," the "powder of sympathy," the "magnetized tree," and the "tractors," why denounce them even though they were but helps to the imagination by which they were healed? Was it not better to have been cured in that way than not at all?

Again: does not the examples we have selected from the "Popular Delusions" of a past age throw a flood of light on the matter of "Mind-Cure" now awakening the attention of public thought? May we not through them learn some of its secrets? May not also a portion of the so-called "Faith Cures" be explained on the same principle? Not that we would throw contempt upon all, nor even a large proportion of those cures which are so environed with entire devotedness to God, true believing prayer, and permanent results, that we can but ascribe the power wholly to a source divine. Amid the multiplicity of counterfeits, and of purely imaginative cures, there is much of the genuine.

M. D. W.

TO THE NIGHT.

OUT of the darkness so softly is creeping
A message for me;
Over my pillow is silently sweeping
The hand that is bearing the message
From thee.
Faint scent of roses, soft sheen of the river
Reflecting the scene;
Suggestions of tenderness breathed with the quiver
Of summer winds stealing the leafage between;
O, murmur of love, a shadow of sadness
That pass like a dream.
On the banks of the river the flowers of gladness
Look up for a moment, then sink in the stream.

The music of life is the acme of sweetness,
Enchanting the heart;
The wild notes of joy and Love's nercid completeness,

The soft tones of sorrow when fond ones
Must part,
The pean of glory, the glad song of pleasure,
The deep thrill of pain,
Are softened and blended in rhythmical measure,
And flow through the soul
In an exquisite strain.

Wrought by the band of a mighty musician
Perfect in art,
Faultless in metre, a strange composition,
Grand is the music and grander the meaning.
Revealed to the heart.

Never the harmony falls from perfection
Save in the song.
But the voice of the singer may lose the inflection,
And discords arise when the spirit
Is wrong.

ALMEDA COSTELLO.

LETTERS FORM PICTURES OF WORDS.

THE invention of pictures to represent words in language has developed wonderful results, and to-day all the means we have of representing words in language (other than by oral expression) is by the means of pictures.

We have twenty-six pictures called letters; each of those pictures has a name which is well established. Children learn the names of these pictures, which in different combinations are used to form pictures of all the words in the language, and every word in the language has to be learned as a picture. The names of the letters are no guide to the sounds in the word. When children or even persons of mature years spell words of two or more letters, they never can guess what to pronounce them if they are not told the pronunciation. There is no possibility of persons ever becoming so learned that they can tell the pronunciation of any combination of letters that they have never heard spoken. The letters or pictures are used to represent first one sound, and then another. A letter used twice in the same word is given two sounds, as: *c*, in the word never.

The letter *a* is used to represent eight different sounds as: *a*, in *ale*, *care*, *bat*, *all*, *arm*, *tillage*, *orchard*, *many*. *E*, represents six sounds as: *e*, in *me*, *ten*, *her*, *there*, *they*, *sew*. *I*, five as: *i*, in *mile*, *tin*, *bird*, *pique*, *alien*. *O*, eight, as: *o*, in *no*, *none*, *nor*, *not*, *women*, *move*, *wolf*, *one*. *U*, seven, as: *u*, in *use*, *up*, *rule*, *full*, *busy*, *bury*, *quart*. *Y*, five, as: *y*, in *my*, *holy*, *myrrh*, *yon*, *you*. *C*, four, as: *s*, in *city*, *k* and *x* in *sacrifice*, and *sh* in *ancient*. *S*, four, as: *s*, in *so*, *his*, *sugar*, *measure*. *F*, *g*, *h*, *l*, and *t*, each has two sounds.

S represents four sounds, and *o*, eight; the letters *s*, *o*, may be pronounced thirty-two different ways by giving all the sounds to each letter that are given to it in words. Combine *s* with all the different sounds of *o*, and it will make eight different pronunciations. Then combine

the second sound of *s* with those eight sounds of *o*, and it will make eight more, which are sixteen; then the third will make eight more, which are twenty-four; and the fourth, which are eight more, will make thirty-two pronunciations; then each letter added will multiply the whole number by as many times as there are sounds given to the letter in words; the letters *f* and *t* have each two sounds, then *sof* will make twice thirty-two, which are sixty-four, and *soft* will make twice sixty-four, which are one hundred and twenty-eight pronunciations for the letters *s-o-f-t*. By the same rule the letters *s-o-u-g-h-t*, a word of one syllable and three sounds, can be given one thousand seven hundred and ninety-two pronunciations, and the letters in the word *calculation* give four million five hundred and eighty-seven thousand five hundred and twenty different pronunciations. Children should never be required to guess the pronunciation of any combination of letters. They should be told what word those pictures represent, the same as they should be told the names of the letters.

A child spells the word *s-a-n-d*; the teacher says, What does it spell? and the child never can guess; he should be told and told until he remembers what word the combination of pictures is designed to represent.

The word *tongue*, a word of one syllable, three sounds, and spelled with six letters, may be pronounced two thousand eight hundred and eighty-eight different ways. A child spelled the word *tongue*, and pronounced it "tung-gew"; the teacher said, You must do better than that; he then said, "tung-gew-ee," and the teacher made him stand on his knees for one hour to punish him, because he could not guess at two guesses, which of the two thousand eight hundred and eighty-eight different ways the teacher chose to pronounce the pictures *t-o-n-g-u-e*.

The Phonetic alphabet is composed of pictures *also*; each picture (or letter) rep-

resents one sound, and only one. Those letters, forty in number, represent all the articulate sounds contained in any word in the German or English language. A word spelled with those letters can only be given one pronunciation. The names of the letters are perfect guides to the sounds in the word. The word *tongue* spelled with those letters, the first letter, *t*, is always sounded as *t* in *to*; and *u* is always sounded as: *u*, in *up*, and a new letter called *eng*, which is always sounded as *ng*, in *sing*, then *tung* can only have one pronunciation; there is no guesswork about it, and every word, German or English, can be as perfectly represented as the word *tung*. Persons do not have to guess which of two thousand different ways a word should be spoken.

The Phonetic system should be used for pronunciation of languages. To be able to get from Phonetic letters the correct pronunciation of English and German words that one has never heard spoken, and speak them perfectly correct as spoken by English and Germans, will

be of untold value to any one who wishes to learn those languages.

Words that the ear has never heard spoken can be clearly represented to the eye, so that there will be no mistaking the pronunciation, and any one who understands the Phonetic alphabet can tell how to pronounce a word spelled with those letters better than he can by hearing it spoken.

The Phonetic system has been in partial development for many years; it has now become a complete science, and the benefit it will be in teaching pronunciation is beyond computation. As soon as persons are thoroughly acquainted with the science of sounds or Phonetics, they can spell any word correctly that they can speak; all that they have to do is to speak the word very slowly, and pause between each sound, and the sounds will suggest the letters, and the letters will suggest the sounds, and they will have no difficulty in speaking any word correctly spelled with those Phonetic letters, nor in spelling any word with those letters correctly that they can speak.

M. A. HENDERSON.

A REMEDY FOR THE SOCIAL EVIL.

ONE most fruitful source of prostitution is, as near as I can learn by reading and observation, unjust legislation, and consequently the imperfect training of the youthful of both sexes. In order to heal this plague-spot so marring to civilization, we must observe in this as in the treatment of all other diseases, the first law of cure—that of removing the cause.

The existing state of society is an abnormal, not a natural, condition, and is, I believe, the result of one-sided legislation. Laws made by men are so arranged as to foster in them the growth of passion; and the excuse for their excesses is, that God has given to them a stronger nature than He has given to women, and conse-

quently that class of women whom the world calls "outcasts" are needed—needed for the protection of their pure sisters. Thus some men argue.

Rather strange reasoning, to my mind, that God, whose children we are, who is Himself love, and created us in the same element, who is all knowledge and all power, should so imperfectly constitute His children that the weakest of them (for all women who fall are *called* weak) should, for the safety of the strongest, be consigned here to a fate far worse than death, and in the crushing weight of sin that sinks their souls feel that there is no hope for them hereafter. The slavery of woman, shall I say? no, not of women only, but men also, has so long continued that

the majority of them do not know the galling of its chains; so have they by these fetters become calloused in soul and flesh; but in the system of prostitution and its accompanying diseases do those who have light enough to see, realize most truly the appalling effects of woman's legal silence.

"I plead not for woman's rights," said an old man at a convention, "but for human rights." Was it human rights that the wise and learned men thought of in their deliberations which resulted in the adoption of the Contagious Diseases Acts in England that have created so much interest there, particularly among the English women? who, with Miss Nightingale at their head, have petitioned Parliament for their repeal. On the Continent these regulations have been known long enough for us to realize that their result is not the obliteration of the loathesomest blotch on Christianity. English people pride themselves upon their personal liberty, and can not willingly consent that even prostitutes should be subject to such slavery as these acts demand. Witness a quotation from the *Westminster Review* :

"We are greatly mistaken if the Contagious Diseases Acts do not become the battle-ground on which the broad principles of English liberty will be fought, if the Government persists in maintaining these acts, notwithstanding the national condemnation which is being clearly and emphatically pronounced upon them in the numerous petitions which each day are now being sent to Parliament for their repeal."

One of the evils which are here mingled with the good, and will be to the end of time, is their interpretation by the highest authority. It is singular how men love darkness rather than light. For men to love and be kind to women is natural, and they are now as gentle and as fond as they know how to be; but there is much yet to be learned by both men and women, for the system of prostitution shows that the kindness of the former partakes largely of the spirit of the slave-owner, who asserts

that negroes are not human beings, and of a kindred dogma of the Mohammedans that women have no souls.

The subjection of women is plainly seen to be a relic of barbarism. In conversation recently with a learned man whom I met at the dinner-table of a friend, we discussed the government of children. He contended that all human beings must be controlled by fear. I answered, "There is a stronger passion than fear, and that is love; it is the best governor, for see how it rules the universe, and keeps the immortal elements of which it is composed in constant motion and continued order. Why do not men learn here a lesson for legislation?"

The Christian religion has done more to elevate woman than any other; and why? Because the precepts its great Prophet inculcated were love. Yet even now how many understand His beautiful doctrine of love and purity?

The world received Him not, because it knew Him not. How many know Him now? Not until the world has grown to comprehend fully His teachings, prostitution must exist, for it can not cease until all mankind are governed by His precepts. And this can only be when woman has freedom enough to exercise all her faculties; and until she has a voice in the political world she can not be so situated as to accomplish fully her duty.

He who erected the marvellous standard of physical purity contained in the declaration, "Whosoever looketh on a woman to lust after her hath committed adultery with her already in his heart," not only answered the accusers of the woman taken in adultery in the words, "He that is without sin among you let him cast the first stone at her," and said to the woman, "Neither do I condemn thee; go and sin no more"; but while suffering His feet to be washed with a sinner's tears and wiped with the hairs of her head, assured her both of His sympathy and His forgiveness, and at the same time rebuked the Pharisee who was scandalized by His compassionate condescension. How many are spiritually-mind-

ed enough to comprehend the significance of such teachings; yet God's kingdom can not come on earth, nor His will be done here, until such purity of life is known to all. And such chastity can not be known but through woman. How? Education. Woman must be taught to realize that it is her duty to think, and to understand that, although the natures of men and women are different, yet, notwithstanding this difference, they are equal, and that, in order to attain the acme of human happiness, both classes of the attributes of human character must be valued and felt. In no other way can this hoped-for state be brought about but by the diffusion of knowledge.

Woman must be taught to *realize* that it is her *duty* to use *all* the talents God has given her. She must understand that her children have rights which it is her duty to protect—rights which now in her ignorance she knows not of, and consequently attributes to Providence results which are but too often the fruits of dissipation. A child has a right to inherit a healthy body and a sound mind, and it is the duty of its parents, particularly its mother, to see to it that her child inherits its birthright; but under the system of prostitution, legalized or otherwise, can children have their rights? I repeat, it is their right to inherit health in mind and body, and it is also their right to be so instructed as to be individual and self-sustaining. They have a right to be taught that there is not room in this world for drones, male or female; that honest labor is the duty, and not only duty, but pleasure of all; that work should be rewarded according to its *worth*, whether done by man or woman.

Something must be done to change the social relations—neither men nor women are happy in them. The innocent of both sexes often fall victims to youthful excesses; society abandons woman but tolerates man, notwithstanding his impurity, and the injustice thus dealt out to woman is revenged by heaven in disease as the natural result of violated laws. Oh, is it

not time that women, and men also, used their intelligence to rid the world of such pollution?

But woman can not be the helpmate God designed she should be until more avenues of honest labor are open to her. She can not until the circulating moneys, as a reward for honest toil, flow into her hands as freely as they do into the hands of man; for only when men and women walk side by side through the varied scenes of life, will they deal honestly with each other. Then, and not until then, will every marriage be what so few now are, and yet what God designed they all should be, divine. And all children born in such wedlock are blessed, for they are born of love, and it is the children of love alone that bless the world. How little do men and women now know of this beautiful law of nature, else none would dare by legal contract to unite their hands when heaven has not joined their hearts; and the children, those immortal flowers of life, what a blight society now unconsciously casts upon their development in the ill-assorted marriages of the day! These little ones are from such sources ushered into life unwelcomed, or else are the victims of one of the most appalling horrors of the day. And so wide-spread is this evil, that it now stands side by side with prostitution, and has become another problem that wise men are vainly endeavoring to solve. Yet the solution alone lies in the diffusion of knowledge. In that alone can be hope for the obliteration of these evils. When men and women realize that this house in which we live has a Divine Architect, and that no attribute of our natures is unholy when rightly used; that a life governed by truth and love is natural, and consequently holy, but that a life governed by lust and deceit is unnatural and consequently cursed.

When all men and all women understand the beautiful laws of our being, woman will prove to the world, as she has never yet had an opportunity to, that no human ambition can adorn her brow

with any crown that is so becoming and grateful to her as the immortal one given by her Creator, *maternity*.

But in order to wear this crown with all its becoming beauty, men and women must first grow wise enough to desire the full companionship of each other. Man must acknowledge her soul, her thoughts, her individuality, and learn to take counsel with her in the halls where justice is to be administered to men and women, whether in the court room or senate-chamber; in short, wherever duty leads him, in the outer world, not less than by his side in God's house and at the family altar.

F. S. COOK.

THE REDEEMING POWER OF AFFECTION.—An English writer relates the following manner in which the quiet, persistent love of a child was the redemption of a drunken father:

"That night I was out late; I returned by the Lee cabin about 11 o'clock. As I approached I saw a strange-looking object cowering under the low eaves. A cold rain was falling; it was autumn. I drew near, and there was Millie wet to the skin. Her father had driven her out some hours before; she had laid down to listen for the heavy snoring of his drunken slumbers, so that she might creep back to bed. Before she heard it, nature seemed exhausted, and she fell into a troubled sleep, with raindrops pattering upon her. I tried to take her home with me; but no, true as a martyr to his faith, she struggled from me, and returned to the now dark and silent cabin. Things went on thus for weeks and months, but at length Lee grew less violent, even in his drunken fits, to his self-denying child; and one day when he awoke from a slumber after a debauch, and found her preparing breakfast for him, and singing a childish song, he turned to her, and, with a tone almost tender, said:

"'Millie, what makes you stay with me?'

"'Because you are my father, and I love you.'

"'You love me,' repeated the wretched man; 'you love me!' He looked at his bloated limbs, his soiled and ragged clothes. 'Love me!' he still murmured; 'Millie, what makes you love me? I am a poor drunkard; everybody else despises me; why don't you?' 'Dear father,' said the girl with swimming eyes, 'my mother has taught me to love you, and every night she comes from heaven and stands by my bed, and says, 'Millie, don't leave your father, he will get away from that rum fiend some of these days, and then how happy you will be.'"

"And he did get away from the rum fiend. The unfaltering affection of his child, strengthened by the dying words of her mother, saved him, and restored to him again his manhood."

THE MULTIPLICATION OF SIMILAR NAMES.—The following table exhibits the popular names of the day. It is based on the first or leading names of 100,000 children—50,000 males and 50,000 females—registered in England three years ago:

Order.	Names.	Number.	Order.	Names.	Number.
1.....	Mary.....	6,819	14.....	Jane.....	1,607
2.....	William.....	6,590	15.....	Ellen.....	1,621
3.....	John.....	6,230	16.....	Emily.....	1,615
4.....	Elizabeth.....	4,617	17.....	Frederick.....	1,604
5.....	Thomas.....	3,876	18.....	Annie.....	1,580
6.....	George.....	3,620	19.....	Margaret.....	1,546
7.....	Sarah.....	3,602	20.....	Emma.....	1,540
8.....	James.....	3,060	21.....	Eliza.....	1,507
9.....	Charles.....	2,323	22.....	Robert.....	1,323
10.....	Henry.....	2,060	23.....	Arthur.....	1,237
11.....	Alice.....	1,925	24.....	Alfred.....	1,232
12.....	Joseph.....	1,780	25.....	Edward.....	1,170
13.....	Ann.....	1,718			

Total number of children (out of 100,000) registered under the above 25 names..... 65,872

It will be observed that these 25 titles belonged to about two-thirds of the 100,000 children; it is also evident on examination that however great the variety of the names divided among the remaining third, there was but one name to every 26.35 persons. There is good reason for supposing that the table affords a fair sample of the proportions in which personal titles are distributed among our own population in general, and we do not wonder at the confusion that often arises in large classes, as in our public schools, on account of so many children bearing the same name.

GENIUS AND EDUCATION.

IT is a somewhat curious fact that many of those men whom the world calls geniuses received only a limited training in schools, and some of them were very unpromising subjects while under the schoolmaster's care. It is equally remarkable that with the increase of our school facilities and extension of the range of school studies, the number of men whom the world terms geniuses does not seem to increase as it might be expected that they would. Even the brightest and smartest scholars in the schools do not always make the smartest and most distinguished men and women. Those who graduate at the head of their classes in college are not those who are heard the most of subsequently. Is our system of education then a failure, or of no avail? Not necessarily. Neither is it to be inferred that education is not a good thing and to be desired. The fact that the results are not all that could be wished may be due not to education itself, but to defects or errors in the system practiced.

GENIUSES SOMETIMES DULL IN SCHOOL.

Geniuses seem to possess the power of self-education. Their natural bent is so strong that an instinct seems to lead them if uninterfered with to right development of their powers, while the system of education in the schools might not bring out their special talents, and might on the contrary be a hindrance to their development. Hence it happens that some of our most illustrious geniuses have made but a sorry appearance at school. If the schoolmaster should succeed, possibly genius might have suffered proportionately to the master's success. The instruction of the schools is not such as is best calculated to draw out the individual talents of the pupils. Treating them all in a routine manner, and not pursuing that course which is best adapted to make the most of what the pupil is, school instruction undoubtedly sometimes smothers instead of kindling

the spark of genius. Sir Humphrey Davy, in a letter to his mother, makes reference to the way in which his schoolmaster had neglected him when he was a child; declared he was fortunate in such neglect, and adds: "I perhaps owe to this circumstance the little talents I have and their peculiar application." Sir Walter Scott, who while at school was regarded as a dunce, says that "The best part of every man's education is that which he gives himself." William Blake thus expresses his contempt of the school methods of instruction by saying:

"Thank God, I was never sent to school, to be flogged into following the style of a fool."

Sometimes a teacher fails to succeed in giving instruction successfully even in the special department to which the pupil's genius adapts him. The father of Turner, the great painter, put him in a school to learn drawing, and in a short time the teacher, a very competent man, brought back the pupil and told the father that it was no use for him to try to teach the boy anything.

DEFECTIVE METHODS OF INSTRUCTION.

School methods are not very well adapted to draw out and develop the talents which the youth may have. The children are not taught to observe and acquire knowledge for themselves, neither are they made to think for themselves. The instruction of the schools is too much a system of cramming in a mass of facts which are not always understood nor arranged or classified so as to be of very much use. Herbert Spencer, in his work on Education, in regard to school instruction says: "Nearly every subject dealt with is arranged in abnormal order, definitions and rules and principles being put first, instead of being disclosed, as they are in the order of nature, through the study of cases. And then pervading the whole is the vicious system of rote-learning—a system of sacrificing the spirit to the letter. See the results.

What with perceptions unnaturally dulled by early thwarting, and a coerced attention to books; what with the mental confusion produced by teaching subjects before they can be understood, and in each of them giving generalizations before the facts of which these are the generalizations; what with making the pupil a mere passive recipient of others' ideas, and not in the least leading him to be an active inquirer or self-instructor; and what with taxing the faculties to excess, there are very few minds that become as efficient as they might be. Examinations being once passed, books are laid aside; the greater part of what has been acquired, being unorganized, soon drops out of recollection; what remains is mostly inert—the art of applying knowledge not having been cultivated—and there is little power either of accurate observation or independent thinking. To all which add that while much of the information gained is of relatively small value, an immense mass of information of transcendent value is entirely passed over." It too generally happens that the child's memory is overburdened while its powers of observation, thinking, composing, analyzing, and classifying are neglected. Such a one-sided method fails to draw out and develop the talents which the child possesses.

OVERWORK OF BRAIN DWARFS IT.

One serious fault of the school is that too much is attempted. The child's brain is overworked and its powers are dwarfed. If the child has any genius the overwork and drudgery of the school are liable to smother it. What is easy for one child to learn may be hard for another of the same age. One child may be able to easily learn the lessons which another child could not learn without being overworked. Overwork is very injurious to the delicate structure of a child's brain, and soon effects irremediable injury. The ill effects of overwork of the muscles are seen in nearly all of our manufacturing towns where children are employed in mills and factories where

they have to work the same number of hours as older persons. They become dwarfed in size, ill-developed and sickly-looking, and never become the strong, vigorous, capable persons that they might had they been healthfully reared as children should be. The effects of overwork of the brains of children are far more serious and disastrous than the overwork of the muscular system. The texture of the brain is far more delicate in structure than that of the muscles, and is consequently all the more easily injured.

DIFFERENCES IN CHILDREN'S NATURAL CAPABILITIES.

Unless great care is exercised by the teacher, some of the pupils will be overworked in trying to master lessons which other pupils find no difficulty in learning. In regard to our schools failing to allow for differences of mental capacity and turn of mind in different pupils, Dr. B. W. Richardson, of England, says: "There are many minds of a neutral tendency, minds that ever take in a certain limited amount of knowledge on almost any and every subject, but who never master much in anything. These minds, if they be not rubbed out or flattened down become in time respectable in learning, and sometimes imbued with the plainest common sense. These minds bear at school much work with comparatively small injury, for they are admittedly dull, and great things are not expected of them, and great things are not attempted by them. These minds do the necessary work of mediocrity in this world, an important work enough,—the work of the crust of the intellectual sphere. There are two other very different orders of mind. There is the mind analytical, that looks into details in business, into elements in science, into figures and facts in civil and natural history. In the school such a mind is good at arithmetic; good at mathematics; good at facts and dates; good at niceties of language. In these directions its lessons are pleasures, or at the worst, are scarcely

labors. There is, again, the mind constructive or synthetic; the mind which builds; which uses facts and figures only, in the end, for its own purposes of work; which easily learns principles of construction; which grasps poetry and the hidden meaning of the poet; which is wonderful often for memory, but remembers the whole, rarely the parts of a theme, and which can not by any pressure inflicted on it, or self-inflicted, take fast hold of minute distinctions." These different kinds of pupils need different methods of instruction. Their different talents need developing so as to make the most of the brain power of each. If they are all crowded right down to the ordinary school system, a part at least of them will either fail to make progress, and will fall out as dull pupils, or they will have to put forth extra effort to learn what is ill adapted to their capabilities to learn, and their special mental qualities and talents will lie undeveloped or perhaps become dwarfed by overwork of the brain.

HOW THE SCHOOL MAY SUPPRESS GENIUSES.

The effect of early training is well known to be enduring. "Just as the twig is bent the tree is inclined." The bent which is given to the young mind while at school is likely to remain permanent. Our schools try to make all children as near alike in their mental attainments as possible. The high-pressure system generally prevails, and most of the pupils are overworked. Many children ten or twelve years old learn lessons which their parents would find it difficult to learn, and yet the brain of a child is much less capable of enduring such work without injury than the brain of the adult. Much of this learning is that which will never be of any practical use to the child, and nine-tenths of it will drop out of mind and be forgotten in a few years after leaving school. Here is an expenditure of a vast amount of nerve and brain force in the acquisition of learning, which is to a large extent of little use. In its acquisi-

tion the health is injured, the brain strained and dwarfed, and the life blighted, all to no purpose. Dr. Richardson, in regard to overworking pupils in the schools, says: "To see the errors that prevail and not to speak of them, were to be silent on errors which would lead a nation to feebleness, which would lead to new generations springing out of that feebleness and to the propagation of a community that would no more be illumined by those greatnesses of the past who in less learned, but freer times gave forth the noblest of noble faculty, the most wonderful of wonderful art, and a science, philosophy, and literature that have been hardly mortal. Such a poetry as Shakespeare has poured forth; such an art as Gainsborough and Reynolds, and Turner and Herschel, and Siddons and Kemble, and Keen have presented; such a science as Newton and Priestley, and Davy and Young, and Faraday have immortalized; such a philosophy as Bacon and Locke have contributed; and such a literature as Johnson and Scott, and Dickens have, in the freedom of their intellectual growths, bequeathed forever. To me, observing as a physician the appearance and development of those men, under the circumstances in which they appeared, is the most natural of events; the mere course of Nature, untrammelled, regular, and divinely permitted; not forced, but permitted, Nature being left to herself. To me, observing as a physician the appearance of such men of similar greatness of form is at this time an all but impossible phenomenon. The men truly may appear, for Nature is always reproducing them, and the divine permission for their development is equally good now as of yore; but the development is checked by human interference, and thereby hangs the reason of the impossible." This is a matter well worth the consideration of parents and teachers.

H. REYNOLDS, M.D.

EACH delicate touch of our soul,
Each faintest line of our thought,
Shapes at last the beautiful whole
Of the grandest ideal wrought.

ENCOURAGEMENT.

WHATEVER tends to crush out wrong
And decrease sin and sinning,
God and His angels smile upon,
As in the world's beginning.

'Tis we who fail, and not God's plans,
For full regeneration ;
'Tis idle hearts and idle hands
That vilify the nation.

We all know better than we do ;
We think to act to-morrow,
Till lo ! the sunny days are past,
And night is dark with sorrow.

'Tis our to-days the cause requires,
The wheel of fate is turning ;
And we to guide its motion right
Must be alert, discerning.

It is not luck, but human skill
Which bends it back or forward,
A steady hand and heart and will
Incline the leverage starward.

Good-nature is the common oil
Required in every movement ;

It lightens motion, stirs the cogs,
And hastens all improvement.

Never stand idly by a wheel
You think is dead to action,
But oil and push and oil again,
At last with satisfaction.

You'll hear it moan and swag and turn
With natural locomotion ;
The world will say it ran itself,
Perhaps deny you potion

Of rightful praise ; but wherefore care
If you but keep it jogging ?
There's He who marks the hearts and hands
That hinder wheels from clogging.

And if the cause of right achieves
A notch by your endeavor,
While other hands are trained to push,
Your efforts live forever.

Fame is a flower that withers oft,
And gold's chained to her mother ;
No wings uplift a rising soul
As kindness done another.

MRS. S. L. OBERHOLTZER.

ONLY A CIPHER.

"1,000,000! My, what a lot of ciphers and only one figure; but that brings the answer out even, and finishes my arithmetic lesson for to-morrow." School-boy Harry closed his book, and turning from the table where he had been studying, glanced around the cosy sitting-room as if ready for some other work or sport whichever might present itself. In the big arm-chair sat grandma with little Bess on her lap. The fire-light from the open grate was dancing and playing over them with a seemingly unwonted privilege. Harry stood a moment watching them, then as if considering himself as privileged a character as the fire-light he caught Bessie in his arms and went whirling about the room with her until she cried for him to stop. When safely seated again on grandma's knee, the little girl only laughed in glee, for she was used to Harry's antics.

"O, my head is so filled with figures

and ciphers to-night that I just wanted to jump about and see if I couldn't get rid of some of them; and here I caught up sister Bess and she is just like a little, round, fat cipher, and I don't want any more arithmetic at present, so grandma can have her to fill up the vacant place on her lap. That's what ciphers are good for, anyhow, to fill the vacant places; and I'm thinking there would be a great empty space in grandma's lap if Bess didn't keep it filled nearly all the time."

Grandma smiled at this, but it was one of her sober smiles as she said: "I fear there would be more unfilled places than on my lap if dear little Bess were not here to occupy them. And," she added, looking up brightly, "I am almost selfish enough to wish that she could always remain the little cipher that you call her, instead of growing up to think herself a great figure some day."

Bessie put up her little fat hands and

softly stroked the gray hairs. "See how smooove I make 'em shine," she said, giving the aged head a loving pat. But grandma didn't seem to hear, for she was intently gazing into the fire and her eyes had in them a far-away look.

Harry drew up a chair and seated himself close beside her; and pretty soon he said, "Grandma, I would like a story to-night; won't you please tell us what you see away off in the fire there?" The old lady came back from her wanderings in the fire-light and looked about with one of those rare, bright smiles of hers. Harry's father was wont to say that one of the greatest blessings in his home was grandma's smile with its peculiarly sweet expression; for growing up under its warm sunshine his children could not help but bloom and blossom into some happy goodness.

"I was thinking," came the reply after a moment's pause, "about a little girl who once determined that she wouldn't be a mere cipher in the world."

"Oh, do please tell us all about it," broke in Harry.

"Well, once upon a time, a good many years ago, there lived a little girl who had five brothers, one older and four younger than herself. And these brothers had a habit of talking a great deal about what they would do when they grew to be men. One thought he would go out West and be a rich farmer, and have immense ranches of live stock, for he delighted in working with horses and cattle; one brother thought he would study law; one preferred the ministry; another wanted to be a merchant and possibly a banker; and the youngest of all, once, when but a little fellow, said most seriously that he didn't know whether to be a doctor or President of the United States. This caused an outburst of merriment for his older brothers; but they laughed just as much when one day their sister, whom I shall call Helen, told them that she had decided to study medicine and become a practicing physician.

"Oh! you are only a girl, and can never be anything more than a cipher in the world," said her eldest brother.

"And all the brothers thought it great fun that Helen wanted to be a doctor, and ridiculed the idea of a girl's entering one of the professions. There were not so many women physicians and lawyers then as now; so they only laughed at Helen, and whenever she talked of becoming a doctor they told her she was too completely their good little cipher to think of ever trying to make such a figure of herself. Yet for all this it was Helen's pet fancy for a number of years to study medicine, and many of her spare moments were spent in poring over her father's medical books, and she read all the health journals that came within her reach. And numerous were the air-castles built in which she figured largely as the heroic healer of diseases. Yet from her reading she obtained many useful hygienic ideas that were of benefit to her in after-years.

"When Helen was still only a school-girl the death-angel visited the family and took away the father of these children. Then followed a loss of property, and it became necessary for Helen to do some work for self-support. A situation in the public school, that had been left vacant by the removal of a former teacher, was secured for her.

"So I am only a cipher after all and must slide in and try to fill a vacancy left by some one else," said Helen grimly, for school-teaching was not quite to her fancy. But in time she became interested in her pupils and found that there was much enjoyment to be had even in the school-room; and gradually her old *doctoral* notions vanished and gave way to a new interest in training youthful intellects.

"For a number of years she was thus happily employed. Then again sorrow came to them in the removal of the mother from her earthly home. And another burden had fallen upon Helen; but she daily prayed for strength and guidance to better fill the void that was felt in this household. Her brothers, she well knew, still needed a mother's sympathizing love and wise counsels.

"Helen was a cipher destined to fill,

what seemed to her, some of earth's most precious places.

"One day the young pastor of the village came to her saying that he had a vacant parsonage, and a great vacancy in his heart that only she could fill; and Helen was now so accustomed to being a cipher that she gave a most happy assent, and was soon fitted into these vacancies to the young minister's complete satisfaction. And during the more than forty years of their wedded life, he many times told her that with her wisdom and goodness she filled to the brim his life with joy and gladness. And when the dear man was taken to his heavenly home, everything was filled with such loneliness that there seemed to Helen to be no more vacant places for her to occupy, and for a time she wished that she too could have died. But there yet remained for her sweetly pleasant places in the hearts of loved ones on earth."

"Oh, grandma, I know now," exclaimed Harry, "your name is Helen and you have been telling about yourself. And it was when grandpa died that you were left so lonely. Now, grandma, if you and Bessie are ciphers, then I think that ciphers are the very best things in all the world."

"And I think so too," came a voice from the open doorway where Harry's mother had stood for a few minutes listening to their conversation; and the tears shone in her eyes as she came up to them, and clasping both Bessie and grandma in her arms, she said: "And I very much fear that without these two blessed ciphers to give value to the rest of us we would be very poor figures."

Then Bessie hugged grandma so tight with her chubby arms that she could hardly get her breath. But Harry looked thoughtful, and stooping over kissed grandma right in the middle of her forehead, then very soberly he said, "I have had two arithmetic lessons to-night, and found their answers to be nearly all ciphers; I never thought before that ciphers could be so useful."

"Yes," replied his mother, "a cipher in its proper place is frequently of much more use than a very big figure with a minus sign before it. And it is not so bad a thing after all to be only a cipher if one is sure that he is fitted into the right place. For what can be more valuable in any person than to possess the rare faculty of giving value to others?"

"ERRATUM."

DIVORCE AND THE FAMILY.

ONE of our American monthlies not long since published an article entitled "Marriage and Divorce," in which the writer said: "When a divorce is asked for, it should be granted *without hesitation*."

It is to be regretted that such a false theory can find circulation. And although I do not wish to indulge in contradiction or debate, I should be derelict to the duty of my profession in allowing such an absurd statement to pass without showing that such a rash course would undermine the greatest instrument of human happiness, and destroy both the foundation of society and the cement of government.

That two persons who can not live

peacefully together should be allowed to separate will be admitted by every sane mind. But it does not therefore follow that when *any one* asks for a divorce, "it should be granted *without hesitation*." I have not space to enumerate the evils which would result from such a course. But I would ask, were such unlimited privileges to be adopted, in what home would there be contentment and security?

What husband or wife would know that any day their union might not be severed at the caprice of the other? What assurance would children have of that loving guidance and wise training, that security and protection, and the countless blessings that parents and home

were wisely designed to insure? None! Heart-breaks, deserted homes, and innocent, helpless children would count for nothing. The marriage vows would soon come to be regarded as "trifles, light as air," to be violated without consideration or sense of shame.

I must enter a protest against the teaching of a theory so glaringly opposed to all the higher sentiments of our nature, and so subversive of all that is beautiful and good in society. We can not over-estimate the importance of the family,—the grand instrumentality which Providence has instituted both for our physical preservation and our higher spiritual development. It is the primitive source of morals, the foundation of society, and the security of the State; and whatever weakens its permanence will be an active cause of its decay and ruin.

A nation is composed of families, and these are the result of marriage, and the strength of a country depends upon the perfection and observance of its marriage laws.

Hence, every nation has stamped a great value upon the family, and guarded it with most powerful sanction and laws; nor can we cultivate too carefully an influence which enters so largely into the determination of our life's weal or woe.

The influence that emanates from the family and the home is the great instrument in the formation of human character; and if this influence is to be pure and holy we must preserve our ideas of the sacred nature of marriage, and realize its importance as a social preservative and a moral necessity. It is a divine and sacred institution—a solemn ordinance of our Creator. If we would bless mankind or please God, we must fulfil its duties, which are never completed, "until death do us part." If we would enjoy its fruits and blessings, we must obey its laws and regulations,—must enter it wisely, and live it righteously. To degrade the marriage covenant is irreverence and sin.

There is an element of marriage so sacred that divorce casts a shadow over all the future life of the parties. It mars

the happiness of each, prevents the influx of joy and peace, and brings a pain and smart which proves that we can not desecrate the sacrifice which we offer to the highest and holiest relations of life without incurring penalties which no human law can avert.

What, then, is to be done? Let us turn our thoughts to the prevention of evil, rather than its cure. Let us strike at the roots of the upas-tree instead of spending our time in trying to lop off the branches. Let us, instead of granting divorces when asked for, "without hesitation," endeavor to make them *undesired*, as they always are by the truly married. . . . The root of the Divorce Evil is in allowing the young to rush thoughtlessly and ignorantly into incompatible unions. Let us create in their minds such pure and ennobling views of life and love, and such true and sacred ideas of marriage, that when contracted, divorce will be undesired and therefore unknown. Let us teach them to form such sacred relations with careful deliberation, to choose with discretion, that their after-life may be enjoyable, and not spent in repentance of an error which may never be undone. When these precautions are adopted much if not all of the misery which now appertains to mismarriage and divorce will disappear, giving place to that true marriage—that union of mind, and heart, and soul, which is the source of life's richest blessings, and its sweetest delights.

EDWARD P. JONES.

THE COST OF FUNERALS.—It is claimed by a writer that one and one-fourth more money is expended annually on funerals in the United States than is expended for public school purposes, and more than the combined gold and silver yield of the country in the year 1880. This does not include the cost of cemetery lots and burial fees. While it is quite natural to reverence the dead, it is certainly unnecessary to make extravagant expenditures in their behalf. Many poor families cripple themselves for months in order to make a last show of respect for the departed.



THE FOOD OF CHILDREN.

A CONTRIBUTOR to one of our prominent medical organs—a representative of a drug school—writes on the above topic in a style that is wholesome generally, and indicative of the progress that diet-hygiene has made in circles outside of hydropathy and vegetarianism during the past twenty years. We wish that all physicians taught as good views:

"We remember once going to see a respectable mechanic's child who had just recovered from an attack of cholera-morbus. We found the boy of three years sitting at the tea-table wrestling, and successfully too, with a dozen fried oysters, a good-sized bowl of pretty strong tea, and a mug of beer. Thanks to our subsequent—but, we also regret to add, our unrequited—skill, he escaped the dangers of a relapse, to fall a victim a year later to similar parental indulgence. Such an incident, together with many another drawn from late Christmas experience, may well point a moral as to the food of children.

"Up to two years of age, little besides milk should be given. Before this age the stomach can not bear stronger food. Even after it, and up to adolescence, great care is required in the choice of the diet. It should be simple in *quality*. Milk, oysters, eggs, plain farinaceous foods, easily digested and simply cooked meats, these should constitute the staple. Even if the children eat at the family table—

an American habit we most heartily commend, because of its happy influences on both parents and children—they should be restricted to the simpler foods. Indeed, it is to be hoped that the very difficulty of enforcing such restrictions may lead to the abandonment of the richer dishes rather than to the exclusion of the children.

"But it is especially the villainous but delightful concoctions at dessert that we must condemn. Pies and doughnuts are bad enough, but the wonderful combinations in various 'sweets' to tempt an already satisfied appetite, are well-nigh a dietetic Pandora's box to all—except the doctor. Like St. John's little book, they are sweet in the mouth, but bitter in the belly. Children should never touch them any more than the rich ragouts or the highly spiced dishes of the rest of the meal. Fruit, ripe and wholesome fruit, varied so happily in this country from month to month, should be the usual dessert, with occasionally simple puddings and the plainer cakes. The hot biscuits and various forms of breakfast cakes we would not austere exclude the whole year round from the older children, but let them be enjoyed as rarities.

"The *quantity* of food eaten is not nearly so important as its quality. Children in good health will not often overeat if the food be simple. It is the enticing superfluities that do the mischief. Fear not only 'gift-bearing Greeks,' but

gift-bearing cooks as well. If the appetite flag, and too little food be eaten, a little beef-tea, tidbits, and varieties may be used, which need not be unwholesome because uncommon.

"Many children, like many horses, thrive well on but little food. Personal idiosyncrasies must be taken into account. The scales are the best test. So long as a child gains in weight, even only slightly, parents need not, as a rule, have any anxiety.

"The *regularity* of children's diet is also of prime importance. The stomach needs its periods of rest as much as the brain or the muscles. Feeding between meals, even if the food be wholesome, is noxious; not but that occasionally some good bread and butter, or a little fruit, may be proper for a growing, romping child, but the rule should be the other way. To give candy, doughnuts, cakes, pie, etc., between meals, is unintentional cruelty. It not only cheats the stomach of its needed period of rest, but destroys the appetite for the succeeding meal. Candy in moderation, and as a dessert, may be allowed as a venial sin—certainly a winsome one; but it should be well chosen, and bought only of reliable dealers. Not a little arsenic or other poison sometimes lurks there.

"When we say 'between meals,' we do not mean that the meals shall only be three in the day. Growing children need at least one lunch, especially if the interval between breakfast and dinner be a long one. Very often children in private schools do not get dinner until two or three o'clock. Six or seven hours between meals is too long an interval without food, and every child so situated should be supplied with a hearty lunch at recess.

"The general tenor of the above remarks applies equally to children's *drinks*. Milk or water may always be given. In winter, when something hot at breakfast is desirable, chocolate and its allies may be used with advantage. Tea and coffee should never be given to young children, and only in moderation, if at all, before twenty years of age, except occasionally in cases of sickness. Among the poor especially, as our opening story shows, the vicious habit of giving tea in large quantities to young children is common, and it can not be too strongly condemned. Beer, wine, and all the stronger forms of stimulants are, *ipso facto*, the more to be condemned. Apart from the moral dangers, they are harmful physically. The parent who gives them commits well-nigh a crime."

NOTES ON GOUT.

THIS exceedingly painful disease is allied to rheumatism, having a similar origin in the altered constitution of the blood, through the presence of some poisonous substance—supposed to be lactic or uric acid. Generally uric acid is present in the serum in considerable excess, and its recognition is an important help in the diagnosis, as in rheumatism uric acid is not conspicuous. The gouty inflammation chiefly affects the small joints, and is accompanied with more pain than rheumatism, besides swelling, enlargement of the veins of the affected limb, and scaling off of the skin. The disease has a special tendency to attack the great-toe joint, but may affect

other joints of the foot, and sometimes those of the hand. It is a disease peculiar to persons of easy, luxurious habits, especially men of middle age, who indulge epicurean tastes and drink freely of spirituous and malt liquors. Hippocrates speaks of gout as the curse of God on those who spend in debauchery tribute wrung from the enslaved. Galen, in Book II. of his treatise considers gout of the same character as leprosy, and said the wealthy were stricken with it because they disregarded the commands of God in making the poor, who were not subject to the disease, their slaves, and that they raved and cursed until they took hemlock to rid them-

selves of a miserable existence. The nature of this malady does not appear to have become known until recent times, and the treatment as in the case of most blood diseases was incompetent; mediæval physicians were much in the habit of amputating the affected foot or leg in chronic cases until the appearance of the celebrated Ambrose Paré.

To-day genuine gout may be said to be rare, but the affection called rheumatic gout or arthritis is very similar in most of its phenomena, and is regarded by most physiologists as a blending of gout and rheumatism, because it implicates both the large and small joints; may attack several at once, those of the hand first, and the joints first affected usually remain the seat of the disease. The digestion is impaired; the skin shows liver and kidney derangement, and there is frequently some pleurisy associated with rheumatic gout. Very great swelling occurs in the joints, and with the absorption of the fluid that causes the distension deposits of lime are left in the tissues surrounding the bones; the structure of the joints alters, and permanent change with deformity may result. Repeated attacks increase the changes until the articulations become immovable and useless. Women are more subject to attacks of this disease than men, and unlike gout, the feeble and sickly are often subject to it. We think that very few cases of so-called gout in this country are pure, but that the term is applied to the blended form which has been briefly described.

In the outset the disease may not exhibit a very severe character, but its paroxysms or explosions of pain increase until the subject of it realizes that he has a most unwelcome visitor, and one that can not be shown the door summarily—in fact, usually insisting upon a lodgment in the tendër synovial tissue and irritated ligaments for months. As the cause is generally of long standing, so the painful effect can not be expected to disappear in a few days, whatever the treatment.

"The first thing one should do," an old New York physician says, "when he feels the pain in the joints and the veins and cords swell, is to stop his meat diet and become a vegetarian. As a rule, brown meats, game, alcoholic liquors, etc., should not be used, and rich food must not be eaten, but fruits take its place, if the patient wishes to be up again and attend to business." Some of our "advanced" doctors have been trying an exclusive "meat diet" in the treatment of rheumatism, and claim "great" results; but we have heard that these results were illusory for the most part. For gout we think that physicians of large experience are ready to testify in the words of Dr. Shew, "That there would be no difficulty in keeping off attacks if patients would only obey their



Fig. 1.—HAND SWOLLEN BY GOUT.

injunctions as to temperance and comparative abstinence from flesh meat." The diet should be farinaceous for the most part, such articles being suitable as brown (Graham) bread, macaroni, vermicelli, crushed wheat or grits, oatmeal, lentils, pease, tomatoes, celery, lettuce, baked apples, prunes, fresh fish (not oily), and fruits of the season. This kind of food will soon reduce the heat and excitement of the blood and nervous system while furnishing abundant nutrition. Seabathing proved an adjuvant to the patient whose condition when suffering from the disease is shown in the first figure, while properly applied water-treatment in connection with a judicious diet is helpful in almost any stage of the malady. The alcoholic tinctures of aconite or capsicum, arsenious acid, myrrh, potassic-iodide, colocynth, colchicum, hydrargyrum, magnesium, etc., that are

in use with some physicians, belong only to the domain of presumption and experiment, as regards any positive benefit



Fig. 2.—A GOUTY LEG.

to be derived from being swallowed by the sufferer from either gout or arthritis. A much advertised and "testimonialized" preparation for gout and rheumatism has the following among its seven or eight ingredients: Spanish wine, colocynth, quinine, some lime, salt, and

alcohol; and were the colocynth or quinine of any use their effects would be antagonized by the wine and alcohol, substances that add fuel to the flame of the inflammation.

Given an inflammation of a joint, the first step of the great majority of people is to get some scorching liniment, the basis of which is camphor and aconite with a little chloroform and a good deal of alcohol added. This may soothe the afflicted joint for a little time, but if persistently applied extends the field of suffering. The appearance of the hand in some cases is like that in the figure, and we have known the leg to be swollen to the frightful extent shown in Fig. 2, which is in fact sketched from a case occurring in New York. Dr. Marion Sims inclined to the simple hygienic treatment of rheumatic gout. On one occasion he attended a man who for five weeks had been taking little else into his stomach besides brandy. He first advised a mild



Fig. 3.—HAND DISTORTED BY RHEUMATISM.

vegetable soup, and after a few days permitted the patient to eat rice and milk, oatmeal and other farinaceous articles of

diet. The leg of this man was so immensely swollen that we can not wonder, if such cases were met with among the ancients, that Galen considered them of a leprous type. (See Fig. 4.) The distension necessitated occasional tapping, which was followed with the discharge of a large quantity of serous fluid.

The distinguished Harvey, who demonstrated the circulation of the blood, was afflicted with gout, and when a paroxysm came on was accustomed to plunge his feet into cold water, and found much relief. Such treatment might in some cases remove the seat of the disease to an internal part or the head, and there precipitate a fatal termination. Chalky concretions in the coats of the arteries and heart sometimes supervene in a case of long standing, and then follow the phenomena attendant upon the interruption of the circulation caused by the enfeebled cardiac function.



Fig. 4.—TAPPING A LEG.

The intense pain of gout and its kindred malady, rheumatic arthritis, is the first object of attention necessarily, and for its alleviation anæsthetics are commonly administered, but the mitigation of the pain is only secured in such cases at the expense of disturbed intestinal conditions, which, if kept up by repeated dosing with morphine, gelsemium, chloral, ether, or other benumbing drug will lead to organic complications even more serious than the original disease.

The application of water, however, is more potent in relieving the inflammation of an affected joint than any of the anodynes, and far less disturbing to the general system. Water is not so convenient an agent for the doctor and nurse as a few pills or powders, or a hypodermic syringe; it takes time and requires skill for its proper administration, but the result in connection with a

careful, abstemious diet, as already indicated, is permanent. Shallow baths, wet bandages, persistently kept up may be depended upon to secure relief from the torture of gout. "Nor does water act by repelling the morbid matters from the

surface, but by drawing them out." Massage or manipulation is not without good effect. Dr. Elliotson refers to it thus: "It would be well for many persons who are lame in their feet to be rubbed down once or twice a day like a horse."

EDITOR.

BIBLE SANITATION.

THERE appears to be an expectation on the part of some persons who air their views in the newspapers, that Asiatic cholera will visit America this year. Whether it does or not, if the measures of sanitation urged by them are carried into effect, they will have a good effect in the prevention of the spread of contagious disease. The cleansing and purifying of dirty streets and dwellings, and persuading people to show some respect to hygienic principles in their every-day customs, would be salutary to an extent beyond the expectation of most of us. In this connection it is not out of place to glance at what was deemed good sanitary practice in ancient times for the elimination of morbid matters and the suppression of contagious disease. Dr. Cohen, of New York, has published in the *Polyclinic* a translation of the directions given by Moses in Leviticus for dealing with infected places, as follows:

"When you shall come into the land of Canaan, which I have given you for a possession, and it happen that I should put the plague of leprosy* on a house of the land of your possession, the owner of the house shall report to the priest, 'something like a plague has appeared in my house.'

"The priest shall order the house to be emptied of its contents before he comes to look at the plague, in order that these may not be rendered unclean.† After that, he shall visit the house; if he finds there is a plague in the walls of the house, as shown by sunken places, greenish or reddish; the discoloration appearing to

be below the general level of the wall (*i. e.*, in the stone?); he shall leave the house and see that it is shut up for seven days. On the seventh day he shall return and re-examine the premises. Should the plague have spread in the walls of the house, the priest shall order all the infected stone to be removed; and they shall be cast on an unclean place *beyond* the limits of the city. *The entire interior surfaces of the walls shall be scraped*, and the rubbish shall likewise be cast without the city, on an unclean place. The stones removed shall be replaced by new stones, and the house shall be re-plastered. Then, if the plague return and propagate itself in the house after the stones have been removed, and after the house has been scraped, and after it has been re-plastered, the priest shall come and examine it again, and if he find that the plague has spread in the house, it is a destructive leprosy—the whole house is contaminated. They shall tear the house down; its stones, its timbers and all its plaster; *everything shall be cast out beyond the city.*

"If any one should enter the house during the time that it is shut up, he will be contaminated until evening.‡

"Whoever eats in the house shall wash his clothing; whoever lies down in the house shall wash his clothing.

"If, after the house has been re-plastered, the priest should find that the plague does not reappear, he shall pronounce the house clean; the leprosy is healed." (In other words, disinfection is complete.)

* Leprosy, here, is a general term to indicate infectious disease, not necessarily *lepra*.

† Religiously so, by his dictum; depriving the family unnecessarily of their clothing, household utensils, etc.

‡ For those who were unclean (*Tamd*) "until evening," certain rules of purification existed, which had to be carried out before they could be restored to the society of family and friends. Except for this limitation, "until even," their isolation would have had no definite termination. Hence the restriction.

TWO SURGICAL OPERATIONS.

IN view of the long and severe sufferings of General Grant, I feel impelled to recount two surgical operations which occurred many years ago in the seaport town of Plymouth, Devon, England. Probably they would never have been resurrected had it not been for the daily details of his patient endurance, in which the whole country is so deeply interested.

A young assistant surgeon in the British navy, named P. G. Boyle, having married a young English lady in the neighborhood of Plymouth, he being from the sister isle, but a graduate of the London College, got appointed Assistant Surgeon in the Royal Naval Hospital of Plymouth. Here, of course, he had considerable practice, in addition to what he had had on board ship.

After remaining there some time, he volunteered to go to the West Indies, for the sake of promotion. He gained promotion, but shattered his constitution. The yellow-fever raged, and while attending the sick with all the assiduity of an impulsive and sympathetic nature, and utterly neglecting himself, he caught the fever in the worst form. He returned to his family in the years of early manhood, almost a wreck; he who had gone away athletic, tall, and hardy beyond ordinary men. His hands, which were small and delicate, were particularly affected; could rarely be depended on; formerly skillful and firm, they had become almost useless; he often required assistance even to dress. However, to the amazement of all, he went to London, and succeeded in getting a pension from the British Government for his faithful services. People said it was ridiculous for so young a man to expect such a thing, and were much surprised at his success.

While visiting among his wife's friends, in the rural neighborhood of Wernburg, near the Plymouth Sound, of historic fame — endeavoring to recuperate, he heard of a poor man, a peasant, I think, who was afflicted with a disease of the tongue. Everything had been tried, and

he was then without hope, as the doctors could do nothing more for him. Hearing of the young surgeon's arrival, the sick man was very anxious to get him to examine his tongue, still fondly clinging to life, although in a frightful condition. The doctor called on him, and found it was a case which he felt certain he could cure, as his hands happened to be in a condition to make the necessary operation. It required, I suppose, great skill, firmness, and delicacy of touch, and abundant confidence in himself, all of which he possessed. I can not give the disease its technical name, but I know he effected a complete cure; the man was brought back from the very gates of death.

The story of the case spread far and wide; and when the young surgeon returned to Plymouth, he found the affair had already reached there. But he had no idea of practicing as a surgeon; he knew his hands could not always be depended on. One day, however, a wealthy lady called on him, and stated that she had heard of the remarkable cure of the countryman's tongue, and as her husband had a similar affliction, she wished he would undertake the case. They had had the best medical advice of the city, or what they considered the best, and had been told nothing more could be done for him. He declined to do anything. He knew they were rich, and could go to London or *send* for the first talent in the kingdom. He had a wife and babes, and did not wish to jeopardize his income from the Government. Besides, he did not wish to offend the older and settled medical men. But they continued to call and beg him, and even went on their knees; made extravagant promises of reward, etc., etc. At length he consented to their request. The man was cured; the young doctor ran all risks to gratify them, and they showed their appreciation by sending an ordinary fee, which might be paid for any trifling indisposition! It is needless to say that the sum was *re-*

turned! So they got their medical attendance, like the poor peasant, for nothing.

I must say this more of the surgeon: Being of an active, impulsive temperament, he could not be content to lead a life of indolence, but resolved to become a physician, which is a separate branch of the profession in England. He went to Edinburgh and was graduated; then he went on the Continent for his health, and while there was graduated in France, I think, and also in Belgium; but not long afterward died in the prime of manhood!

What I wish to advance is, that one man may have from nature that physical development, as well as mental, which

will render him peculiarly adapted to perform surgical operations; especially when he has had unusual opportunities for using his talent and skill. In addition, if he possess that equipoise which gives confidence in himself, and inspires the patient with the same quality. I do not think in saying this, I reflect on those medical men whose practice has been in a different line. They may have years and wisdom on their side, and may have a large and successful practice in the ordinary ailments of humanity, but surgery, particularly in some of its ramifications, is a different affair, requiring a special talent. I was one of the babes alluded to, and the young surgeon was my father.

GRACE H. HARR.

THE MORE NUTRITIVE, BREAD OR FLESH?

FROM an experience in observing the habits of working-people in the old and new worlds, Count de Lesseps, the distinguished engineer, is reported as making the following statement:

"One pound of dry wheat or flour is worth as much as three pounds of wet beef. Scald the pound of flour and see. You have a large quantity of mush. If you feed the cereals to cattle, as they do in England, it takes eight pounds of grain to make a pound of meat. So, why feed the grain to animal tramps? Why not eat it ourselves, and do away with a surplus population of 50,000,000 cattle, sheep, and hogs—animal tramps! England is supporting, perhaps, 82,000,000 cattle, sheep, and hogs; or rather, she supports her cattle and buys bread from America to feed her people. France supports 45,000,000 people, and about 20,000,000 cattle, hogs, and sheep. One acre of cereals in France will support five men, while it would take two acres to support one steer; and, in the end, one man would eat the steer. The advantage of cereals as to meat is therefore as five to one. So you see the steer is an unnecessary tramp. The Englishman insists on having roast-beef, every pound of which costs several pounds of cereals. The

Frenchman eats the cereals himself. He buys millions of gallons of cotton-seed oil in America at three cents per pound. This he eats in his salad, in his soup, and in his bread and pie-crust. The Frenchman refines millions of gallons of cotton-seed oil, sends it back to America, and sells it for \$2 or \$3 a gallon. Cotton-seed oil is superseding peanut oil, and olive oil is almost a thing of the past. For years the peanut crop of Tennessee and North Carolina has been sent to Marseilles and made into 'olive' oil. To-day Spain, Southern France, Italy, Turkey, and Austria are largely using American cotton-seed oil. All an Italian gentleman or laborer wants is oil, macaroni, bread, sugar, wine, or coffee. Cotton-seed oil takes the place of meat. It is strange that the Southern States have been for years throwing away millions of barrels of cotton-seed oil, and buying unhealthy lard and pork in its place. Cornmeal cooked like macaroni, with oil and cheese, is delicious food."

The venerable engineer is said to enjoy vigorous health, although at an age when most men who have survived so long are living apart from the activities of life. Is his vigor due to practicing what he is reported to preach with reference to food?

SLEEP BETTER THAN STIMULANTS.

A FARMER'S wife, thronged with work from sunrise till nine or ten o'clock in the evening, was in the habit of drinking a cup or two of strong tea in the middle of the forenoon, strong coffee at noon, and more tea for supper. Doubtless she really would, as she said, have been compelled—for a time, at least—"to give up work entirely."

One day she said apologetically :

"I know I ought not to do this. I have a sister who always takes a nap when she is tired instead of a cup of tea. She will have a sleep whether or no—work or no work. But I—what would be the consequence if I should stop for a little sleep? Why, the children might set the house on fire, or the bread-dough sour, or the beans boil dry. My cup of tea rests me or strengthens me or something. At any rate, I feel better for it, and can go right on with my work. *I must have it.*"

Circumstances often oblige us to do things against our better judgment. Perhaps this farmer's wife could have made no different arrangements, but there are hundreds doing just the same thing, *i. e.*, using stimulants instead of sleep, not because forced to do it, but through ignorance of any better way.

Now, what did the cup of tea do for this woman? She was fatigued and her nervous system exhausted—or, in other words, particles of nerve and muscle had been exercised until worn out, used up, and good for nothing more. The weariness was nature's call for rest, in order that it might have a chance to throw off this waste matter and supply new material; but the tea only stimulated the nerves—lashed them to renewed action. Stimulation is not rest, neither does it add anything to the strength.

What did sleep do for the sister? No one can assert that it excited her nerves. On the contrary, it soothed them. The tension was let up, not tightened, and a chance given for worn-out tissue to be

replaced by fresh substance in nature's own time and way.

Some physicians say that early rising is one cause of intemperance. If people would retire early as well as rise early no such evil would follow; but the trouble is they try to cut off both ends of the night.

To illustrate how insufficient sleep can cause drunkenness: Here's a half-grown boy who has been accustomed to rise at six, and is obliged suddenly to change the hour to four. How badly he feels at first; has no appetite for breakfast, and is about half sick for several hours; but just give him a cup of strong coffee or tea—why, it wakes him right up! He begins to feel first-rate, can eat now, and is soon ready for work. After a while the boy learns that tobacco will wake him up and produce an appetite, the tea and coffee being no longer sufficient, unless made unusually strong. Then bitters and tonics are needed to stir up the lagging appetite, and finally wine or beer becomes a necessity; and our half-grown boy, robbed of sleep, is in his manhood an inebriate. The better way would have been to retire as much earlier each night, and to bear with the bad feelings for a few mornings, which would soon wear off.

There was once a young man subject to bilious attacks, who had learned to sleep them off. He would sleep one day, generally two, and the nights between—not waking even to eat or drink. Had he not yielded to this inclination to sleep, had he taken stimulants and medicine, who knows but he would have had a run of bilious fever?

Sleep, if taken in the right moment, will prevent an attack of nervous headache. If the subjects of such headaches will watch the symptoms of its coming, they will notice that it begins with a feeling of weariness or heaviness. That is the time a sleep of an hour or even two, as nature guides, will effectually prevent the headache. If not taken just then it will

be too late, for after the attack is fairly under way it is impossible to get to sleep till far into the night, perhaps. The giving of anodynes and the forming of the disastrous opium habit has often arisen out of such circumstances and ignorance of the preventive value of sleep.

It is so common in these days for doctors to forbid having their patients waked

to take medicine if they are asleep when the hour comes round that the people have learned the lesson pretty well, and they generally know that sleep is better for the sick than medicine. But it is not so well known that sleep is a wonderful preventive of disease—better than tonics, regulators, and stimulants.

MRS. E. R. SHEPHERD.

MEDICAL UNCERTAINTY.

"You are sick, that's sure!" they say.

"Sick of what?" They disagree.

"'Tis the brain," says Doctor A.

"'Tis the heart," holds Doctor B.

"The liver, my life I'd lay";

"The lungs," "the lights!"

Ah me!

So ignorant of man's whole,

Of bodily organs plain to see;

So sage and certain, frank and free,

About what's under lock and key—

Man's soul.

BROWNING.

CAUSES OF "NERVOUSNESS."

WE are peculiarly a nervous, excitable, if not an irascible people. In hot haste in the matter of business, the nervous system is almost constantly thrown into a condition of its greatest tension—so to speak—while the use of excitants, such as are found in the castor, to say nothing of intoxicants, will account for some of this excitability. Under this excitement the human machine is run at a fearful rate of speed, as dangerous and as ruinous to the human organism as the same speed is to an ordinary machine. Again, our nervousness is attributable in part to a lack of nerve-food, so much of our fashionable food being bereft of some of the most important elements—the nutriment for the muscles, nerves, and brain. Late hours, also, are destructive to nerve-health. This is particularly true of our delicate females, who, as a rule, spend too great a part of the early night in reading, amusements, and recreations at home and abroad. Such can not sleep too much, particularly in the early part of the night, as much as possible before midnight.

In general terms, how much shall one sleep? This depends upon three conditions—age, health, and habits; as a general rule, the quantity of sleep being greatest in infancy, and gradually diminishes until extreme old age, when it often increases again, especially near the close of life. The young and healthy child, while the body is undergoing the rapid progress of development incident to that age, sleeps most of its time; the youth of fifteen sleeps much less, the adult still less, and the aged comparatively little. The laborious require more sleep than the sedentary, and the feeble and complaining more than the vigorous and the healthy. From ten to twelve hours for youth, from six to eight for middle age, and from four to six in advanced life in ordinary health is about what nature demands. By retiring at a certain hour regularly, we shall soon acquire the habit of waking at a certain hour, and this defies nature's demand for sleep in each individual, and no one in health should ever venture to indulge in a second nap.

NOTES IN SCIENCE AND AGRICULTURE.

The Science of Soil.—An observant correspondent of the *Germantown Telegraph* notes on this topic: "Soil, in contradistinction to mere earth, is always composed of silica, alumina, lime, magnesia, oxide of iron, salts, and decayed animal and vegetable matter. The difference then between earth and soil, technically, is that earth has its fertilizing properties either so nearly absent or so unevenly balanced as to be incapable of supporting vigorous plant-life. Soils are fertile in proportion to their combination of such elements as are required by the particular plants to be grown, and their ability to obtain and retain moisture sufficient to maintain during the growing season the activity of decay in their fertilizing components so necessary. The ideal perfection of soil and moisture is when the action of the constituents is gently vigorous while the seed is sprouting, increasing as the heat of the sun increases during summer, and slackening toward fall to ripen the plant for winter. A good soil resting on a subsoil of sand or gravel is best, because it contains heat and moisture, without too much heat, or too much wet, as a superabundance of either checks decay of the elements of the soil and stops growth. The best soil is worse than none if it does not possess a due proportion of heat, of light, and of moisture, which must also vary as the season advances.

"The effects of the different simples of which soils are composed will show what proportions are needed to improve defective ones. Silica (sand) renders a soil open, friable, and warmer; alumina (clay) has exactly the contrary effects; chalk or lime have an intermediate effect. It is evident then that a heavy, cold, wet soil requires a certain proportion of silica; while a too sandy soil will call for alumina. Sometimes merely plowing deeper to throw up the subsoil (if it is of the right kind) will restore the true balance, and an addition of well-rotted manure will obviate the usual disadvantages arising from mixing a raw subsoil with the top mold. The life of a soil depends entirely upon its power of decay under the usual seasonable changes of warmth and moisture. It is not necessary to refer to the vast power exerted on soils by the light of the sun, because no one is likely to shut out this all-powerful element from his fields.

"There is one more quality in soils equally desirable—that of supporting the plant in an upright position, as no vegetation can flourish if thrown down. A manure or fertilizer is a benefit only when it is decaying under a due amount of heat and moisture, and therefore soils to be good must be active. Commercial fertilizers are a serious damage unless moist and warm."

Recent Exploration in Africa.

The most notable African journey of discovery that was undertaken during last year

(1884) was certainly that of Mr. Joseph Thomson, who penetrated through the country of the dreaded Masai to Mount Kenia and Lakes Nawasha and Baringo. These small lakes lie in a north and south depression similar to that which contains the Dead Sea and Wady Arabah. To the east is the plateau known as Kapté in the south, and Lykipia near Naivasha, and on the west the depression is bounded by the escarpment of Mau. The depressed area is sterile, and in some parts desert, with scattered "donyos," or mountains, usually extinct volcanoes. The plateau region is diversified, and reaches 6,000, and even 8,000 feet above the sea. Parallel with the eastern escarpment run the Aberdare Mountains, which rise to 14,000 feet. Mount Kenia rises very gently from a broad base to a height of about 15,000 feet, and then shoots abruptly upwards as a more or less snow-covered peak for 3,000 feet more. Between Lake Baringo and the Victoria Nyanza lies the country of Kavironda, shown upon the maps as covered by the waters of the latter lake. Between Mombasa and the foot of Kavironda extends the broad desert of Duruma, broken only by the highland of the Wateita, with Ndara, Kasigao, and other elevations of less than six thousand feet in height. Kilimanjaro has two summits, the rugged, precipitous, and time-worn peak Kimawenzi, between 16,000 and 17,000 feet in height, probably the more ancient eruptive cone, and the grand dome of Kibo, which rises to 18,680 feet. All the volcanoes of the region are extinct save one to the west of Kilimanjaro. Numerous streams flow from the southern side of this mountain, and the district is described both by Mr. Thomson and by Mr. H. H. Johnson, who has since resided with Chief Mandara, as lovely in the extreme and clothed with exuberant vegetation. The Masai appear to be a unique race, feeding entirely on meat and milk, and living by war and cattle-stealing.

One of the least-known regions of Africa is that which lies between Abyssinia, the great lakes of the Nile, and the Indian Ocean and Red Sea, and is occupied by the Gallas and Somalis. The attempt of M. Georges Revoil to explore the Somali peninsula resulted in a precipitate retreat—a veritable race for life—and death has been the fate of most of the travellers who during recent years have ventured too far into those regions. The Somali country is a land of steppes, often stony, but occasionally grassy, and the natives are fanatical Mussulmans, always at war among themselves or with their neighbors, and jealous of all intruders. A central district, south of Harrar, is known as Ogadine. In spite of warnings from the Sultan of this region not to proceed, the Italian traveller, Sacconi, persisted, and was attacked and killed while his guards were asleep.

Chinese Imitation of European Goods.—A Hong-Kong letter remarks on this topic: "The imitative quality of the Chinese extends even to counterfeiting European and American labels and trade-marks. The knowledge of certain small articles of foreign make has created a desire for them in China and an effort to imitate them. So we find at the small shops Chinese-made clocks and watches, and at the stands of the street vendor combs, tooth-brushes, shoe-horns, pocket-cutlery, and razors, which are vastly inferior to the foreign goods, but as the price is as low as the quality is poor, no one can reasonably complain. The knives and razors often bear very distinctly the brands of Sheffield firms whose names are household words wherever the English language is spoken. These knives are sold for 5 or 6 cents each, while the razors, Sheffield brand and all, can be bought for 15 cents. The last implements are roughly made, and to the thin-skinned man a torture to look at, but with the other articles enumerated they show to what an extent Chinese manufactures can be carried, and at what rates, defying competition, they can be furnished to the consumers. The reasons why the Chinese can make and sell so cheaply as to put competition entirely out of the question is the contracted quarters in which they can do business, the cheapness of their food and clothing, their economical, or, more justly, their sordid habits, which have been so often described in the general discussion of the Chinese question in America as to render all detail unnecessary in this place."

Vegetation and Altitude.—Prof. Rothwik says on this point in the *Gardener's Monthly*: "What prevents all plants from spreading over the entire globe? There are two reasons—first, unfavorable climate, and second, a preoccupation of the soil may prevent a new-comer from gaining a foothold in a land unless specially adapted to the new situation. Before a plant or a seed can begin to grow at all, it is requisite that the air have a certain temperature; before it can flower, a definite increase of heat must be had, and a still further increase before it can ripen its fruit. These temperatures vary for different plants, but appear to be quite constant for the same species wherever found. This being the case, one can well understand the importance of temperature in limiting vegetable distribution. Taking a mountain at the level of the sea, if it be possible, in equatorial regions, one may, by ascending its slope from the base to the summit, pass through the following zones of vegetation: 1st, palms; 2d, banana, bread fruit, and date palm; 3d, coffee, sugar, and cotton; 4th, Indian corn, wheat, grapes; 5th, barley and oats; 6th, birches; 7th, lichens. These zones correspond with those observed in going from the equator toward the poles. Hence, then, one can see that latitude and altitude come to be the measure of each other. For the western coast of Europe it has been estimated

that two hundred and sixty-seven feet of altitude produces as much change in the flora as going north one degree of latitude would do, and in tropical America the same result is gained by an elevation of three hundred and twenty-eight feet. The action upon each other of man and the cereal grains has been reciprocal; for while he has carried them around the globe, they have aided in raising the human race from uncivilized wandering herdsmen to civilized communities, which remain stationary, and hence produce the works of art, the wonders of architecture, and the settled habits upon which high mental character, or great national strength, 'in the long run,' depend."

A Theory for the Action of Oil ON DISTURBED WATER.—It is a well-authenticated fact of late years, that a barrel or more of oil poured overboard during a violent storm, will produce a calm in the immediate neighborhood of the vessel. This wonderful effect from so apparently trifling an agency can only be accounted for on the supposition that the volume and height of the waves are caused by the electricity (that is always abundantly present in the salt ocean) seeking to reach its opposite in the clouds above, and as oil is a non-conductor, the slightest film of it on the water suffices to interrupt this attraction between the electric currents of sea and cloud.

G. B. K.

Petroleum as a Wood Preserver.—To the line upon line of practical tests long continued with petroleum for shingles, latticework, the timber part of tools, in short, all wood exposed to weather, a *Rural New-Yorker* correspondent adds this strong confirmation:

"Fresh, light petroleum, if applied warm, will penetrate—if the wood is dry—almost as readily as water, and once thoroughly saturated 'it is there to stay'—water will not wash it out. I have been for years a producer of crude petroleum, and have yet to find a board or piece of timber connected, or otherwise, with the works, that had been once saturated, which is not sound where the oil touched, while frequently parts not oiled have decayed rapidly. I have just finished taking down and making over into smaller ones, a wooden storage tank. This was first built over eighteen years ago, and left exposed to all kinds of weather. We did not find one rotten spot in it; everything was sound. I have known oil barrels, and also small tanks, to be covered with a thin layer of earth and remain so, in one case over fourteen years, and come out sound."

He especially states that saturated with this moisture-repellant from nature's own marvellous laboratory, sills of barns and similar buildings will outlast any other part of the frame; and he remarks that, after the first two or three days, the application does not expose wood to any increased risk from fire.

Compressed Air as a Motor by WHOLESALE.—A company has been chartered in Birmingham, England, to supply compressed air to small manufacturers for the purpose of driving their steam engines. They will in this way dispense with the expense, trouble, and responsibility of boilers. Double mains are to be laid down in order to avoid interruption, and a meter has been provided which registers the quantity of air consumed and its pressure. The company allows ten per cent. for loss by friction, and the same for leakage, and makes its estimates in accordance with these figures. It is intended to work over an area of $2\frac{1}{2}$ square miles. This scheme is one which will be watched with great interest by engineers. The difficulties of transmitting power by means of compressed air, which were formerly very great, have, by the introduction of better forms of air compressors, and more economical engines, been greatly reduced. Whether compressed air can be used for the distribution of power as cheaply as electricity, remains to be seen. One of the English papers estimates that gas engines will be much more economical. The transmission of power is commercially one of the most promising of all the mechanical problems of the day. Ordinary methods are notoriously imperfect, and their imperfection is far greater in practice than in theory. Shafts and belting, while answering reasonably well and working with a very small amount of loss in the hands of experienced and careful men, are, in the hands of the ordinary workman, very wasteful.

A Sea Walf.—The *Annie Johnson*, formerly the *Ada Iredale*, an iron bark now in this port, has a strange history. While carrying coal three years ago, she took fire and was abandoned. She drifted about the Pacific Ocean for nine months, and was then towed by a French gun-boat to Tahiti, where she lay five months longer before the fire in her hold subsided. She was then purchased by a San Franciscan and refitted, and has since made voyages to several places. There is but one other iron American bark afloat.

London Automatic Post-Offices.—A London paper describes a novel plan for supplying stationery to railway passengers. In nearly every railway station is a small box on legs, painted crimson, which may be called an automatic post-office. It is divided in two compartments. On the top are apertures admitting a penny, one being for postal cards and the other for envelopes. You drop a penny through the slot and open a little drawer beneath, and presto! you find a postal card. Drop two pennies in the right-hand slot, open a corresponding drawer, and you find a stamped envelope containing a dainty sheet of note paper. These little conveniences are the property of a company (limited, of course). The profit must be very small, and only on the envelope and sheet of note paper. It may

consist in its conveniently getting out of order occasionally and refusing to deliver; your penny has gone in and can not be got out, and there is no satisfaction to be had by ob-jurgating the box. You can't get the best of it by dropping in a bad penny, as if not full weight it refuses to deliver, and keeps your short coin, confiscating that as a punishment for your attempt to cheat. It has a golden rule that works only one way.

Progress by the American Negro.

—The Southern Exposition contains in itself indications of advancement by the colored man. An excellent commentary is the following extract from a sermon by Rev. A. D. Mayo, preached in Music Hall, New Orleans, March 1st: "Next to this, and a part of it, this Exposition proclaims the true American idea: That the laboring man shall be given every American chance, and that there shall be no respect of persons in this training for intelligent work. So, for the first time, the American colored citizen has been invited to come up and show what he has done. He can not show the best of it, for he has been at work the last twenty years largely in the old, unskilled way. Yet he has done a good man's work, without which no Southern State would be what it is here to-day. He has multiplied himself to 6,000,000, lived better every year, and comes here holding his big pocketbook, stuffed with \$100,000,000 of the national currency, the savings of his first generation of freedom. And here he shows us some of his efforts in skilled labor and in invention. I am not surprised, for I have been among our superior colored youth for five years past, and know what they are doing, what they can do, and what they are going to do for the uplifting of the South in the next fifty years. If any man tells me the colored American can not be educated up to an intelligent, industrious, and worthy citizenship, in the words of Gov. Thompson of South Carolina: 'If he can not, he will be the first man in the world who has failed to respond to education.' He is here to-day with his response. So I am not concerned to discuss his future with any man who is indulging in gloomy predictions concerning it. To all such arguments, however ingenious, I simply reply: Let the people of the United States do just what this Exposition has done,—give him the fundamental American chance, all the schooling he can thoroughly use; a fair day's wages for a fair day's work; justice and protection before the law; respect and consideration, according to his character, intelligence, and real success in life,—and he will have no favors to ask of anybody in half a century from to-day."

Right Civilization among the INDIANS.—A correspondent writes to the *Atlanta Constitution* these cheering words on Indian docility under proper instruction: "I made a little trip up in the Indian nation among the Choctaws and Chickasaws. I found a quiet little town, with about 1,000 inhabitants, most of them akin to Indians,

and many of the white people from Georgia. A very intelligent Baptist minister, who has been living there thirty-six years, told me all about things, and informed me that no white man could occupy any lands in the nation unless he had a license to trade or had intermarried with the Indians. He showed me his own house and grounds, and when I asked him how he acquired the right, to my great surprise he answered: 'Why, I married an Indian!' He had children and grandchildren, and they impressed me with their fine forms and beautiful eyes and hair. My landlord was an old Georgian, and his educated Indian wife was a splendid specimen of a wife and mother. The children were well mannered and smart and handsome. Another gentleman told me he was teaching a school at one of the missions. He was an elderly gentleman, and they called him doctor, and as he was very communicative, I ventured to ask him if the grandchildren of these intermarriages of whites with Indians were healthy and vigorous. He smiled at me and said: 'Well, yes, I think so—mine are.' Shortly afterward his Indian wife came into the store, and was introduced. That night the Rev. Dr. Wright called on me. He is a full-blooded Choctaw—a Presbyterian minister of gentle manners and fine intelligence. Here are the Cherokees, and Creeks, and Choctaws, and Chickasaws in this Territory, and they all live in good, comfortable houses, and have schools and churches, and many of them would ornament any society, however cultivated. There are no distilleries in the nation, no saloons, no gambling-houses, and when a disturber of the public peace intrudes himself there he is promptly suppressed and expelled. They have a better government to-day than any in the States. When a white man wants to be a trader in any of their towns, he has got to get a recommendation from ten leading citizens, and then his petition goes to the governor or chief, and if it is approved by him it is sent to Washington city to be approved by the Secretary of the Interior."

How to Tan Sheepskins.—To those who occasionally kill a sheep, we would say remember the following recipe for tanning a sheepskin. They make the best kind of mats for the house or carriage, and a good Cotswold skin well tanned makes a good cushion for the wagon seat, and for many uses it is valuable. "For mats, take two long wool skins and make a strong suds, using hot water; when it is cold wash the skins in it, carefully squeezing them between the hands to get the dirt out of the wool, then wash the soap out with cold, clear water. Then dissolve alum and salt, each a half pound, with a little hot water sufficient to cover the skins and let them soak in it overnight for twelve hours, then hang over a pail to drain. When they are well drained spread or stretch carefully over a board to dry. When a little damp, have one ounce of saltpetre and alum

pulverized and sprinkled on the flesh side of each skin, rubbing in well; then lay the flesh sides together and hang in the shade for two or three days, turning the under skin uppermost every day until perfectly dry, then scrape the flesh side with a blunt knife to remove any remaining scraps of flesh. Trim off projecting points; rub the flesh side with the hands, and they will be very white and handsome, suitable for a door or carriage mat. They also make good mittens. Lambskins or even sheepskins, if the wool be trimmed off evenly to a half or three-fourths of an inch long, make beautiful and warm mittens for ladies and gentlemen, and the girls with a little practice can make them."

Advantages of the Country Boy.

—The Iowa *Homestead* does not exaggerate the advantages possessed by country boys when it says: "The country lad who is trained to simple ways and homely virtues, and who learns what a dollar is worth by actually earning it, under the laws of imperative necessity, has a tremendous advantage over the town boy. The country schools are far inferior to the town or city schools, but this is far more than counterbalanced by the fact that the country boy is trained to work from the time he can pick up corn cobs to run the kitchen stove, till he goes out to his own home. The country boy has a mile or so of walk to and from school which gives him vigorous appetite and health. The country boy or girl is face to face with practical realities. He sees how slowly money is made on the farm, he is taught from youth up the need of economy, he has the nature of *saving* first explained to him every day in the week; he is not exposed to the temptation of the saloon, or the ball-room, and he is not tempted so much to be a lady's man before he has occasion to use a razor on his downy cheeks. He may be a trifle rude, he may not feel easy in company, but in the long, closely contested race of life, it is the chap that trudges to school barefooted in summer, and in stogies in the winter, whose mother cuts his hair with the sheep shears, that leads the chap that goes to the city school, with the starched shirt front and fancy slippers, and whose head is shaved with the lawn mower in the barber shops. Such has been our observation, and we think we know what we are talking about. Speaking from experience, we never read any books with such avidity as those we devoured while the horses were resting at the end of the plow land. The boys we envied forty years ago, because they wore cassimere and laughed at our jeans, have dropped so far back in the race that we have almost forgotten them. The chaps who had plenty of money at college, and the city-bred fellows, have not been as a rule heard from much since, while the country boys who wore plain clothes and kept close to their books in the old college, are leading the thought of Iowa and other States to-day."



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UTILITY OF PHRENOLOGY.—No. 5.

THE NECESSITY OF ADAPTATION.

DANIEL WEBSTER, in an address before the American Senate, once said, *Quisque suae fortunae faber* (each is the maker of his fortune), uttering a thought that is in most respects true, for no man achieves positive success without putting into exercise the talents and powers given him by nature, and persistently keeping in view some object as the goal he would reach.

Very few, however, of the world's great men can be said to have won their success without help of some kind that was given in their early life. A cultured father, a wise, judicious mother, a solicitous teacher, or some kind friend who tendered good advice was the inspiring, directing influence that set them on their auspicious way. Often it is the reading of a good book that inflames the young man's soul with a purpose and ardor. Cæsar Augustus owed his success in government largely to the early teachings of Philippus, who saw that the noble youth was endowed with great powers by nature. The military achievements of Miltiades spurred the boy Themistocles to

effort that he might prepare himself to be a leader of his countrymen and victorious over their enemies. William Pitt exceeded his great father, but that father studiously sought to develop the intellectual gifts of his son when a mere boy. Abraham Lincoln, like George Washington, owed his advancement in life in a great degree to her whose motherly solicitude watched his youthful development. The encouragement of Burton led Charlotte Cushman on in her career to high popularity in tragedy. Daniel Webster was accustomed to speak in grateful terms of the influence that Dr. Abbot, of Phillips Academy, had upon his life. These fell into channels for which they were adapted by nature and the cheerful admonitions of friends tided them on to success.

"Happy," says Carlyle, "is the man that hath found his work."

Surely, it is but a right born with man that he should live and labor in his proper sphere, but such is the mixed state of affairs human that very few persons in a given community find their proper places. Albeit, the great majority are not endowed with shining gifts of intellect and energy, but each can do some one thing better than anything else. The necessity for procuring employment that confronts most youths ere they have emerged from the common school, leads them to accept the first opportunity of earning a few dollars a week; and although they may feel that the place is not according to their mould, they keep in it year after year, fearing to try anything else lest it should prove a pecuniary loss. Thus it is that many who would show decided talent in a favorable environment go on from year to year in a monotonous round of duty, exhibiting

no more than commonplace ability. As a writer has said, "There are poets who 'die with all their music in them,' scholars to whom the ample page of learning is never unrolled, generals who never see a battle-field. We often find the 'round man' in the 'square hole,' and the 'square man' in the 'round hole,' while some unfortunate men and women seem never to find a place where they may work to any advantage."

It is well enough to preach faith and trust to such persons, to moralize on the beauty and credit of patience and resignation in circumstances that are uncongenial. "They also serve who only stand and wait." Yes, this may be so if the standing and waiting be compulsory. But when there is offered a means that will help to set this important relation of man more nearly to his liking, it were folly not to accept its benevolent offices. Even to those unhappy ones who labor in severe and disagreeable pursuits, and can not expect a change, the ministration of Phrenology may come with much of comfort, clearing up many difficulties in their course, and suggesting possibilities of a better adjustment through patient mental discipline. It is a mistake to say that the science of Gall and Spurzheim tends to make men dissatisfied with their work. No; while it helps them to recognize the sphere that is suited to their capacity, it is the messenger of peace and good-will to those who struggle with adverse fortune, and its precepts echo the injunction of the apostle: "Whatsoever thy hand findeth to do, do it with thy might"; accepting persevering industry as one of the best means to personal advancement.

The developments of practical Phrenology often have their amusing side.

Recently a fact has come to our knowledge that is as droll as it is interesting. A few years ago Professor Nelson Sizer delivered a lecture on the "Choice of Pursuits," before the students of Packard's Business College, New York, and among his "illustrations" was a tall, broad-shouldered young man, who was told, "You ought to be a milliner; you have the artistic taste, the sense of the beautiful and decorative, a keen appreciation of color, the talent for design, and that ready tact and invention which would study style, elegance, and ornament, and that nimbleness of manipulation necessary to do the work of the milliner if it were required. If you were in the business you would design, and, with your own hands, trim model hats for the show-case." After that the student was called "the milliner," as a bit of pleasantry by Prof. Packard and the students, and at the close of the school term he said to the president:

"Mr. Packard, you all take pleasure in rallying me on being a milliner, but there is more truth in it than any of you think; for having four sisters, I have for two years purchased all the material for their hats and dresses, and have with my own hands made and trimmed their hats to their entire satisfaction, and there is nothing nicer, the girls think, in the market. The public of course do not think I do it."

At the time we write this young man is established in the millinery and dress-making business, having finished a course of preparation for that vocation by a visit to Europe, where he studied the art of the modiste.

Many young men have a strong liking to engage in a certain pursuit because they know persons who have won reputa-

cion or fortune in it with seeming ease, and they think that they might do the same, while in fact they have little fitness by organization for it. This is one way in which mistakes are made. The profession of law and medicine, teaching and art are overcrowded, for one conspicuous reason among others, that young men and young women think they offer remunerative employment that is at once highly respectable and not very difficult, and realization comes in the trial that in them, as in other callings, capability bears a close relation to success, and that a mere liking does not imply adaptation. A young man consulted the writer with regard to studying the law; he had long entertained a liking for it. We told him that he was better fitted for an active, out-of-door pursuit; having good language, large observing organs, a ready judgment of character, a frank, generous manner, with the Motive-Vital temperament. We suggested that he would probably do well as an agent, say of life or fire insurance, or as a travelling salesman. He subsequently obtained a place with an insurance company, and has done well—beyond his expectations.

We knew a successful minister, who was also a good farmer; his robust propensities found normal exercise on his farm, while his intellect and moral sentiments graced the pulpit.

A man with large Constructiveness and the Motive temperament will find much satisfaction in a pursuit that gives him opportunities to use tools. He who has a head broad in Destructiveness, full back of the ears, and high in the crown, needs something besides a pen and a set of books for his daily occupation. We knew a man with a narrow head, high and rounded in the forehead and sincip-

ital region, and whose organization was well marked, with the Mental temperament. He had somehow stumbled into the trade of the butcher, but his sensitive nature loathed it, while the cares of a growing family prevented him from trying something else. He had a good intellect, and managed his business well. He died in his prime, a melancholy man, whose death we are sure was hastened by the inharmony of the calling he felt compelled to follow.

And so thousands of lives in the broad array of society are wrecked, or saddened and shortened by being out of place. It must be admitted that a great part of the suffering and misfortune we are forced to contemplate arises from imprudence and carelessness in habit and mode of life, aside from error in the direction of effort, yet were nearly all on whom the necessity of constant labor is imposed in occupations suited to their temperament and mental faculties, a vast amount of the disaffection and suffering, of the vice and crime that surround us would be eliminated. In that day when "they shall sit every man under his own vine and under his own fig-tree, and none shall make them afraid," which is predicted by the ancient seer Micah, there will be few out of place, for knowledge will cover the earth, "as the waters cover the sea." In that era, it is fair to presume that self-knowledge will be an essential part of education, and growth of body and mind will be symmetrical and harmonious.

One of the best sentiments put on paper by the poet Longfellow was written near the close of his life, and the fruit of his maturest experience, as follows :

" Let him not boast who puts his armor on
As he who puts it off, the battle done.
Study yourselves ; and most of all note well
Wherein kind Nature meant you to excel."

IMPERFECT OBSERVATIONS.

THE Fuegians are commonly regarded by ethnologists as among the very lowest of the human races in mental development; two or three authorities speaking of them as little removed from animals. A recent traveller in South America, Dr. Hyndes, is reported as saying of these people:

"Their language contains no word for any number above three; they are unable to distinguish one color from another; they have no religion and no funeral rites, and they possess neither chiefs nor slaves. Their only weapons are bone-pointed spears, and, as they grow neither fruits nor vegetables, and their country is naturally barren, they are obliged to live entirely on animal food. But they possess, however, some social virtues. They are not cannibals, they ill-treat neither women nor the old, and they are not monogamous."

But quite another view of these people is that given by Dr. Prichard in his "Natural History of Man," as published forty years ago. He describes them as a wandering race, traversing incessantly all the shores of the Land of Fire, subsisting by hunting and fishing, the latter chiefly on account of the desolate character of their country; as that is cut up into a multitude of islands they are naturally or of necessity sailors, and spend a large part of their time in the water. Their canoes are made of bark sewn together with the tendons of animals; and considering the materials of which these frail vessels are constructed, the Fuegians exhibit not a little skill in putting them together. When sick their "medicine" woman goes through a performance analogous to that of the "medicine-man" of the North American Indian. She addresses magical words to

an invisible being. Their weapons, religion, and custom in painting the face are similar to those of neighboring races, the Patagonians, Puelches, and Araucans, while their features and stature have much resemblance to the last-named people.

The Fuegians do not possess the fierce disposition usually manifested by the hunter races, but are mild and obliging. As regards the variation of opinion with regard to religion it may be explained by some remarks made to us by Mr. G. N. Morton, who has travelled in South America and learned something of these people. He, in reply to inquiry, stated that the Fuegians were very reticent in matters of religion, especially in the presence of strangers, and that one might live some time among them without discovering their peculiarity of worship.

Boyd Dawkins, in his account of prehistoric man in Britain, mentions the Fuegians as being considered among those savage races that are without religious elements. We are of opinion that there exists no human tribe without some form of worship, some positive expression of their recognition of a Divine power, and that all reports to the contrary are drawn from insufficient observations, as in the case of the Fuegians.

IS IT WAR?

THE growling of the war-dogs comes to our ear from across the sea, and a conflict between two great nations appears to be imminent. What is the cause or pretext for the unfriendly relations between England and Russia? Simply the old greed for more territory. This time it is Russia that is reaching lower toward the Arabian Sea, anxious

as ever for a southern outlet for her marine. Balked in her last endeavor to reach the Mediterranean through the interference chiefly of England, the great Slavic power has been waiting an opportunity to strike a blow at British power in the East, and avenge the beatings of the past on the martial field and at the diplomatic conference. In Egypt and India England has added to her territory, why not Russia? It is but a question of might; the array of bayonets and cannon compelling the assent of an unwilling people. But unfortunate in her campaign against the semi-barbarous tribes of the Soudan, marshalled by the cunning Mahdi, and knowing the great sacrifices of treasure and life that a war with the unscrupulous Muscovite would cost an overtaxed and discontented people, the English Government is very reasonably unwilling to enter upon one. We esteem Mr. Gladstone for his peaceful disposition; we hope that the earnest endeavors of his ministry to bring about a composition of the Afghan difficulties will succeed. "Blessed are the peace-makers!"

It seems to us that the people whose voice is for war, and who speak in such strong terms about national honor, and the necessity of redressing grievances, do not realize the horrible effects of war; and the fact that in any conflict of magnitude between two nations, what is gained in money or territory by one does not by any means compensate for the positive losses to that one. The picture written by Sidney Smith of the deplorable results of battle is always pertinent when considering the attitude of two peoples whose "strained relations" border on a sanguinary rupture:

"If three men were to have their legs

and arms broken, and were to remain all night exposed to the inclemency of the weather, the whole country would be in a state of the most dreadful agitation. Look at the wholesale deaths on a field of battle, ten acres covered with dead, and half-dead, and dying; and the shrieks of many thousand human beings. There is more of misery inflicted on mankind by one year of war than by all the civil peculations and aggressions of a century. Yet it is a state into which the mass of mankind rush with the greatest avidity, hailing official murderers in scarlet, gold, and cock's feathers as the greatest and most glorious of human creatures. It is the business of every wise and good man to set himself against this passion for military glory, which really seems the most fruitful source of human misery."

NATIONAL SALUTATIONS.

THERE is much of character and life crystallized in the common salutations of different people. Take a superficial view merely of some of them and this is clear enough. A Frenchman asks, "How do you carry yourself?" in which there is an intimation that the idea relates to the personal bearing, the manner in which one walks expressing the condition of body and mind. The old reputation of the French people for politeness is wrought into the form of their address.

The German says, laconically, "How goes it?"—that shows the rugged, direct spirit of the Teutonic people, and contrasts with the rounded phrase of the Frenchman.

In the "How do you sail?" of the Netherlander we recognize something of the history of a people once most powerful on the sea. The relations of the Dutch merchants to the Hanseatic league is probably the most interesting

chapter in the romantic story of a renowned mediæval combination.

When a Spaniard says, "How do you stand?" he may think of the days of Spanish pre-eminence for conquest and power, or he may have reference to one's position in the social scale, as pride of birth has been a marked element in the character of Spaniards of the better classes.

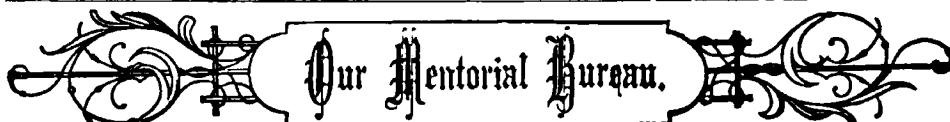
The "How do you do?" of the Englishman carries a flavor of activity and enterprise in spite of its absurd verbal construction. The people of the British islands and their kindred of the same tongue have been known for centuries for doing, doing, doing in some direction or many directions at once. And it is not strange that the idea of employment, accomplishment, and progress should be crystallized in their commonest phraseology. It is allied to the *Quid agis* of

the old Roman, and there is a similarity of character between the ancient race of Italy and the modern one of Britain.

"Have you eaten your rice?" is plainly significant of a great industry carried on by the Chinese people, and also alludes half-pathetically to their widespread poverty—the fact of having taken a substantial meal being worthy of signal mention.

In Egypt they accost one another with "How do you perspire?" and it needs but a modicum of knowledge concerning the climate of the great Nile country to perceive the appropriateness of such an inquiry. The English military operations in the Soudan are much hampered at this early part of the year by the exhausting heat.

These few remarks are suggestive of further analysis of national salutations, as the subject is seen to possess a range of interest by no means inconsiderable.



To Our Correspondents.

QUESTIONS OF 'GENERAL INTEREST' ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE CONTRIBUTIONS unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

KOUMISS.—X.—As this much advertised "food for invalids" is merely fermented milk, a fermentation produced artificially, which necessarily alters the constitution of the milk, and imparts an alcoholic or ethylic quality, we do not favor its use, any more than we approve beer or lager in the treatment of the anæmic. Some physicians advise its use with the proviso that the milk must not be curdled, as that indicates that the fermentation has been overdone; but we think that the stuff is as likely to prove deleterious if the carbonization be underdone, while the margin of likelihood in opening the bottle at just the right time is so small that it should preclude the use of "koumiss" altogether. For many years physicians were in the habit of dilating on the "great virtues" of beef tea, which has been discarded as the veriest slops

by all who are acquainted with the principles of chemistry. So it will be, we think, with "kou-misa."

INEQUALITY OF SIDES OF HEAD.—

F. W. G.—A few months since this subject was discussed in reply to a correspondent, and some of the reasons given for the unequal development of the hemispheres. In the lady's case we think the reason was insufficient nutrition in early life, or a sickly habit. Her case coincides with the usual manifestation as we find it, the left hemisphere being the larger. In reading the development, therefore, it is the rule to take the indications of the larger side, bearing in mind, of course, the temperament, and exercising care with regard to possible deformity of cranium.

A Valparaiso, Ind., correspondent sends a similar inquiry, in which he cites two instances. Will he be kind enough to send us his observations of the character of the persons mentioned.

TEMPERAMENT—POSITIVE AND NEGATIVE.—

S. C. B.—The influence of temperament upon the brain organs and the facultative expression of mind is differential in activity. The mental temperament inspires facility of inter-operation, renders the perception prompt, and the ratiocinative processes quick. In expression or manifestation of feeling the vital temperament is most influential, and therefore may be said to be positive in its nature. The mental also leans to the same side, while the motive temperament, being much slower in its influence, although impressing much strength upon the operation of the organs, inclines to what may be called the negative side—being less reflective of external impressions. The temperaments, however, may be said to have each both positive and negative phases, according to the organic development. A cautious, subtle character, with a moderate development of the perceptive intellect, may be allied to a vital temperament, and exhibit negative qualities, and the mental temperament may be associated with a close, reserved organism, so that the man appears to be a mere absorbent, and yields little for the edification of others.

ENGLISH DICTIONARY.—F. M. B.—Any of the larger dictionaries will help you in the study of language, Webster, Worcester, Stormonth, or the Imperial. A very good word-book, although not very comprehensive, is the Readable Dictionary, which we have had occasion to examine occasionally.

MESMERISM AS A CURATIVE.—

M. E. E.—In the treatment of diseases mesmerism, or hypnotism, has been often found of great efficacy. You will find in the volume by Deleuze many facts relating to the subject. Drs. Elliotson and Esdaile, eminent English physicians, employed mesmerism in their practice to a considerable extent, and produced many remarkable results. In nervous com-

plaints it is especially effective. We know of cases of neuralgia that had resisted the utmost skill of good physicians, but yielded to the hand of the magnetizer. We also know of painful surgical operations being performed upon hypnotized patients, who were entirely unconscious of pain.

CATARRHAL DISORDERS.—W. S.—To cure one suffering with a catarrhal affection the treatment must be constitutional,—the circulation must be improved, the blood purified. No drug medication can accomplish this; only correct habits in eating, dress, exercise, etc. You will find a discussion of the subject in "Health Miscellany." See our catalogue of publications.

BAD SMELLS.—N. G.—It is the opinion of physiologists that bad odors are not in themselves specially injurious to health, but the bad company they bring with them in the shape of organic germs does the mischief. Sulphureted hydrogen or carbureted hydrogen that proceeds so abundantly from sewage, is not perceptibly deleterious to health. When produced in the laboratory by mixing pure chemicals, these are almost harmless, but from sewage they bring microbes that are intensely poisonous, though these microbes alone may have no perceptible odor.

MIND AND DISEASE.—C.—Yes, the influence of the mind upon the body, for sickness or health, is beyond all estimation. "For a person to think he has a disease will often produce that disease. This we see effected when the mind is intensely concentrated upon the disease of another. It is found in hospitals that surgeons and physicians who make a specialty of a certain disease, are liable to contract it themselves; and mental power is so great that sometimes people die of diseases which they only have in imagination. Well persons, to remain well, should remain cheerful and happy; and sick persons should have their attention drawn as much as possible from themselves. It is by their faith men are saved, and it is by their faith that men die. If he will not to die, he can often live in spite of disease; and if he have little attachment for life he may slip away as easily as a child will fall asleep."

BLACK HEADS.—CONEDONES. C. N.

—Those troublesome foils to beauty of feature are due to local accumulations of effete matter which the skin is not able to throw out, and in their turn indicate an impure state of the blood. A clean, easily converted diet, plenty of out-of-door exercise, frequent bathing at proper times, will do the most toward relieving the skin of the blotches.

IMPERFECT ADDRESS.—An M. D. of Stockton, no State, complains of inattention to an inquiry sent us "some weeks ago." His second letter, like his first, does not tell us in what part of the continent he lives.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

THE "NEW PHRENOLOGY."—In the *Kansas City Review*, for April, there was an article with the above heading. Of course it attracted my attention. As a phrenologist I am always anxious to learn what I can *new* on this point; but from former experiences I did not expect much from such an article, and I was not disappointed. It is surprising how many people not familiar with the teachings of the science, regard Phrenology. Some of its opponents, though, from time to time are impressed with certain of its truths, but instead of commencing where phrenologists have commenced, they go over its field of demonstration very superficially, and then want to instruct those who have years ago gone over the ground in the most thorough manner.

In some respects our experience as a phrenologist is much like that of a librarian of a large library, where are gathered thousands of books, by a great number of authors. A person who has a few dozen books wants to dispose of them to the library. They may be valuable books. He does not think that they may already be in the library, and so it does not occur to him to first ascertain if such works are there. He assumes that they are not. So with much confidence and assurance he sends his books to the librarian, expecting that the next mail will bring him a complimentary letter, and a handsome offer. Instead, he is informed in the fewest words, and in a very formal manner, that said books are already in the library, and that the library has a number of duplicates which it would be glad to dispose of.

The author of the "New Phrenology," after stating some good things—things that no phrenologist would be displeased with or disposed to contradict—goes on to ask a few questions, and concludes with the remark, "that is as far as we have gone, and it is at least a different view of affairs from that which held the world so long." He evidently thinks he has advanced some great truths.

The story is told of a rather weak lawyer who had a case in court. He had exhausted his small supply of knowledge in an argument, and the judge had ruled unfavorably. In despair he finally turned and asked the judge what he should do. The judge quietly replied that he thought he had better employ a lawyer.

Now these men who write thus about Phrenology, and who think they have made some wonderful discovery, had better apply themselves to the subject, and acquire a knowledge of the state of the science up to date. Then they will be in possession of certain fundamental truths that may, as the years roll round,

if they are earnest students, lead them up to other and greater truths, whereby they can more fully understand the subject, and so comprehend what the masters in this line really accomplished.

I. P. NOYES.

ALIMENTIVENESS AND INTEMPERANCE.

—If a person from a child could always have the right kind and quantity of food, Alimentiveness would never become perverted; but many from infancy are given highly-seasoned food, with spices and condiments of all kinds, to which are added bread made of superfine or white flour, with tea, coffee, etc., and after using all these, if the child shows symptoms of debility—and what child would not, brought up under such dietetic habits?—then to relieve him some poisonous drug is given that may relieve his pain or disorder for the time being, but which in reality is but another link in the chain that is being forged to bind him to a drunkard's doom.

Oh why do not our gifted temperance lecturers in dealing with the deadly upas-tree of intemperance, put forth their united efforts in the right direction? That is, remove the cause, so that in time the effects will cease. I would accord all due respect and honor to them for the good they are doing; but their efforts do not touch yet the main cause of this great evil. It is a noble work to reclaim even one poor soul from the jaws of perdition, yet for every one that is saved, others are ready to walk in the same path to destruction; and thus it seems to be a never-ending task, unless we succeed in enlightening the people in regard to the great truths of hygiene and physiology.

But what of the many thousands that are so sunk in degradation as to be beneath the beast of the field? If they had been taught how not to become drunkards, they would now be occupying places of usefulness instead of lying in the depths of wretchedness and despair. It should be the dutiful task of those who have the care of the young to teach them correct dietetic habits and to instruct them in the laws that govern their moral being. Ignorance of these things is the rock upon which so many have made shipwreck. How many of all those that need reforming received any light with regard to correct and regular habits of eating? Possibly a rare one. I venture to say that not one in a thousand knew that by irritating the stomach with spices, condiments, and stimulants, an appetite for spirituous drink was created. These nervines or exaltants of the nervous system called for other irritants, narcotics, and stimulants, until the nervous system became abnormal, and then the man seemed utterly powerless to extricate himself from the winding labyrinth of habit into which he had wandered. They who are temperance philanthropists have a great work before them in trying to extricate the miserable ones from the toils of habit; but they who are teachers have a greater and more responsible one, for they witness the first dawning of intellect, and they should see to it that the young mind

receives some intimations of the importance of correct dietetic habits, and of the laws of their being, to health and happiness. Should this be done, the next, yea, this generation would witness happy results.

PERSONAL.

ANNIE WHITNEY, the American woman who has made a very fair statue of Harriet Martineau, is as fond of agriculture as of art, and practically farms 175 acres in the White Mountain region of New Hampshire.

GEORGE BANCROFT, the historian, is now in his eighty-fourth year, and would not be surprised to see a score more. His wife, one of the most cultured women of Washington, is eighty years old, and she looks much the healthier of the two. Her eyes are bright and her cheeks full and rosy. She is a pretty woman, and one would not think of taking her for more than sixty years of age.

MRS. CLARISSA DAVENPORT RAYMOND's one-hundred-and-third year was celebrated at Wilton, Conn., on April 18th last, when she received many visitors. According to the *New York Tribune* she was as happy in spirit and vivacious in conversation as any one fifty years younger might be. She is aided in her movements about the house by a birch staff six feet long, which she grasps with both hands. She lives with her only daughter, Mrs. Nathan Comstock, who is now in her eightieth year, her grandson, John Comstock, in his sixtieth year, and his wife, aged forty-eight. She has a great-grandson, Frank Comstock, aged twenty-eight, of Norwalk, who has two children, five and three years old. All these were her guests on Saturday, forming a happy and most remarkable household. The centenarian trotted the little great-great-grandchildren on her knee, and told them stories of her early life. New York was her residence from 1812 till after the war with England had closed. All above the City Hall was open country, and from the windows of her home, in Hester Street, the North and East Rivers could be seen. Upon the death of her husband in 1816, she moved to Connecticut and has lived there ever since. She never partakes of spirituous liquor, and when told that it might be of benefit to her, replies: "No, I have got along thus far, and think I will not change. I do not care to get into a bad habit."

DEATH OF A LATE STUDENT OF THE INSTITUTE.—We have received the following letter, which relates the sudden death of a promising young man who had evinced a deep interest in phrenological work. Such co-operators can ill be spared at this day. It is the bereaved father who writes:

SMYRNA, N. Y., April 27, 1885.

It becomes my sad duty to inform you of the death of my son, Frank B. Knowles, of the Class

of '83, which occurred at Kingston, Pa., April 10, 1885, after an illness of only one week of typhoid pneumonia. He was born here Oct. 15, 1863; received a common-school education, and after graduating from the Institute, did some good work in the phrenological field, convincing competent judges that he understood the science. In the spring of 1884, having an imperative call from the Master to the work of the ministry, he selected Wyoming Seminary as the place for a preparatory course of study to that end, and entered there the last of August, and during his short stay there he won many warm friends, as was abundantly proved during his sickness and death.

We mourn his loss as one who gave promise of much usefulness to humanity. We have no reason to regret his course of phrenological study, believing that it gave him broader and more correct views of mankind and his relations to them; a *grander outlook on the world*.

As he drew near the river, and his glorified vision caught glimpses of the other shore, he said, "It is all bright over there."

With kind regards,

J. P. KNOWLES.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

IGNORANCE has no light; error follows a false one.

NEITHER great poverty nor great riches will hear reason.—*Fielding*.

To have ideas is to gather flowers. To think is to weave them into garlands.

NEVER talk to a man when he is reading, nor read to a man when he is talking.

NEARLY everybody has it in him to be better than he is. Improvement is chiefly the regulation of the propensities and passions.

A MAN's own religion, though contrary to, is better than the faith of another, let it be ever so well followed. It is good to die in one's own faith, for another's faith beareth fear.

YOU can not be buried in obscurity: you are exposed upon a grand theatre to the view of the world. If your actions are upright and benevolent, be assured they will augment your power and happiness.—*Cyrus*.

I STOOD beside a good man's bed,

Whose bright and honest course was run,

A halo round his aged head

Show'd passion conquered, duty done.

I could not mourn that parting sigh;

The rest was gained, the conflict o'er,

And like a trumpet note on high,

I heard th' exulting sound once more,

Resurgam! —*J. Enderssion*.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

THE height of impudence—taking refuge from the rain in an umbrella shop.

"GRANDMA, why don't you keep a servant any longer?" "Well, you see, my child, I'm getting old now, and can't take care of one, as I used to do, you know."

"BROTHER, why don't you ask the stranger to pray?" "Because," reprovingly observed a deacon, "this ain't no place for practical jokes. That man's the president of a gas company."

THE most egotistical of the United States—"Me." The poorest in health—"Ill." The most paternal—"Pa." The most indefinite—"Wy." The loudest—"O." The most musical—"La."

A LADY who had for six years been compressing a No. 6 foot into a No. 2 shoe, died recently of gangrene of the pedal extremities. The coroner's jury returned a verdict of "Died from the effects of a fit." Mis-fit would be more to the point.

"I HAVE three children who are the very image of myself," said Jones enthusiastically. "I pity the youngest," returned Brown, quietly. "Why?" asked Jones. "Because he is the one who will have to resemble you the longest," said Brown.

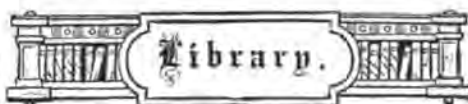
A "DOCTOR" who was giving testimony in a San Francisco court, was asked if he had ever performed the operation of decapitation. "Oh, yes," he said, "I have done that often, often." "Always successfully?" "Never lost a patient under it."

THE following notice was posted in a certain church in Monroe township, Illinois:

pleas deposet
Yore Tobacer
At the Dore
by order of
Dekens.

A good deal of tobacco must be used there!

A LITTLE boy and girl playing in the yard. The girl finds an apple under a tree, and, with an exclamation of delight, begins to bite it. "Hold on," says the boy. "Throw it away. The colwy is comin', an' if you eat that apple you will be took sick an' you can't talk, an' the doctor will come an' give you some bad med'cine an' then you will die." The girl throws the apple down, and the boy, snatching it up, begins to eat it. "Don't," the girl cries. "Won't it kill oo, too?" "No," said the boy, munching the fruit, "it won't kill boys. It's only after little girls. Boys don't have colwy." That boy will be a great politician.



In this department we give short reviews of such NEW BOOKS as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

HOW TO DRAIN A HOUSE. Practical Information for Householders. By Geo. E. Waring, Jr., Consulting Engineer for Sanitary Drainage, (Newport, R. I.) 16mo, pp. 222. Price, \$1.25. New York: Henry Holt & Company.

A volume on this important subject from a writer whose profession has brought him special experience in the line of his writing, is worthy of more than a passing note. Probably no city in the Union has been compelled to encounter so difficult a problem of drainage as Newport. For many years it has been a most serious topic of consideration with the municipal authorities, and some of the highest sanitary authorities have been called upon for counsel. Mr. Waring has been prominent in this relation, and his studies of Newport soil and Newport levels have been profitable. He very aptly says that "the drains in average modern houses are probably the most serious and prevalent enemies with which struggling humanity has to contend," and yet as a fact "they are only incidentally enemies," and "never necessarily so." It is the manner in which the drainage is effected that tells on the health, and if it be properly done the house will be a much more healthful habitation than it was without any facilities for discharging the waste water. He insists that when the plumber's best work is done, the householder can not expect to reap good results from it if he does not keep a close and intelligent watch over the operation of the system, and guard against its derangement. The book is designed to furnish practical information with regard to the construction and management of the drains and water supply of a house, so that the house-owner and housekeeper shall know when these conveniences of modern-home living are in good condition, and when they are not. People, as a rule, are too ignorant by far of the mechanical relations of sewage disposal to health, and this book is a creditable attempt to instruct them.

AN APPEAL TO CÆSAR. By Albion W. Tourgée, author of "A Fool's Errand," etc. 12mo, pp. 422. \$1.20. New York: Fords, Howard & Hulbert.

All of this author's books are characterized by purpose, moral purpose, whether assimilating the novel form or the essay, and that purpose has a bearing on national affairs in one or other of their

varied relations. The present volume is an earnest discussion of an evil that lies deeply rooted in the very heart of our civil institutions, and directly or indirectly affects our political affairs. This evil is the old antagonism of race, between white and black, and which the consequences of the late war developed into a more active expression than was known during the era of slavery. The more rapid increase of the negro population in the South than the increase of the whites compels our economists and statesmen to consider the possible outcome of a state of affairs that will, if it be not adjusted on the basis of sound principles, tend to social and political disorder. The only remedy that can be applied to counteract the evil and gradually evolve a condition of harmony, according to Mr. Tourgée, is a grand system of education formulated and carried into effect by national authority and at the national expense. The poor whites of the South, as well as the black people, must be educated, and with the intelligence thus imparted, they will both be raised to a better understanding of their social and political relations. This is the substance of the "Appeal" that is made to the imperial sentiment of the American people, and one who weighs the statistics that are thickly distributed in the chapters, and calmly ponders the argument, can not fail to be impressed at least by the urgent need of prompt measures of a wise and liberal nature.

A PREFATORY ESSAY TO THE NEW SCIENCE—Mathematical Commensuration. By Chas. De Medici, D.Ph. Chicago: A. M. Flanagan.

In this concise treatise the author announces his discovery of an exact proportion between the circumference and diameter of a circle, and after briefly considering the attempts of eminent mathematicians to solve the ancient problem, proceeds to unfold his method of attaining a precise result. His method, to one conversant with "figures," may appear simple, as he borrows his first scheme of area relation from the kindergarten idea of object presentation; and shows how cubes formed on the side and diagonal of a given square are related, obtaining a ratio of 14 to 17. This furnished a clue that was followed with the utmost care in the author's subsequent experimentation. He claims among his findings that unit measures of *area* do not correspond precisely to *linear* unit measures, and that their adjustment to each other is essential to the ultimate solution of the problem. We think that his reasoning is clear to the instructed mind, and that he fairly demonstrates the claim, and imparts new light to the puzzle that has perplexed mathematicians for ages. The book must interest this class of men. It is the outcome, not of an author who has made a bright guess and ingeniously describes it, but of one who has bestowed years of thought on the relations of numbers.

PHILOSOPHY OF THE INNER AGES; OR, The Bible Defended from the stand-point of Science. By Lawrence Sluter Benson. Introduction by the Rev. Howard Crosby, D.D., LL.D. Published by the author.

Mr. Benson has for many years since his school days given special attention to the study of problems in the higher range of mathematics, and has formulated new propositions of material value. Recently he has transferred his thinking in part to topics in the realm of moral philosophy, by which it would seem that in his case, as in that of Kant, the results of close thinking on the solid ground of mathematics have a relation to philosophy and metaphysics, a field generally considered as problematical and incomplete. He has taken much pains to examine the philosophy of the past and modern times, on the side especially of its relation to religion, and has found much uncertainty and inconsistency in the reasoning of historical thinkers. To use the words of Dr. Crosby in his concise and admirable introduction, "Nothing is clearer to the common experience—the common-sense of men—than the existence of two distinct worlds into which we are born, the one perceived by the senses, and the other by the *nous*—the perceptive faculty of the mind—and both of which are used and explored by the essential man. Any attempt to reduce these two to one is a crime against nature, and must react upon the perpetrators. Speculating adventurers have, from Thales down, tried their skill at this foolish work, now on the side of Democritus, and now on the side of Berkeley, and a history of their entanglements is perhaps the best antidote against the poison of the teaching of their present representatives. This treatise of Mr. Benson gives such a category of human speculations, as contrasted with the dignity of consistency, reasonableness, and self-evidencing fitness of God's revealed word—the Bible—which batrachian learning swells itself into taurine pretensions to despair."

In a space of 180 pages the author has concluded epitomes of the views of the more prominent moralists and philosophers of the ages; he has endeavored to represent them impartially, and we think that he has succeeded about as well as a writer with a strong bias in one direction, especially a direction that is elevated and dignified, could be expected to succeed.

PUBLICATIONS RECEIVED.

THE JOURNAL OF THE MICROSCOPE AND NATURAL SCIENCE. A Journal of the London Microscopical Society, for April, contains a variety of instructive matter in natural history and histology. It is edited by Alfred Allen, of London, Eng.

THE MEDICO-LEGAL JOURNAL, published under the auspices of the Medico-Legal Society of New York, has latterly assumed a character that commends it to scientific readers generally. The topics

presented in its columns are always of current interest, and treated earnestly and without fear. Dr. Clark Bell continues editor.

THE SCIENTIFIC AMERICAN contains from week to week a good fund of practical information relating to art, science, mechanics, chemistry, and manufactures. New inventions and discoveries are brought to the notice of its readers and pertinent illustrations adorn its pages.

THE ECLECTIC MAGAZINE OF FOREIGN LITERATURE, E. R. Pelton, Publisher, N. Y., gives its readers a view of the political situation of Europe, the organization of Democracy, a biographical sketch of Sir William Siemens, an account of the Bank of England, a Russian philosopher on English politics, and other topics that are interesting to readers who would keep in the van of progress.

THE MEDICAL ADVANCE, published monthly at Ann Harbor, Mich., shows decided progress in the character of its matter. An organ of the Homœopathic school, it nevertheless draws upon the other schools for data that may be profitable to its readers.

THE NORTH AMERICAN REVIEW for May opens with a double article with the surprising title, "Has Christianity Benefited Women?" And we have on one side Mrs. Stanton, on the other side Bishop Paulding. Prominent contributors discuss Industrial Co-operation, Success in Fiction, the New Buddha, "Why Crime is Increasing," etc.

THE VIRGINIA MEDICAL MONTHLY appears to represent the old school or Allopathic side of medication, and is a creditable representative of its kind for the South. We occasionally find some original and good suggestions. L. E. Edward and W. H. Coggeshall, editors, Richmond, Va.

THE CENTURY for May opens with a very life-like portrait of Gen. G. B. McClellan, and a large part of the number is occupied with chapters of war history, from the pens of leading general officers whose swords flashed on fields of which they speak. The New Orleans Exposition receives special attention. Typical Dogs reminds of the recent "bench show" in New York. The battle pieces are, Incidents of the Battle of Manassas, Manassas to Seven Pines, The Second Day at Seven Pines, Recollections of a Private, The Peninsular Campaign, written by Gen. McClellan, Memoranda on the Civil War. These are illustrated. Immortality and Modern Thought is a vigorous defence of the doctrine by a prominent clergyman.

ANNUAL REPORT of the Board of Managers of the New York State Reformatory at Elmira, for the year ending Sept. 30, 1884, is an interesting exhibit of the management of a well-known institution. If the principles applied there were practically followed more commonly in our homes, there would be fewer shocking cases of youthful depravity.

HOW TO BUILD A HOUSE contains plans for twenty-five houses, of all sizes, from two rooms up; also well-executed engravings of the buildings of which plans are given. Any one of the plans is worth more than the price asked for the book to any one contemplating building a home. In addition it has valuable information on subjects relative to building and building contracts, gives the quantity of material for building, and many other suggestions. Price, 25 cents. G. W. Ogilvie & Co., Chicago, Ill.

THE NATIONAL TEMPERANCE SOCIETY has published a catechism by Julia Colman, adapted to the use of public schools, Sabbath-schools, Bands of Hope, and other juvenile temperance societies. It contains thirteen lessons of words of one or two syllables, with thirteen illustrations. Price five cents; sixty cents per dozen. J. N. Stearns, Agent, New York.

MANIKIN, or Dissected Man. This "man wonderful" is an ingenious, helpful, and cheap aid for studying anatomy. It plainly illustrates the parts and functions of the human system, and shows the relative positions of the organs. On opening the book the muscles of the head, neck, and trunk are seen; folding back a thickness of paper, its reverse shows the under-side of the same muscles, while beneath are seen the sternum and ribs, diaphragm, and some of the organs of the abdomen. Turning back the layer of ribs, intercostal muscles are shown, and the lungs and heart are brought to view. Another fold shows the lungs cut open; the heart, too, opens in such a way as to show the internal structure of each side. Turning back the trachea, lungs, heart, and diaphragm, we may lift up and examine the œsophagus, stomach, and intestines; the stomach, spleen, and liver can be opened so as to examine their interior walls. Lifting the alimentary canal, with the liver and kidneys, we come to the spinal column and the os innominata. Descriptive text accompanies the plates. Price \$5.50. Harris, Rogers & Co., Publishers, Boston.

THE SOUTH is a monthly devoted to the illustration of Southern progress, especially in agriculture and colonization. It supplies abundant information concerning the resources of the Gulf and other States. The South Publishing Co., New York.

HARPER'S MAGAZINE for May is well supplied with sketches of American life and topography, that depict attractively events with which the reader is little familiar. Española and Its Environs gives one a realizing idea of old New Mexico. The next article transfers attention to New York, or rather New Amsterdam, and gives us a glimpse of early Knickerbocker life, under the title of Anneke Jans Bogardus and her Farm. Through London by Canal, is another well-illustrated article. Jersey Cattle in America discusses a subject of wide interest among our farmers. A Witch Hazel Copse is charmingly illustrated, and a Wild-Goose Chase is replete with incident and picture from the folk-life of Denmark.

1378

THE

PHRENOLOGICAL JOURNAL

AND

SCIENCE OF HEALTH.

A REPOSITORY OF

SCIENCE, LITERATURE, AND GENERAL INTELLIGENCE,

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ETHNOLOGY, PHYSIOLOGY, PHRENOLOGY, PHYSIOGNOMY, SOCIOLOGY, PSYCHOLOGY, EDUCATION
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VOL. LXXXI. OLD SERIES—VOL. XXXII. NEW SERIES.

JULY TO DECEMBER, 1885.

H. S. DRAYTON, A.M., M.D., EDITOR.

NEW YORK:

FOWLER & WELLS CO., PUBLISHERS, 753 BROADWAY.

1885.



“Quiconque a une trop haute idée de la force et de la justesse de ses raisonnemens pour se croire obligé de les soumettre a une expérience mille et mille fois répétée ne perfectionners jamais la physiologie du cerveau.”—GALL.

“I regard Phrenology as the only system of mental philosophy which can be said to indicate, with anything like clearness and precision, man's mixed moral and intellectual nature, and as the only guide short of revelation for educating him in harmony with his faculties, as a being of power ; with his wants, as a creature of necessity ; and with his duties, as an agent responsible to his Maker and amenable to the laws declared by the all-wise Providence.”—JOHN BELL, M.D.

“To Phrenology may be justly conceded the grand merit of having forced the inductive method of inquiry into mental philosophy, and thus laid the permanent foundations of a true mental science.”—*Encyclopædia Britannica*, 8th Edition.



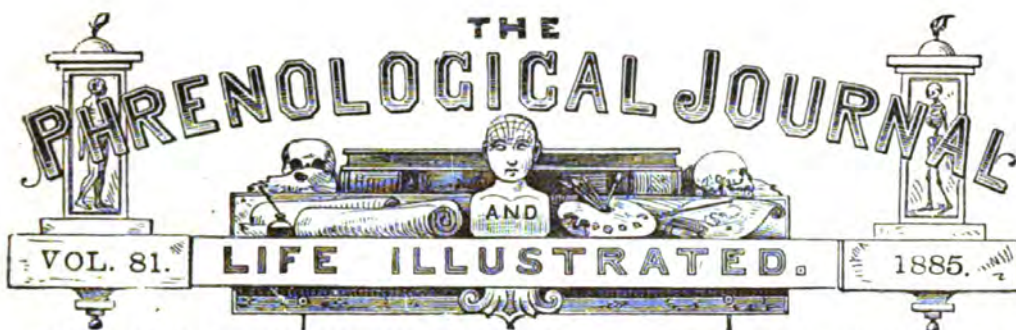
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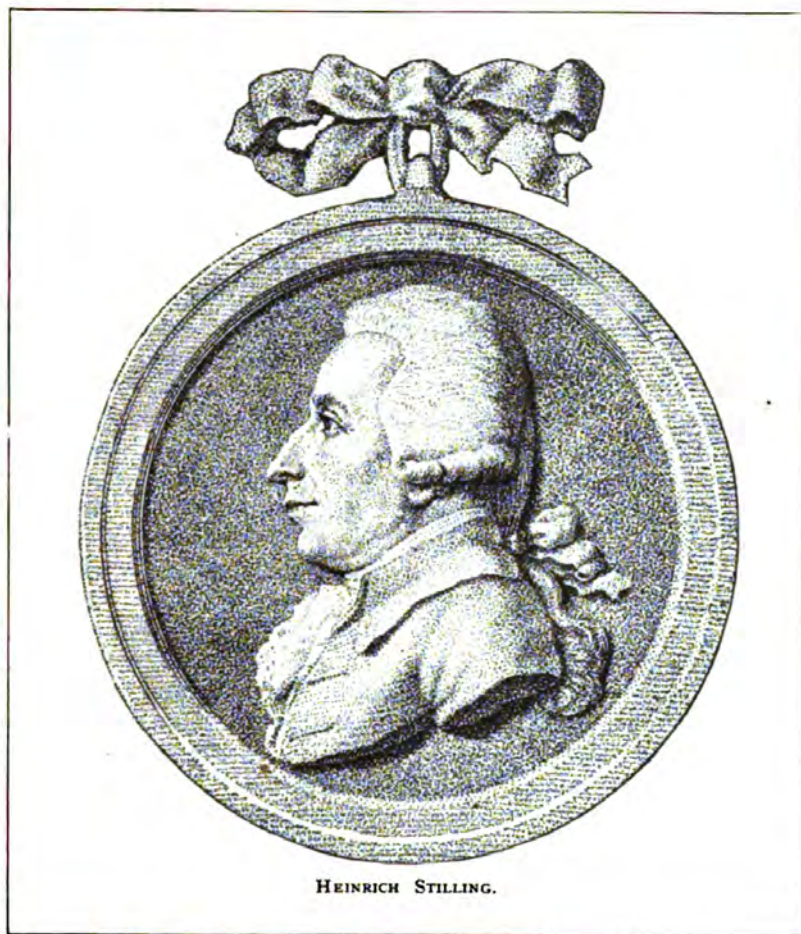
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HEINRICH STILLING.

AUTOBIOGRAPHY OF HEINRICH STILLING,

LATE AULIC COUNSELLOR OF THE GRAND DUKE OF BADEN.

SUCH is the title of a most interesting volume about a most remarkable man, published years ago by the Harpers. Often reprinted in Europe, frequently translated, and read with increasing ad-

miration of its subject, the present generation will not let it pass from remembrance. The German author, Goethe, was a friend and admirer of its writer, and found much of an inspiration in him.

At the foot of a tapering hill in Westphalia, cutting the clouds like a sugar-loaf, lies the village of Tiefenbach, situated on both sides of a little river. There the family of the Stillings had been long residents, though poor, yet industrious and honorable. The grandfather of Heinrich was called Eberhard Stilling, a peasant, a charcoal-burner, and a church warden of the Lutheran Church in Florenburgh, about three miles away from his humble dwelling. He had two sons and four daughters; one of whom, Wilhelm, the father of our author, was a tailor and schoolmaster, who married a poor clergyman's daughter, named Doris, a woman of uncommon sensibility, spirituality, and loveliness. Of such parents Heinrich Stilling was born on the 12th of September, 1740; a boy lively, healthy, and of a high moral nature. When he was almost a year and a half old, his mother asked his father to walk with her to the Guisenberg castle, within a reasonable walking distance. She had been in a melancholy mood, seeking retirement and meditation. Entering a wood, they put their arms around each other, and amid the twittering of the birds the gentle Doris said: "What dost thou think, Wilhelm?—shall we know each other in heaven?" He answered her with assurance of the fact, upon which she went on to say that she felt she was in a world to which she did not belong; and that nothing made her so happy as the sight of fading flowers, and she felt an assurance of a better world to come. Before getting home she was taken with a cold tremor, then came a violent fever, and in two weeks she fell into her final rest in the arms of her weeping husband. He was now left alone with his little Heinrich; and he often imagined he heard the rustling of Doris' feet around his bed recalling the paradise so quickly gone; and when dreaming of walking with her in some charming forest he was afraid of waking and breaking the cherished illusion. The care and religious training of his child now became his supreme care in connection with his industrial

pursuits. He rose at four in the morning and began his work; at seven, awoke the child, and talked with him about God, angels, and heaven; then made him wash himself in cold water; after which he took him apart for prayer, weeping over him while in supplication. Pastor Stollbein seemed to understand the character of the child, and told the fond parent, "Your child will surpass all his forefathers; continue to keep him well under the rod,—the boy will become a great man in the world."

When he was about nine years old his father took him for the first time to church. This was as the opening of a new department of existence to the susceptible child. Every soft harmony subdued his soul to tears; the minor keys caused his tears to flow, and the rapid allegro made him spring up as if his whole being was convulsed, and after the service he went to the organ and organist; and for the first time, to please a peasant's son, an andante was played for his gratification. Two years after this, his grandfather, Eberhard, took his daughter Maria and his little grandson into the woods to gather firewood. They came to a remote part of the forest where there was a verdant plain, at the end of which was a clear bubbling spring, where they sat down for refreshments. The old man arose after a little while and said: "Children, stay here; I will go about a little and collect fallen wood; I will occasionally call out and you must answer me lest I lose you." He then went away, and the daughter told the attentive boy a favorite fairy tale. Soon they heard father Stilling's peculiar whistle, and when he drew near, they saw that something uncommon had taken place. He stood, smiled, folded his hands, looked about as if amazed, then smiled again. They were too much surprised to question him about what had happened. At length, with a full heart and flowing tears, he told them of having seen a wondrous vision—a light above that of day; a large plain spread out before him; the air cool and filled with

perfume; gardens, fountains, bushes, and flowers; castles as if made of silver and gold; ranges of splendid buildings above one another. "O God," said he, "how beautiful!" Then as his tears flowed again, he said: "Some one came to me out of the door of one of the mansions, a glorious angel like a virgin; and when she came nearer to me I saw it was our departed Doris!" Little Heinrich now wept aloud, saying: "My mother; my dear mother!" The old man added, "She said to me in such a friendly manner, with the same look which formerly so often stole my heart, 'Father, yonder is our eternal habitation. You will soon come to us!' Children, I shall die soon,—how glad I am at the thought!" After this the pious old man seemed like one in a strange land, and not at home. He lived like one waiting for some unwonted event. The occurrence came in a few weeks when he fell from the roof of his cottage, causing a complete concussion of the brain. His pastor preached his funeral sermon from the words, "Well done, good and faithful servant; thou hast been faithful over a few things, I will make thee ruler over many things. Enter thou into the joy of thy Lord."

By the advice of Pastor Stollbein, Heinrich was sent to Florenburgh to study in the Latin school. There he continued four years, when his father removed him to his tailor's-shop—a most uncongenial pursuit for one of his temperament and mental structure; a wearisome round for one whose range was the inner chambers of the arts of beauty and design. Working at his trade of clothes and button making, then keeping school and studying his books, he was invited when eighteen years old by Rev. Mr. Goldmann to teach a school attached to a chapel in Priesingen. His lodging was in the house of a rich and respectable widow with two modest and beautiful daughters. Here danger met him. He had never thought of love; but love sought him in the delightful society of the two young ladies, who as they sang together, and listened to his magnetic

words, became retired and melancholy. After an evening's happiness in their company, he would find them apart from each other, sad and weeping. Maria Schmoll, the eldest, from gloomy brooding became deranged. In her derangement she acted the part of a shepherdess, and represented herself as clothed in rags, standing before a fire until her garments were in a blaze. She said there stood a youth who saw the spreading flames—then winking at Heinrich, she added: "He should have extinguished the fire, ought he not, schoolmaster? He should have extinguished it!" He knew not what to answer. "Tell me," she said again, "should he not have extinguished it?" This was an unexpected revelation to the young man. He saw that he had been the innocent cause of much domestic unhappiness; had narrowly escaped two rocks endangering serious wrecks. The young lady recovered, but Stilling never forgot the lesson.

His life for many years became one of wandering in Kleefteld, Florenburgh, Schauberg, Waldstatt, and Schönenthal, working at his trade, teaching, studying Latin, Greek, Hebrew, French, drawing, music, chemistry, the higher mathematics, logic, and metaphysics. He was restless as a bird confined in a cage from the free air of heaven, or after a temporary escape, beaten about by cold and opposing winds, seeking in vain a congenial abode. Yet he was ever learning, however, the philosophy of life and human nature, and nearing his proper sphere in the activities of society. A friend of his, Mr. Spanier, was the providential instrument of suggesting his real life-work. "Preceptor," said he, one day, "it all at once occurs to me what you ought to do; you must study medicine." The remark affected Stilling like the shock of a battery, and he could scarcely keep his feet. Mr. Spanier, alarmed, seized hold of him, saying: "What is the matter with you?" "Oh, Mr. Spanier," he exclaimed, "what shall I say—what shall I think? I am certain that is my vocation. Yes, I feel in my

soul that this is the great object which has been so long hidden from me; which I have so long sought, and been unable to find! For this my Heavenly Father has been so long designing to prepare me by severe and painful trials from my youth up. Blessed be the merciful God that has at length made known to me His will, I will boldly follow His guidance." On this he ran up to his closet, fell upon his knees, thanked God, and besought Him to lead him in the shortest way to the attainment of his object. He saw in the scenes of his past life, as in a moving panorama, the figures all pointing to this ultimate, his being a healer of men. When the question was put to him by some of his relatives, "Whence shall the large sum come that is requisite for such an extensive and expensive study?" he always answered with this motto, "Jehovah jireh, — the Lord will provide"; a motto which his subsequent strange history fully illustrates.

From an aged Roman Catholic priest he learned to be a skilful oculist, to which he owed much of his renown and pecuniary support. In 1769, when he had just entered upon his thirtieth year, he received a letter from a merchant in Rosenheim, named Friedenbergh, to come there for the treatment of a neighbor's son, who was in much danger of becoming blind. The merchant received him in great kindness. His house was the abode of refinement, order, and happiness. They were pious people according to the Lutheran profession. He was successful in soon recovering the young man to the best use of his sight. Mr. Friedenbergh had a sick daughter, whose recovery was regarded as doubtful by her physicians. He invited Stilling to see her. The result was an episode the most peculiar in his life-story. Both went to her sick-chamber. She raised herself up, gave Stilling her hand, and asked him to sit down. They conversed upon religious subjects, and she became very cheerful and sociable. When about to withdraw, the young lady made a request of her father that the amiable

visitor should watch with her that night in connection with her elder brother. Both consented to the proposal—one not so accordant with our domestic and social usages as in Continental Europe. About one o'clock in the morning, the invalid requested her two companions to cease their conversation to allow time for needed sleep. Young Mr. Friedenbergh in the meantime stole down stairs in order to prepare some coffee, but remaining some time Stilling began to nod in his chair. Some time after the patient began to move, and he rose and drawing aside the curtain, asked how she had slept? She said she had lain in a kind of stupor, and then added, "I will tell you something, Mr. Stilling! I have received a lively impression on my mind respecting a subject, which, however, I must not mention to you till another time." The listening young man felt himself to be penetrated with new emotions as a revelation of God's will; with flowing tears he bent over her, saying: "I know, dear Miss, what impressions you have received and what the will of the Lord is." She raised herself up, and giving him her hand, said, "Do you know it?" Stilling put his hand in hers, and said, "May God in heaven bless us; we are eternally united!" She answered, "Yes; eternally so!" How much of a mingling of the heavenly and earthly, of providence and passion, there was in this night-occurrence we need not speculate upon. He felt himself to be like one who had climbed up a high rock by the seaside, and could not descend without danger, but ventures to leap into the sea in the hope of saving his life by dexterous swimming. He cast himself, however, and his affianced Christina Friedenbergh into the arms of that Divine power in which he trusted.

He now resolved to enter the University of Strasburg, unprovided as he was with means. When the father of his betrothed told him that with his small income and ten children he could not, however willing, give him pecuniary aid, Stilling said with a cheerful courage and joyful mien, "Hear me, my friend. I do not wish

a farthing from you; believe me assuredly, that He who was able to feed so many thousands in the desert with a little bread, still lives, and to Him I commit myself. He will certainly provide means. Do not you therefore be anxious—the Lord will provide!” Taking in his arms his weeping Christina, he said, “Farewell, my angel! the Lord strengthen thee and preserve thee in health and happiness till we see each other again.” So saying he ran out of the door, weeping copiously on the road, Christina’s elder brother accompanying him as far as Schönnenthal.

He arrived in Strasburg with only one rix-dollar. He said nothing of his wants, but waited for the assistance of his Heavenly Father. A merchant who knew him, named Leibmann, invited him to supper. After the repast this acquaintance said, “Tell me, my friend, who furnishes you with money to enable you to study?” Stilling smiled, and answered, “I have a rich Father in heaven; He will provide for me.” “So,” said Mr. Leibmann; “I am one of your Father’s stewards. I will therefore now act as your paymaster,” and handed him thirty-three rix-dollars. “I can not at present spare more; if you are subsequently able to return me the money, well; if not, no matter.” Stilling felt warm tears in his eyes, and a stronger confidence in his Heavenly Guide. In the University he formed a close friendship with Goethe, who was a fellow-student; an attachment which was of great serviceable value to him as an author. His rix-dollars were soon expended, and he began again to call upon his rich Father above. Mr. Troost, a valued friend and student, came and said, “You have, I believe, brought no money with you. I will lend you six Carolines (about five pounds), until you receive a remittance.” After Martinmas his lecture-fees were demanded. It was five o’clock, and at six the money must be paid. He went into a corner, knocking as it were at the door of God’s bank. Some one knocked at the door; he called out, “Come in.” It was his landlord, Mr. R——, who, after

compliments, inquired how he liked his lodgings; and then said, “I wish particularly to ask you one thing: have you brought money with you, or do you expect bills?” He replied, “No, I have brought no money with me.” Mr. R—— then asked, “Are you in want of any money at present?” Very agitated Stilling replied, “Yes, I have need of six louis-d’ors this evening, and I was at a loss.” Mr. R—— was shocked, and replied: “Yes, I dare say you are! I now see that God has sent me to your assistance”; went out of the room, and soon returned with eight louis-d’ors, which he handed to him. Such repeated instances of what he regarded as Divine interpositions kept him in the midst of much scepticism in the University immovably firm in his Christian connections. “I have ever,” said he, “adored and worshipped Jesus Christ as my God and Saviour. He has heard me in the hour of need, and wonderfully supplied and succored me. Consequently Jesus Christ is incontestably the true God; His doctrine is the Word of God, and His religion, as He has instituted it, the true religion.”

Not much time had elapsed after this, when as his wants were again pressing, he received a letter from Mr. Liebmann, enclosing three hundred rix-dollars. He laughed aloud, and looking joyfully to heaven, exclaimed, “This is only possible with Thee, Thou Almighty Father—may my whole life be devoted unto Thy praise!” His friend Goethe aided him in the direction of polite literature, to an acquaintance with Ossian, Shakespeare, Fielding, and Sterne. He formed a close friendship for Herder, through Goethe and Troost. His alliance with Christina was well known, and his best friends advised him to be married; and so on the 17th of June, 1771, the ceremony was performed at the bedside of the lady. The next year he removed to Schönnenthal, and commenced the exercise of his vocation. He was successful in working various cures, but more eminently as an oculist. One morning he was sent for to see a sick gentleman at an inn. He found

his patient with a large cloth wrapped round his neck, and his head enveloped in cloths. The stranger stretched out his hand, and said with a weak and hollow voice, "Doctor, feel my pulse; I am very weak and poorly." Stilling did so, and pronounced the pulse regular and healthy. The stranger was his friend Goethe, who took this mode for an agreeable surprise; and soon the arms of that brilliant author were clasped around his neck. The celebrated Lavater, mystic and physiognomist, was one of his dearest friends, of kindred soul to his own in the realms of spiritual philosophy and philanthropy. On the 13th of July, 1799, when engaged in writing to Antistes Hess, of Zurich, he felt in his mind a deep conviction that this Christian mystic would die a bloody death—that of a martyr. Something was connected with it which could not be disclosed. This he wrote in his letter, and requested his correspondent to make it known to Lavater, which he did. On the 26th of September the object of his solicitude received his death-wound from a Swiss soldier in the French service during the invasion of Massena. Lavater's sanctified heart forgave his murderer, and before dying said he would seek him out, whether in heaven or hell, and thank him for the wound which had been such an instructive school to him; and that no inquiry should be set on foot against the unfortunate criminal, but that he should be left to the Divine mercy.

In all cataract operations and ophthalmic cures he had acquired much celebrity, and a considerable pecuniary income. But it would appear that he was a poor economist, and too largely an idealist, with large benevolence, to succeed in acquiring wealth. Heavy debts were therefore upon him, and the interferences of Providence on his behalf were kept well recorded in his biography. In the spring of 1776 he was under the necessity of removing to another habitation, because his landlord wanted the house for himself. But his back rent was delayed. In fourteen days the amount must be paid

or he could not move. His rule was to owe no man anything, but waiting was sometimes necessary. Himself and his Christina betook themselves to continuous prayer. At 10 o'clock on the final day the postman entered his door with a heavy letter. The superscription was in Goethe's writing. He read thus: "Enclosed one hundred and fifteen rix-dollars in gold." His disinterested friend had published, without his knowledge, "Still-ing's Youth," and sent to him the amount of the copyright. Two years after, in making up his accounts, he found himself heavily deficient again, when a letter reached him bearing a large amount, and offering him the Professorship of Agriculture, Technology, Commerce, and the Veterinary Art in the provincial Academy of Rittersburg, the stipend amounting to about nine hundred guilders. Eight hundred guilders were needed for his departure. Again prayer was his only resource, and acknowledgments came pouring in without his previous knowledge, so that in a few hours he found himself in possession of the sum,—no more and no less. In 1784 the Elector removed the academy to Heidelberg, where his income was increased, and without his knowledge sent him the patent of Electoral Aulic Counsellor. High honors awaited him, and in 1786 the Landgrave of Hesse-Cassel appointed him Public and Ordinary Professor of Economical, Financial, and Statistical Sciences in the University of Marburg, with a fixed income of £1,200 sterling, and a respectable provision for his wife in case of his death.

It was still his misfortune to be in debt, and his privilege to have the burden removed in a providential manner. After a journey in Switzerland with his wife, in 1801, he found himself owing one thousand six hundred and fifty guilders. Among the seventy-two individuals whom he had treated there for ophthalmic diseases, one, knowing nothing of his indebtedness or its amount, paid him exactly this amount of money for the benevolent desire of seeing him in independent circumstances. Another, who had

years before sent him three hundred guilders, being treated favorably, sent him, against his earnest protest, six hundred guilders more. Believing that nothing happens or can happen by chance, he had the most unwavering faith in God's paternal government, and that he could ask for what he wanted of his Heavenly Friend with no misgivings of failure. His theory of prayer was, "that when God incites the heart to pray for something, *He at the same time gives faith and confidence that the prayer may be heard. The man prays and the prayer is answered.*" If prayer is the instinct of the soul, and Pagans, Mohammedans, Jews, and Christians of all orders go with their wants to the Ruling Power of the universe, the key of success to the receipt of what is sought is unquestionably where Heinrich saw it.

His wife, Christina, whose life was one of suffering, died the 17th of October, 1781. From the first of her attack she foreboded its fatal termination. Acquaintances stood at a distance from her door, weeping aloud, as did the poor whom she so often relieved. Calling her husband to her side, she said: "I am dying, dearest; take heart; I die gladly. The ten years we have passed in the marriage state have yielded nothing but suffering. I now see the joys of the world to come vividly before me; nothing cleaves to me any more; nothing whatever." She pressed his hand often, with her accustomed expression, "My angel and my all!" Then frequently repeating the lines:

"And through the shades of death and hell
Lead safe to Zion's hill";

adding, "Dear husband, I am very sleepy, and feel very comfortable. Should I wake no more, and dream myself into eternity, farewell!" and with a smile expired.

The next year he married Selma Von St. Florentin, a young lady of intelligence, beauty, and considerable wealth, the sister of a senatorial advocate. There was much of romance to this union, into which space will not allow us to enter. It lasted for eight years, until May, 1790,

when on his return from a journey, and sitting on the sofa, she took him by the hand, saying, "Dear husband, listen to me calmly, and be not melancholy. I know for a certainty that I shall die in this confinement. I am no longer fit to accompany you through life. I have fulfilled that for which God gave me to you; but in future I shall be unsuitable for the situation in which you are placed. Now, if you desire that I should pass the rest of my time quietly, and then die cheerfully, you must promise me that you will marry my friend, Eliza Coing. She will be more suitable for you than I, and I know that she will be a good mother for my children, and an excellent consort for you. Now, for once place yourself above what is termed decorum, and promise me this. Do, my dear, promise it me!" The pleading look which beamed from her fine blue eyes was indescribable. In her bridal days she said to her beloved: "You will not have me long, for I shall not live to be thirty years old. A remarkable man in Dettingen told me so." And so it was, for she had not completed her thirtieth year when she died. On the morning of her departure the dawn of eternity beamed upon her countenance. "Is it well with you?" said Stilling. "O yes," she answered through her closely fastened teeth. Then overcome with emotion he tottered out of the room.

Selma now lay a silent and lifeless corpse—she being his guide to the highest and best society—and left him with three children. His eldest daughter, by Christina, took in a firm hand the household helm; yet some one was needed to take a mother's charge of the little ones. Their mother had frequently urged Eliza Coing to succeed her in her husband's love and family oversight; and as she and her parents were happy in the arrangement, after the period prescribed by law and decorum had elapsed, he married her. As Stilling's life was exceptional to that of the mass of mankind, we can not judge him by ordinary rules. He was a physician, prophet, musician, poet, divine, and prorector of the University of Mar-

burg; and the most of his contemporaries estimated him from their several moral stand-points, yet he was one of those characters few could fail to reverence and love.

As an author, his various philosophical, mechanical, religious, biographical, allegorical and mystical works have had a wide circulation and reading. His "Scenes in the Invisible World" was designed as an offset to Lucian's presentation of heathen deities talking and acting in the unseen realm. "I will now," said he, "write scenes in the real Christian invisible state." His "Nostalgia" followed in the line of Bunyan's "Pilgrim," portraying the Christian's journey to eternal life; in the composition of this work he felt himself to be in a state of semi-heavenly enjoyment. "The Sling of a Shepherd's Boy," "The Great Panacea for the Disease of Scepticism," "Stilling's Childhood," "The Gray Man," and his "Pneumatology," were all designed by him for religious instruction. The last production deals much in preternatural disclosures from the realms of Hades, which he maintained were essentially connected with the present; Tartarus, in which the fallen angels were cast, being the atmosphere of our globe; hence the given name of their leader being "Prince of the powers of the air"; and that all surrounding space was tenanted with incorporeal human beings who were often permitted to become visible to mortals. He was the seer of modern spiritualism, against whose errors he warned the present age. Many of the disclosures of his "Pneumatology" will not bear close criticism, though honest himself in trusting to the details of narrators.

Stilling lived 77 years, his wife Eliza departing this life but a few weeks before him, his last days being charged with the influences of the life to come, which he realized to be as much certainties as the transactions of these mundane scenes. Speaking to his second daughter, he said: "Listen, I have something of importance to tell you relating to Psychology; I have completely the feeling as if I possessed

a twofold personality: one spiritual, the other corporal. The spiritual hovers over the animal. Both are in a state of warfare in man, and it is only by the mortification of all sensual desire that he can attain to their entire separation; not indeed by his own power, but by denying himself—with the Divine assistance." Though no clergyman, he called his family around his bed, and in a most devotional manner broke the bread and gave the cup of the holy communion. That he was God-guided was his deepest conviction. "Whoever is inclined to wonder and rejoice at me," he wrote, "let him wonder at the way in which I have been led; adore the Father of men, and thank Him that He does not leave Himself without a witness; that He also prepares witnesses to tread His sacred paths, and still sends laborers into His vineyards, even at the eleventh hour." When he thought that his destiny was in his own power he found himself helpless; and when he felt that his life would be a failure the current of an unseen force set in from above, bearing him to the centre of success. The darkest periods of his life were, in his view, the turning-points of light. Blind chance had no favor in his creed or experience; and he stoutly maintained that he was driven out of his selfishness and wilfulness by his all-controlling Father, and the Being who so guided him would not have led him as an enthusiast, a fanatic, or a deceiver, to mislead his fellow-men.

JOHN WAUGH.

— . . —
EACH story of a soul is great; but who
Shall write it, for who knows what makes the greatness?

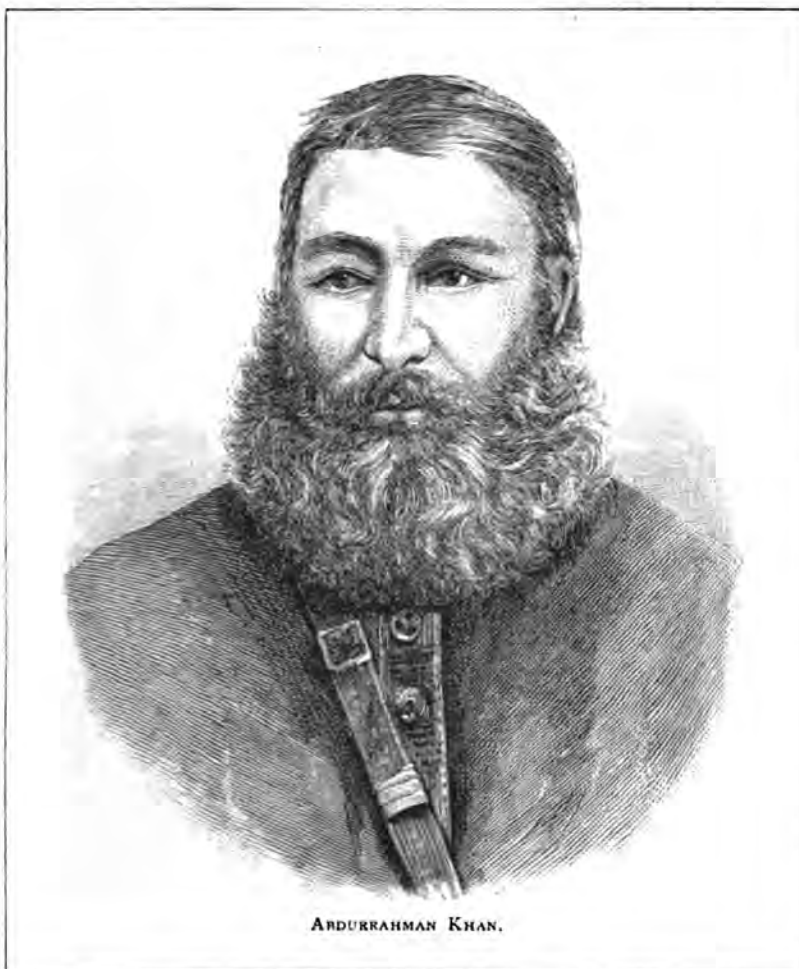
Or, who can sift it, and bring out the grain,
Winnowed and clean from the concealing chaff?
Who can the dross dis sever from the gold?
Who estimate the little or the great
Even in one human word? Or who shake out
The folded feelings of a human heart?
Or who unwind the one hour's ravelled thoughts
Of one poor mind even in its idlest day?

—BONAR.

THE AFGHAN QUESTION AND ABDURRAHMAN KHAN.

AT present a calm is resting upon the Afghan question, diplomatic communications having brought matters to a point where the high contending powers have agreed to a convention in which the grievances complained of, especially the

occupied and absorbed last year but stimulated the Russian zeal for further conquest. It is said that the condition of the Mervites already indicates improvement, the incoming of the Russians giving an impulse to trade and social reform



ABDURRAHMAN KHAN.

sanguinary Penj-deh affair, will be discussed.

Whether or not the attack of General Komaroff upon the Afghan forces was a retaliatory movement for their advance across the Kushk, and warranted by such advance, it is nevertheless clear enough that the Russian Government is intent upon acquiring more territory toward the south. The ease with which Merv was

that is entirely new in that hitherto stagnant country. An English correspondent says that the city of Merv "is the centre of an immense caravan trade, and her bazaars attract merchants from all parts of Turkestan, Afghanistan, Persia, and even from Europe. This is the first spring that the place has been in full possession of the Russians, and the spring trade has opened with great activity.

Shoals of workmen, many of whom have been brought from Russia, are building churches, mosques, and hundreds of houses both for business and residence purposes. The wealth of the Mervites and of the surrounding tribes has marvellously increased, and this fact goes far to reconcile them to Russian domination and taxes. Civilization and fixed government are also following in the wake of the Russian conquest, and the slave trade, of which Merv had been a centre from prehistoric times, is almost wholly exterminated."

The central figure in the Afghan dispute is the Ameer, Abdurrahman Khan, around whom clusters a history far from uninteresting. He is the lineal representative of Dost Mohammed, the founder of the Bfrukzai dynasty, and the eldest son of Afzul Khan, who was in his turn the eldest son of the Dost, and he is thus nephew to the late Ameer, Shere Ali. It is believed that Abdurrahman was born about 1830.

When Dost Mohammed died, in 1863, only twelve days after he had crowned his victorious career by taking the city of Herat, his favorite son and nominated heir, Shere Ali, succeeded, at first quietly, to the throne. Afzul Khan, the father of Abdurrahman, was at that time Governor of Balkh, or Afghan Turkestan, with his capital at Takht-i-pul. Abdurrahman had taken to wife a daughter of the Ameer of Bokhara, and one of his sisters was married to a son of the same Prince. The next brother of Afzul, named Azim Khan, joined with Afzul and Abdurrahman in a conspiracy against Shere Ali, immediately upon his accession to the principality of Cabul. This caused the outbreak of civil war in Afghanistan in 1864. During the war Abdurrahman played a leading part on the side of his father Afzul and his uncle Azim against Shere Ali. In 1865, 1866, and 1867 he won several battles, and the great victories of Shaikhabad and Khelat-i-Ghilzai were mainly due to his ability. He was intrusted with the Governorship of Balkh, where he made himself popular by his

moderation and by marrying the daughter of the chief of Badaksham. In 1868 he was unable, however, to offer a successful resistance to his cousin, Yakoob Khan, son of Shere Ali, who defeated him at Bajgah, near Bamian, and also finally at Tinah Khan. Abdurrahman then fled from the country, ultimately reaching Russian territory. He was well received by General Kaufman, who permitted him to reside at Samarcand, and allowed him a pension of 25,000 roubles a year.

While residing at Samarcand, in 1873, Mr. Eugene Schuyler had several interviews with him, from which he formed a high opinion of his character and intelligence. He seems to have always been a man of industry in public business, working some hours daily with his secretaries, and attending punctually to all details of administration. His face, manners, and conversation are described as very pleasant, frank, and dignified.

The trouble between England and Russia may be said to have had its beginning several years ago.

In 1877 the Czar sent a minister to Cabul, who was graciously received by the Ameer. English jealousy was immediately excited, and a representative, with a large suite, was promptly sent to circumvent whatever the Russian diplomacy might have in view. Scarcely had he crossed the border when he was stopped by an Afghan official, who would not permit him to proceed until he had obtained the consent of the Ameer. The question was submitted to Shere Ali, who, having consulted with his Russian adviser, declined to receive the representative of the British Government.

The rebuff aroused English indignation, and Lord Lytton, who was then Viceroy of India, sent an expedition to Cabul. The Afghans made but a feeble resistance, and as the English approached the capital, Shere Ali fled. He found a refuge with the Russians, but died in their camp shortly afterward. Yakoob Khan, his son, promptly entered into negotiations with the British, offering to receive

a resident at Cabul. As this question had been the cause of the war, the concession was considered a sufficient triumph and the treaty of Gandamak was

(1879) there was a popular rising, in which Sir Louis Cavagnari and all his suite were massacred. A second invasion followed to take vengeance on the murderers, and

IN THE AFGHAN COUNTRY—HEADQUARTERS OF THE LATE ENGLISH COMMISSION.



signed on May 5th, 1879. The British retired, leaving Sir Louis Cavagnari as the representative of England at Cabul.

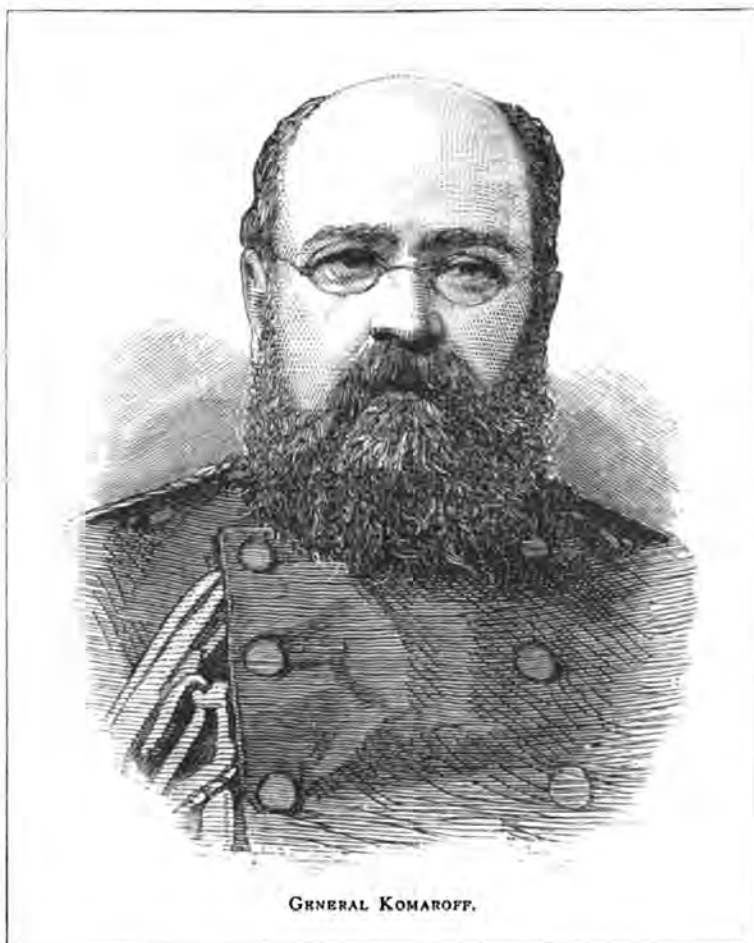
On September 3d of the same year

on December 24th, 1879, Sir F. Roberts, the British general, captured Cabul. Yakoob Khan was suspected of conniving at the massacre, and was sent a prisoner

to India. He was probably innocent of the crime, but he had proved himself an incapable ruler, and he was deposed. The inhabitants, however, were naturally enough hostile to the British, and though for the time overawed, were not subdued. It was evident that if Afghanistan was to be annexed by England, a large force

city of Candahar, which was originally part of Afghanistan.

With the Russian advance and absorption of Merv, the frontier of Asiatic Russia was brought in contact with Afghanistan. The English Government watched the Russian movement with apprehension, and demanded that a limit to the



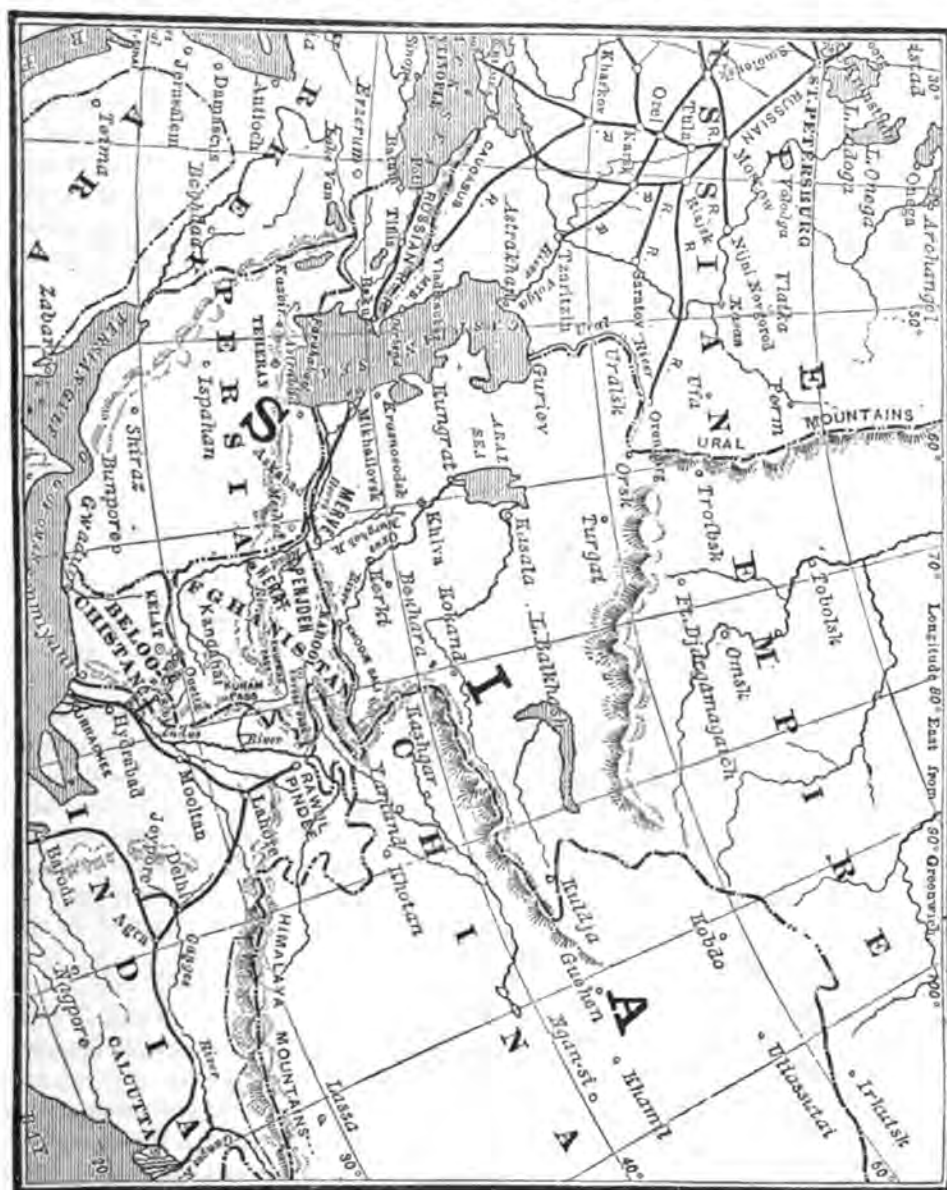
GENERAL KOMAROFF.

would be required to hold it, and therefore it was decided to withdraw as soon as a ruler acceptable to the Afghans was established. Among many claimants to the throne was Abdurrahman, who suddenly left his retreat at Samarcand, collected a considerable army of supporters, and the British having recognized him as Ameer, and settled a pension upon him, they retired. They also ceded to him the

aggression should be fixed. It was accordingly agreed between the two powers that the frontier should be defined by two commissioners, a Russian and an Englishman. Sir Peter Lumsden was appointed by England, but Russia has delayed on several pretexts to send a commissioner to meet him. She did, however, send a commissioner, M. Lessar, to London with a proposal. There

was a strip of country which includes Penj-deh, lying between Afghanistan and Turkestan. The Ameer claimed it, but had never occupied it, and it was this tract of country that was the subject of dispute. M. Lessar proposed that the

that the act was instigated by the English, and was a violation of an agreement entered into between Russia and England, that neither party should enter the disputed territory during the progress of the negotiations.



boundary line of Afghanistan should be drawn south of Penj-deh, thus giving Russia the whole of it. Before England had given a decisive answer to the proposition, Abdurrahman sent an expedition, and seized Penj-deh. Russia claims

The battle at Penj-deh on the 30th of March resulting disastrously to the Afghans, intensified the complication; Abdurrahman, in spite of his ancient friendship with Russia and his obligations to her for hospitality during his exile, evi-

dently desires to maintain friendly relations with England, especially as that country has shown no disposition to encroach on his dominions; but on the contrary, voluntarily surrendered Candahar after conquering it. On the other hand, the slow, stealthy approach of Russia is a constant menace.

As shown in the portrait, his features are pleasing in general, while his head is far from wanting in qualities of strength and ability to govern with fair discretion. The reasoning organs are well marked;



SIR PETER LUMSDEN.

there is good mechanical capacity, with firmness, prudence, and ambition. We should say that the inclination of his mind was rather toward peace than warlike endeavor; the head is relatively narrow at the base, and apparently high in the top, contributing to a spirit at once kind, benevolent, and dignified. Taken in all Abdurrahman Khan is a fine specimen of the man of Central Asia.

The map may assist the inquiring reader to observe the topographical relations of Afghanistan to India and the sea, and the more clearly to understand

the jealous watch that Great Britain keeps upon the movements of the Muscovite. One special feature of interest with a prospect of war before us is the late railroad development in that far-away region by Russia, which enables her to communicate rapidly with her new possessions, as far as the Afghan frontier. As a Western writer says:

"Railways connect St. Petersburg with all leading points in European Russia, as far east as Orenberg near the Ural Mountains; south to Odessa, the central market of Russia's wonderful grain regions; to the Crimea, and far to the southeast."

GENERAL KOMAROFF.

The commander of the Russian forces at the seat of controversy is a man whose portrait indicates qualities of body and mind in which sturdiness and assurance are among the stronger. The broad head shows energy and executive ability; the intellect is practical and economical. He is a man, we think, who can be trusted with authority; for while energetic and determined, he is prudent and usually deliberate in his measures. He has acquired a good reputation by a successful series of military operations in the East; during the past ten years he has managed the affairs of Turkestan to the satisfaction of the imperial government, and been intrusted with services of high im-

portance. He was born in Little Russia, about the year 1832, and has been in military life from a young man.

Of Sir Peter Lumsden's relation to the Afghan difficulty it is not essential that we should, at this time, attempt a long explanation; the reader knows already, from the reports of the daily newspapers, how important a factor he is in the negotiations now in progress between the two great powers, on account of his version of the Penj-deh battle differing materially from that of Gen. Komaroff, and imputing the responsibility of its occurrence to

the unwarranted advance of the Russian forces upon the Afghan position. Two years ago Sir Peter was appointed leader of the British part of the joint commission appointed to mark out the Afghan frontier. The object of the commission was to determine the northern boundary of Afghanistan. At the time of his appointment he was an officer of thirty-seven years' standing. He has seen service in the various Indian frontier expeditions, the Central India campaign, and in the China war. He served with several expeditions against the frontier tribes, between 1852 and 1856. He was present at the action of Punjhaio in April, 1852. He was a member of the military commission in Afghanistan in 1857-58. He accompanied the expedition to China in 1860, and was present at the actions of Singho and Janchow, the capture of the Taku forts, and the advance on Peking. His latest active service was with the Bhotan field force in 1865. His face and head show a well-balanced organization. He should be clear-headed, quick in perception, prompt in judgment, with capacity to organize his resources for the practical achievement of results. There is ambition, enterprise, and courage marked in the physiognomy, with kindness, good humor, and an earnest sympathy for what is elevated and refined. This is a high type of manhood, trustworthy and zealous in the discharge of duty, sensitive in regard to his honor.

A LEAF OF HISTORY.

The history of Afghanistan, like that of all Central Asiatic countries, is one of almost constant change. A small power, it has frequently been the prey of its stronger neighbors. In the ninth century the Afghans became subject to the Persians, and up to 1708, with intervals of independence, the country has been an appendage to some neighboring empire. It was long divided between the monarchs of Persia and Hindostan. The history of Afghan independence dates from 1708, but wars and insurrections,

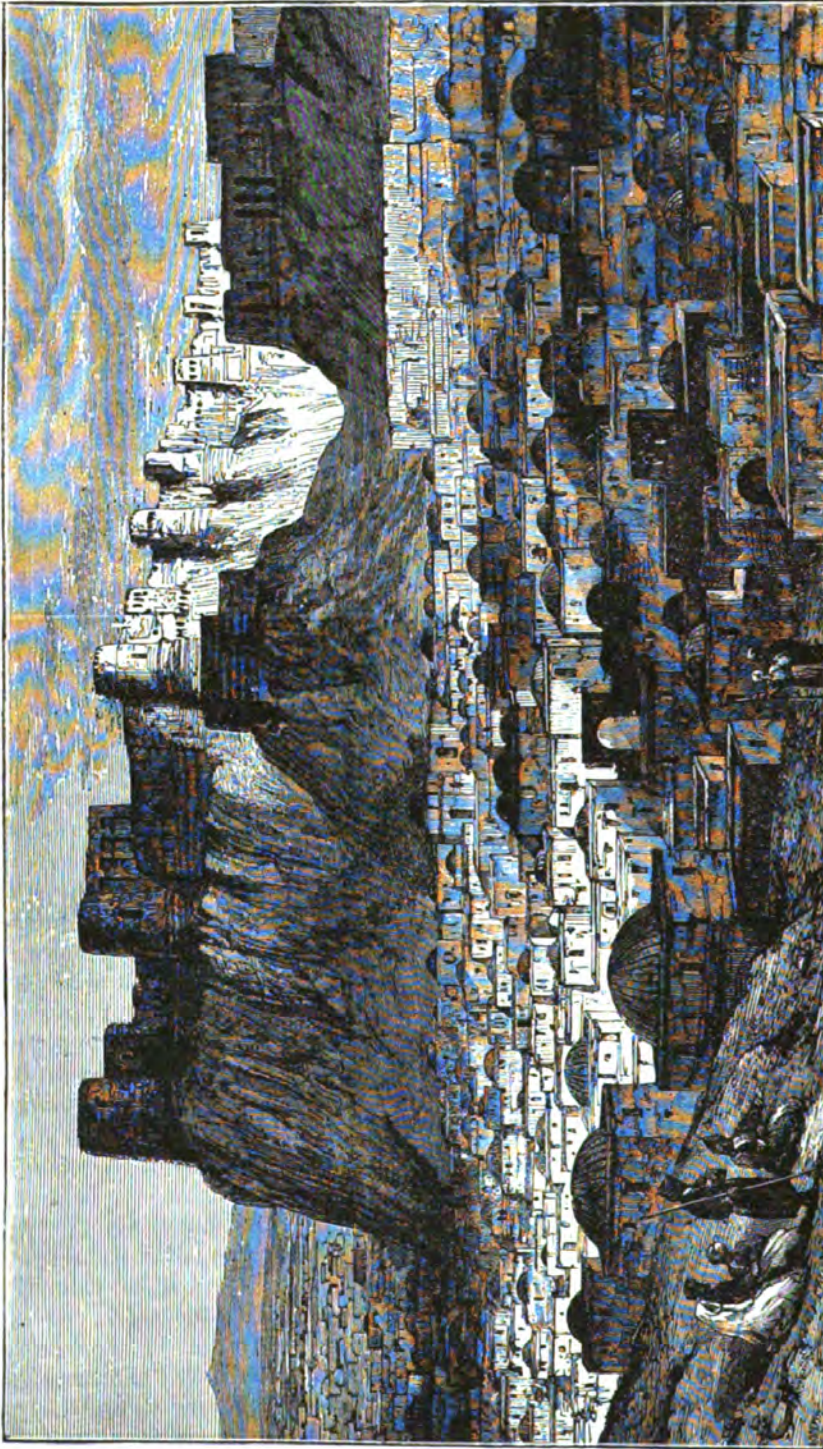
and the downfall of one power and the uprising of another mark its history from the beginning.

In Persian history they are said to date their name to Afghan, son of Eremia, son of Saul, King of Israel, whose posterity, carried away at the time of the captivity, was settled by the conqueror in the mountains of Ghor, Kābool, Candahar, and Ghizni. The country was successively a part of the Persian and Greek empires. The name "Afghan" is not recognized by the natives, but is applied to them by their Persian neighbors. Their proper name is Pooshtana, plural Pushtanneh. The Hindoos call them Paitans, Patans, or Paetans. They are generally thought to be of Arabian descent.

The map shows the geographical situation of the country, and explains the close interest that England takes in the advance of Russia. The surface is greatly varying in elevation, and affected by wide differences of climate—for instance, it is said that at a day's journey from Kabul the snow never falls; and at two hours' journey from it, snow never melts. At Candahar and Ghor the summer heats and the simooms render life almost intolerable.

Its agricultural resources are naturally fine, but the people being so much given to war have not developed its resources. A large part of the country is mountainous, rocky, and desert, but there are fertile valleys, remarkable for picturesque beauty. In these, grain and fruits of all kinds grow in abundance. The most extensive of these valleys and plains are Kabul and Peshawar, besides a rich plain in West Afghanistan in the vicinity of Herat. This, one of the chief cities, is strongly fortified, and the key to the present situation. It is four hundred miles west of Kabul, and before the Persian siege, in 1838, its population was estimated at forty-five thousand, but it is supposed to be now about thirty thousand. Herat has been a grand central mart for the products of India, China, Tartary, Afghanistan, and Persia. It

manufactures carpets, caps, cloaks, shoes, etc. For a long time it was the capital cotton are grown, and in the oases of the sandy regions the date-palm grows abun-



HERAT AND ITS CITADEL.

of the empire founded by Tamerlane in the fourteenth century. In the southern part of the country the sugar-cane and dantly and forms an important part of the food of the people. Wheat is the staple, and rice, corn, barley, millet, len-

tils, and tobacco are grown for home consumption. The mulberry-tree grows in the cool valleys. The sides of the mountains are covered with great forests, which lumbermen have not disturbed as yet. The great chain of the Hindoo Koosh Mountains, on the north, rises from the lower regions in four distinct ranges. Thick forests of pine and wild olive, with a variety of other trees, and valuable herbs, with a profusion of flowers, cover the lowest range. The second range is still more densely wooded, nearly to the top. The third is almost bare. The fourth forms a range of the stupendous Himalaya system, a marked feature

of the landscape, which are crowned with perpetual snow.

The government is a monarchy. The kingdom is divided into provinces, in each of which is an officer who collects taxes. The tribes are ruled by sirdars (chiefs); and in the towns justice is administered by the cadis, when the Afghan does not take the law into his own hands, which he generally does. Estimates of the population vary from two and a half millions to five millions, the most recent estimates placing it at a little over four millions. Of these, nearly two-thirds are Afghans and Pathans, who are Mohammedans. H. S. D.

ON INDICATIONS OF CHARACTER IN HANDWRITING.

OF late years the science of Graphiology has made rapid progress in France and England. With its position in the United States, I am, as yet, totally unacquainted. I propose, however, in the course of two or three sketches to give a few general principles for the guidance of the uninitiated, which may be relied upon as showing forth the most striking indications of character as developed in the handwriting.

That the science is as yet a crude and very imperfect one I am prepared to admit, yet many of the leading thinkers of the day acknowledge that handwriting is to a certain extent an index of character. Chateaubriand says: "The more I compare the different handwritings which pass under my observation, the more am I confirmed in the idea that they are so many expressions—so many emanations from the mind of the writer, by which you can judge of it."

The many collections of autographs published during the present century,—the numerous fugitive newspaper articles written upon the subject,—all prove that great interest has centered upon the handwriting of distinguished men and women. And the further fact that autograph hunting and collecting is not confined to the few, but that every school-

boy and girl,—every college miss and university freshman, has an "Autograph Album," tends further to the idea that there is an innate perception in the human mind,—hitherto almost dormant, but now awakening,—by means of which the leading traits of character of the writer are revealed in his written signs.

But until lately no effort has been made to systematize the various "peculiarities" of handwriting with the object in view of discerning the mental or spiritual tendencies invariably connected with each and every form.

And to Miss Rosa Boughan, of London (England), is due most of the credit for having patiently and studiously worked in this field; so that now the student ambitious of becoming a Graphiologist has a well-built road upon which he may with comparative safety walk in his preliminary investigations.

For a number of years I had been collecting autographs of the most distinguished men and women of the world, and comparing the characteristics of the handwriting with what was known of these persons, but it was not until 1875 that I learned that Miss Boughan was engaged in the same interesting labors. Her investigations had been conducted over a larger field than my own, and yet

it was astonishing the unanimity of our conclusions, mine conflicting with hers in only a few minor details.

That others have formulated other theories I am well aware. Indeed I have known,—and now know,—philosophers of world-renowned fame, so convinced of the truth of the science that they have been guided by their interpretation of character as delineated in the handwriting, in their choice of friends and servants. Here is an instance, the truth of which I personally know. A distinguished physician in London, several years ago received a letter on health matters from a youth of some sixteen or seventeen years. He was struck with the character as depicted in the handwriting, and showed it to his wife, who with himself had made somewhat of a study of Graphiology. They decided that such a young man, as they felt assured this one was, was just the one they required to train in their own ideas and views. Accordingly a correspondence was commenced, negotiations entered into, the young man fully apprised of the interest taken in his welfare, and a plan submitted for his consideration. Owing to private circumstances which absolutely prevented, he was compelled to decline the munificent and honorable offer, but subsequent events in the young man's life have proven that the doctor's estimate of his capacity was an accurate one.

He married, and by a strange coincidence the handwriting of his wife was as attractive in its hidden lines as that of the husband had been. An offer was made to her of a similar nature to the other, and after due deliberation accepted, and the lady is now a student with the doctor, with the entire sanction and approval of her husband, her life devoted to the work thus strangely chosen for her.

Lavater in his "Physiognomical Fragments" says: "The more I compare different handwritings, the more am I convinced that handwriting is the expression of the character of him who writes.

Each nation has its natural character of writing as the physiognomy of each people expresses the most salient points of character in the nation." To test the truth of this let us now analyze the handwriting of the leading nations, and see if it compares with their well-known characteristics.

The French, as a nation, are known to be one of the most volatile, changeable, and excitable peoples in the world. There is in them a general disinclination to settle down to steady work. All must be intense and keen excitement,—each day bustling with its supply of novelties and changes,—or all is "blue" and flat. These things are seen in the ordinary type of French handwriting. The excitability is shown in the rapid utterance of the letters, and the fantastic methods of joining them, while the rounded curves—long and sloping up-and-down strokes, show the want of concentration to anything but pleasure. The vanity and boastfulness which have rendered current the words "Gasconade" and "Frenchified" are shown in the strange and peculiar formations of the capital letters, and the liberal amount of pen and ink wasted in flourishing around, in the oftentimes vain attempt to make an ornamented signature. And yet withal there is such a general beauty and delicacy in the handwriting that one is compelled to admit that it bears away the palm in its indications of refinement and grace. And for these qualities France has no compeer in the wide world.

The intense ardor and poetic imagination of the Spaniard, together with his general impulsiveness, are clearly discernible in the large-headed and graceful capitals, and the nervous and disjointed method of writing the smaller letters.

The Italians have been for some time degenerating, hence there is a certain despondency and general sluggishness, lack of desire to rise,—loss of laudable ambition,—shown in the irregularly rounded curves, and the downward tendency of the lines. At the same time

there is great tenderness exhibited in the softly sloping lines, and the curves before spoken of.

Now take the more stern of the Caucasian race. English and German national characteristics are distinctly portrayed in the national handwritings. In the former, the ambition, self-assertion, determination, and general force of character are shown in the firm up-and-down strokes, and the bold, clear outlines of the letters. There is no attempt at flourishing or ornamentation. Plain and solid, there is a firmness about it which is indicative of power and intense energy.

In the German writing there is a great similarity of power combined with a greater share of hardness and dogmatism. These are shown in the angular twists, and cramped upright lines, almost devoid of grace or refinement.

The American handwriting reveals traits of character which of late years have grown much more distinct. As the Caucasians of this continent have mingled blood and ideas more freely than in Europe, there is necessarily a commingling of various national characteristics shown in the handwriting. Hence we find in the American chirography much of the English boldness, the German dogmatism, combined with the grace and elegance of the French. Together with these qualities there is a system about it even in the boastful flourishes which shows method; and the very fantastic originality displayed in the formation of some of the capitals denotes that inventive power for which America is celebrated throughout the whole world.

And now the main question presents itself. Granted that the national traits—the general indications—may be discerned, can it be proven that the handwriting reflects the personality of the individual writer?

I think unquestionably it can. The fact is patent to all that the writing alters and develops with the intelligence,—that it becomes firm when the character strengthens,—weak and feeble in sickness,—agitated and erratic when the wri-

ter is under the influence of great joy, grief, or any other passion. Persons of weak mind or the converse,—lazy or energetic,—the dissimulator or truthful,—the obstinate or yielding,—the idle or industrious,—the avaricious or benevolent,—the selfish or generous,—the harsh or tender,—the refined or vulgar,—the sensual or virtuous,—all give a clear key to their respective characters in their handwriting. Even the most remote and fugitive sensations and passions or motives are laid bare in a simple letter, written, no doubt, with a very different intention than that of laying open the heart's secrets to the receiver.

The author of "*New Physiognomy*," presents this view of the question in the following words: "Mind precedes, fashions, and directs the physical organization. It determines the shape of the head, the contours of the body, the expression of the countenance, the tones and modulations of the voice, the manner of walking, the mode of shaking hands, the gestures—in short, the appearance and movements of the individual generally, including the shape of the fingers and their motions in forming the characters used in writing. It follows that the latter must differ in the handwriting of different persons, and be in some manner and degree signs of character. This general proposition will, we presume, be almost universally admitted. We, at least, shall not seek to avoid a conclusion so naturally and directly reached. Every general rule, however, has its exceptions—or, more correctly, there are minor laws which modify the action of all general laws, in some cases practically nullifying them. These minor laws or modifying conditions must be understood and taken into account, or the observer will be liable to fall into many errors."

That graphiology is purely a science of observation I admit, but so likewise are all the sciences except mathematics. What chemist can tell beforehand the result of mingling two unknown elements (supposing them to be placed in his hands for that purpose)? He can not

tell until he has observed results. And so throughout all the sciences. Astronomy, meteorology, geology, medicine, and all the "ologies" are sciences based upon the careful observation and classification of various facts and phenomena. And so is graphiology based upon these two men-

tal exercises. Let the laws of graphiology be observed and laid down with approximate accuracy, and we have a science just as perfect and complete as medicine, astronomy, or any other received and recognized science.

REV. GEO. W. JAMES, F.R.A.S., F.R.H.S.

FACES.

THERE are faces cold as the ice,
And faces warm as the sun ;
There are faces all marred with vice,
And faces we ever shun ;
There are faces vacant of thought—
Fair faces, but nothing more ;
There are faces with sunlight caught,
Sweet faces we half adore.

There are faces so hard, we shrink
To greet with a word or kiss ;
There are faces from which we drink,
And faces we ever miss ;
There are faces dark as a cloud
Portending a storm of rain,
And faces that are gay and proud,
Revealing a soul all vain.

There are faces kind with a love
That reflects the Love benign—
The love that shines from Heaven above,
And is of a friend the sign ;
There are faces that wear a frown,
Driving the world away ;
And faces that tell of a Crown
As bright as a cloudless day.

There are cynical faces mean
That sneer with never a word,
And faces composed and serene
By the power of the Truth once heard ;

There are beautiful faces oft,
But not of the chalk or paint ;
And there are faces pure and soft,
The faces quite of a saint.

God pity some faces I see !
They speak of a life of shame ;
God pity some faces I see !
They tell of no worthy aim ;

I read in the faces around
Every thought that lies within,
Virtues all fair, or hopes profound,
Every vice or secret sin.

We chisel our thoughts in the face,
Emotions paint unawares,
With our minds and hearts ever trace
Our joys and our griefs and cares.
It is love, it is hate, we write,
Whatever we think or feel ;
It is doubt, it is faith, or light,
Whatever is woe or weal.

Whatever we choose we may paint,
The feelings refined or ill,
The thought of the hero or saint,
Whatever we love and will ;
A sculptor of self we may be,
Chisel as Phidias wrought ;
Carve in the face what all may see—
A soul by the masters taught.

REV. H. C. MUNSON.

MEMORIES OF HORACE MANN.

OF such men as Horace Mann, we who are interested in mental science never tire ; and when a fresh reminiscence is given us by one who knew him, we eagerly read it. In a recent number of the *Boston Journal of Education*, Mr. Charles Hutchins relates some recollections of the great teacher that are properly repeated here :

"It is some forty years since I first heard the name of Horace Mann, and that other name—then new in this

country—'a normal school.' A diffident young man, or 'large boy,' just out of my 'teens,' and fresh from a country home one hundred and seventy-five miles away in Vermont, and without one friend or face that I knew within that distance, I had hired out to work on a market-garden farm near Boston, with the expectation of attending school the following winter, in the hope that I might become a teacher. I desired advice as to the best school for my case. A letter from an

older brother suggested that I write Mr. Mann. Had he suggested my writing the Czar of Russia or the President of the United States, I should not more hopelessly have distrusted my ability to secure attention and a reply. But in my desperation I finally made the attempt, after some evenings of practice upon my penmanship, and upon the most proper kind of a letter to one of such distinction. A moderate imagination will fill up the rest—how many sheets were torn up before the final one; how carefully the prefix 'Hon.' was written, and with what misgiving it was mailed. My waiting then had a beginning, but I feared that it might never have an end, for I questioned whether so busy a man would take time to answer such a letter. I expected, at best, but a hurried line from some clerk in the office. But to my mingled delight and surprise, in a very short time a letter came postmarked 'West Newton.' It was not a hasty note; it was not written by a clerk. It was a full sheet, written in the peculiar hand of the secretary. Had it been written by my own father, it could not have been more appreciative of my hopes and fears, or of my inward desires. Mr. Mann not only read very carefully what I had written, but he read 'between the lines,' and answered both the questions I had asked, and those which I should be liable to ask. He gave full information respecting the different normal schools, relative cost of board, incidental expenses, the probabilities of obtaining employment, to those who should fully qualify themselves for teaching, and the extent of the obligation to teach in the schools of Massachusetts, closing with a statement that he dared not express to any one all his hopes, or all his expectations as to the future influence and usefulness of these schools. What Mr. Mann did in this case was not an exception, but the rule, during his entire term of office. How he found time or strength for his voluminous and varied correspondence—most of it in his own hand—passes comprehension.

"The two following incidents illustrate Mr. Mann's estimate of the value of a single child. On the day that Kossuth arrived in Washington, in 1851, I was at Mr. Mann's house. He was a member of Congress at that time. A portion of the Congressional library had just been destroyed by fire, and a remark was made to Mr. Mann respecting the great loss, and the impossibility of replacing some of the books. He replied: 'It is a very great loss, but not so great as the burning of the school-books of one poor boy who has in him the possibilities of a first-class man, and whose books can not be replaced.'

"On another occasion, after Mr. Mann had concluded an eloquent address at the dedication of a building for educational purposes, in which address he had stated that the great amount of money expended would be fully justified, provided one child should be saved from ignorance and vice and made a virtuous and useful citizen, he was called to account by one of his hearers for so strong an expression, and asked if he, himself, did not think that it was extravagant. 'Not if the child were my son or daughter,' was his instant reply.

"One of the earliest and most devoted friends of the cause of popular education, during the early part of Mr. Mann's great work, was Governor Briggs, whose home was in Pittsfield. He took a deep interest in the normal schools, and was present at the dedication of the building for the Westfield school. During the evening Mr. Mann paid a very high tribute to the Governor, saying, among other things, that it was the first time in the history of the State, or, so far as he knew, in the history of any State, if not in the history of any country, that the Governor of a Commonwealth had come down from his high position to labor with the common people in the cause of common-school education. The applause which followed the address showed that the audience indorsed the high tribute, and fully appreciated the eloquence in which it was set.

"It was now the Governor's turn to

speak. It seemed embarrassing for any one to attempt to follow such an introduction, and doubly so for one as modest and unassuming as Governor Briggs. But he was equal to the emergency. After a moment's pause he said, very slowly, in a distinct and yet half hushed tone:

"The distinguished Secretary has made a great mistake—a very great mistake." And then there was a long pause. 'A

very great mistake. He could hardly have made a greater. I have not come down from any official heights to labor with the common people. I have come *up* to the people whose servant I am.'

"The effect was electric. The continued and repeated applause showed that the audience could appreciate two good things in one evening. The address was in keeping with the eloquent and high-toned opening."

LOUIS RIEL AND THE HALF-BREED REBELLION IN CANADA.

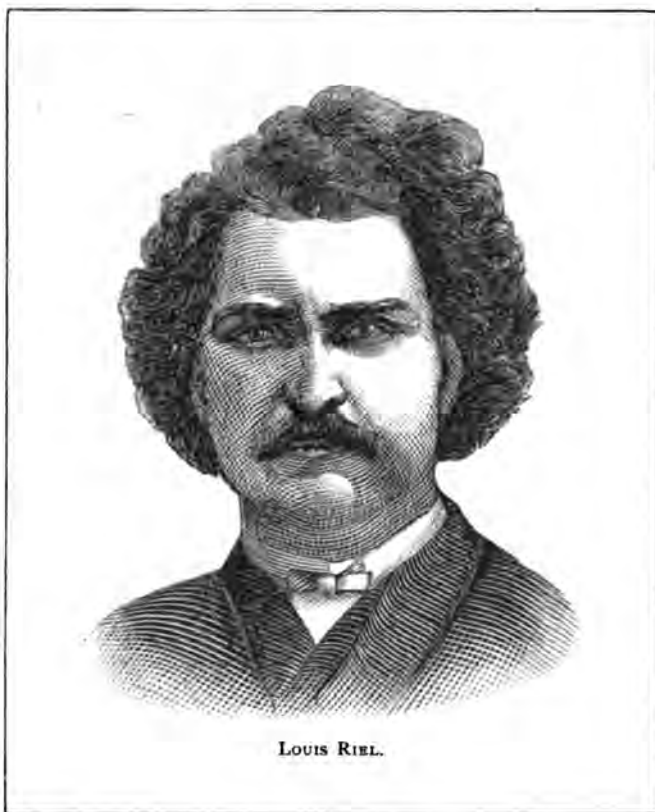
FAR to the North, in the Saskatchewan country of the Dominion of Canada, a rebellion against the authority of the Government has been in progress for several months, attended with bloodshed and the destruction of property; but now that the leading spirit of it, Louis Riel, has been captured, order may be restored soon among the turbulent Indians, half-breeds, and settlers. There is always a foundation of wrong in every uprising of a large community against the Government that claims jurisdiction over it, and in this unhappy affair its history shows valid ground for the early protests of Riel and his followers. Louis Riel was first heard of in 1869, the year that the Dominion Government purchased the entire interest of the Hudson Bay Company, paying therefor \$1,500,000. This transfer made no special provision for the ownership of the settlers, many of whom had acquired their titles from the original colonists or were descendants of hunters and trappers employed by the Hudson Bay Company. Soon after the Northwest became a part of the Canadian Confederation, the Government undertook to survey the whole country, with the view of making allotments of land to settlers. Surveyors were then employed in laying out the country in "sections" of square miles, to be subdivided among the settlers, who should come in under a new patent or title given by the Land Commission of the Government. The "sections" were measured

off without regard either to the natural features of the country or to the habitations or claims of the old occupants, who are mainly French Canadian half-breeds. So far as title to their homes is concerned, it must be said that, for the most part, the people of that region base it upon their long undisturbed possession. When the Government at Ottawa began to dispose of the surveyed lands to persons who had acquired no rights by settlement, but who had complied, as the half-breeds in possession had failed to do, with the requirements of the law, the latter became indignant, and Riel, then a young man, impetuously advocated their cause and organized a rebellion. He aroused the people to demand a "Bill of Rights," embracing the right to elect their Legislature and Executive, and to have Land Laws similar to those of the United States. The demand not being speedily conceded, a Provisional Government was organized, with Riel as Commander-in-Chief. Colonel Wolseley (now General Wolseley) was sent to quell the rebellion, which he did without bloodshed in 1870, and Riel was banished for five years. In the same year the "Manitoba Act" was passed by the Dominion Parliament, granting many of the privileges asked for by the inhabitants; and they have since lived under a representative government. The population of all Manitoba was then about 14,000, of whom some 2,000 were whites and 12,000 half-breeds. The above Act set aside 1,400,000 acres for the half-

breed infants, with subsequent grants of land scrip to heads of families. An after Act divided the 1,400,000-acre grant, giving 240 acres free to each half-breed child born prior to July 1, 1870. A great deal of discontent ensued, which has had much to do with the present trouble.

In Saskatchewan and Assinibora, beyond the boundaries of Manitoba, were lands occupied by half-breeds who were not included in the Manitoba Act. In

sioned that he withdrew and never reappeared in Parliament. He was not heard of again until the new insurrection, when he attempted to repeat the proceeding of Manitoba—setting up a Provisional Government and issuing a Bill of Rights in which it is demanded that the claims arising from possession shall take precedence of the claims arising from patents where there is a conflict; that each settler shall have his possession to the extent of 240



LOUIS RIEL.

this territory is the St. Laureant district, where the present uprising originated. About ten years ago the settlers began demanding the same recognition and privileges as Manitoba. These demands not being granted, dissatisfaction continued to increase. Riel, who had been living in Montana Territory during his banishment, returned to the disturbed region and was elected to the House of Commons. On taking his seat there, however, so much excitement was occa-

acres confirmed by patent; that his "location" of his land shall be respected, and that the Government shall make provision for the education of the children of the half-breeds and for the support of the Indians whose alliance is courted by this demand.

Riel, as appears in the portrait, is a man of dark complexion, with a quick, impatient nature. The elements of race mixed in him, Indian and French especially, are conspicuous, and give him character for

elasticity, tenacity, and sprightliness. He was born near Fort Garry, now Winnipeg, at the foot of the lake bearing that name, in 1844, and was sent to the Laval Seminary at Quebec, to be educated for the priesthood. A Damon-like attachment to a fellow-classmate distinguished his life there. One day the classmate was attacked by small-pox, and although the disease soon assumed its most virulent form, Riel could not be kept from almost constant attendance at his friend's bedside in the hospital, and when he died

Riel left the seminary. Considerable attainment, a magnetic presence, and a strong sense of what he believes to be the wrongs suffered by the half-breeds, account for his domination over the aggrieved Indians and half-breeds who followed his leadership.

Now that he is in the hands of the military representatives of the Government he so boldly defied, even at the cannon's mouth, it is to be expected that he will be most severely and summarily dealt with.

THE MEASURE OF STRENGTH.

NOTHING is gained to science by clinging to an old form of words that constantly needs explanation and defence, if something more comprehensive and less faulty can be obtained. Habit, it is true, is strong, and we do not yield readily to innovations, but scientific men should be the most free from prejudice. We should yield a point fairly made against us, though it may seem like a concession to our enemies, since they are sometimes our best friends, as they often point out weaknesses or faults in us, which the more intimate do not see, or seeing, hesitate to name. We may thus profit by the very malice of our enemies.

It is a favorite expression with Phrenologists that "Size is the measure of strength." But we find it necessary at once to qualify the expression by adding, "Other things being equal." Our enemies often take advantage of this and use the first part of the sentence, without the second and qualifying member; and ignorantly or maliciously bias the minds of those who are not properly instructed, against the science of Phrenology. Thus, we have no doubt, many are shut out from the study of the subject; and it is astonishing how far prejudice goes even with the learned.

What, then, is the measure of strength in any man? Not *size* alone. No intelligent Phrenologist ever thinks so, and much less will he give utterance to such sentiment. If any man of this science

ever did think so, that thought has long since given place to a better one.

Silas Jones, a writer on the subject some forty years ago, doubtless feeling the force of this criticism, thus guards himself on this point when speaking of the relative size of the organs:

"The *third* fundamental doctrine of Phrenology is, that the comparative strength and activity of the several intellectual and affective faculties in each individual is generally indicated by the relative size of the organs. We say *generally*, for where a moderate-sized organ has been much *exercised*, and a large one much neglected, the relative size of the organ does not indicate with unerring certainty its full relative strength and activity. It is well to take into consideration natural language and the influence of external circumstances, when the above general principle comes to be applied as a rule in the investigation of talent and character. In this we speak only of size, as to its effect upon organs in the same head, just as the size of the different fingers of the same hand indicates the relative power of them. This, indeed, becomes a mere question of quantity, as more or less."

Thus it will be seen that after stating a principle he is obliged to explain it almost entirely away, to free himself from objections. It is submitted to the intelligent consideration of Phrenologists, whether an expression needing so much qualifica-

tion, so much guarding, should not be abandoned for something better; and whether something more complete, and less liable to abuse should not be put in its place?

The strength of any organ, or group of organs, or of any mind, depends on *five* things: *1st.* Relative size; *2d.* Quality of the tissue; *3d.* The degree of culture; *4th.* The temperament of the individual; *5th.* The health of the subject.

These things the present developments of the science evidently teach. And this the writer holds to be the truth in the matter in hand. When, therefore, we speak of strength we should always include these *five* things as a necessary complement. Strength is not a simple element. It depends on several contingencies, and is of a complex nature. Neither strength nor its *measure* can, therefore, be expressed in a simple, or even in a compound sentence. It requires a complex form of words to portray truly and fully the basis from which it is evolved, the medium through which it is manifested, and the measure by which it is tested and its quantum indicated.

Size is an element to be considered in

strength, but it is not the measure of strength; it may be a digit, but it is by no means the sum of figures, all of which are to be considered in the full measure of strength. Size is a partial measure in a certain direction; but *proportion* is more than size, since size simply may in some cases be a weakness. This is never the case with proportion. It is true that size must be always considered; so must temperament, and quality, and health.

I am in favor, then, of eliminating from the nomenclature of Phrenology the expression, "Size is the measure of strength, other things being equal": *1st.* Because it puts one element in too bold prominence; *2d.* Because it puts other elements of equal or greater importance in the background; *3d.* Because the expression misleads unthinking people; *4th.* Because it gives ill-designing persons an undue advantage; *5th.* Because the *other* things necessary to make it equal are more, much more, in the aggregate than size. Let us rather say: *It is important to consider SIZE in the measurement of strength.*

IVAN VON ZESTONE.

READ BETWEEN THE LINES.

THIS life is like a book; within
Are leaves of pure, unsullied white,
Whereon our record we must write,
Of each hour's victory or sin,
But few there are that read this book,
Who pause to take a closer look,
Between the lines.

"What lies between the lines?" you say.
The story of a human heart,
Of every human life, that part,
Which, hid from careless eyes away,
Is yet the measure of the man.
Then look and read, where'er you can,
Between the lines.

We mark, perchance, a brother's sin,
And say, "O, thou accursed of man,
I'll shun thee now, where'er I can,
My door thou shalt not step within."
We read the story of his shame,
Nor stop to look before we blame,
Between the lines.

Behind each act a motive lies;
For each effect a cause must be;
And, if we would but stop to see
What caused our brother's shame, surprise

Might fill our hearts. Then give ye heed,
'Tis always safe to pause and read
Between the lines.

Then, if inclined to criticise
The faults of others, great or small,
'Twere better that we should recall
This precept, and direct our eyes
To our own life-book first, and see
That no misdeed recorded be
Between the lines.

Far short of what we wish to be,
We fall; and this, I think, is true;
'Tis not so much by what we do,
But what we wish to do, that we
Can best be judged. In each life-book
Are found such wishes; only look
Between the lines.

But scarcely can we hope to earn
All men's approval; for mankind
To their own faults are strangely blind,
Though others' failings they discern.
But courage, Heart! One Eye, above,
Will ever look, with patient love,
Between the lines.

M. R. T.

"A LITTLE MORE LOVE."

THERE is no subject under the sun which absorbs so much of the world's attention as the subject of love. And there is nothing mysterious in this fact. As soon as we are old enough to know anything we discover that marriage is the dominant institution of this mundane sphere. We afterward discover,—usually some time afterward,—too late to be of any wholesome service, that the special reason for the existence of this institution is the necessity for keeping the world supplied with inhabitants. If parents ever become wise and unselfish enough to tell the whole story to their daughters, instead of the half with its glamour of rose-colored falsehood, there will be some hope for the race. But our girls are deceived from the cradle, and in many instances by mothers whose lives have been utterly wrecked by unwise marriages. These lies have their origin in the dread of old-maidism, inordinate ambition, and the desire to be relieved from the expense of providing for their daughters.

The girl who is far-sighted enough to understand in advance the responsibilities that marriage is likely to impose, and thinks best to step out of the way of such contingencies, is a *rara avis* indeed, though found much more often than formerly. Not very long ago such a woman was considered a poor, foolish, much-to-be-pitied creature. But it is one of the most hopeful signs of the times that a girl has come to have just as good a right to a career as her brothers, and public opinion is very quick to resent any interference with that right. So it has come to pass that in certain ways we have touched the standard of common sense. But in certain other ways the condition of affairs pertaining to so-called love and marriage is most deplorable. As a rule our girls are instructed that marriage is something to be attained at all hazards,—to be worked for, managed for, educated for,—and all the energies of their young lives are bent in that direction. Marriage is a divine institution, they are informed;

that God intended every man should have a mate; and so the first man who comes along with money enough to make him a desirable *parti*, is a sort of heaven-sent fish which the marriageable young lady must angle for on scientific principles. Having received such an education, what else can she do?

Then there are the sentimental girls, whose ideas of love and marriage have been formed from the diligent reading of trashy novels. What more natural than that these should believe themselves in love when such is in no respect the case? It would doubtless be safe to say that the large majority of young women who marry, honestly believe that love is the corner-stone of their union. Now, to assert that this something, this feeling, emotion, or whatever it may be called,—and which before marriage so closely resembles love,—is always the outgrowth of passion, is to make a pernicious and utterly untenable statement, though of course no one will be so foolish as to deny that this is the chief foundation of some marriages.

This man who comes "a-wooing" in his best clothes and manners, who is so anxious to please, so gentle, so considerate, is a real hero for the time being. In large families, where the end and aim of the parents' lives is to marry off their daughters as fast as possible, such deference and partiality are quite unknown, and on this account doubly fascinating. A keen feeling of gratitude, and the relief that accompanies the anticipation of being lifted out of uncongenial surroundings, will sometimes deceive the most cautious. It is the same feeling that has prompted so many men to marry their nurses,—a feeling of profound gratitude, honestly believed to be love. We know that such marriages are pretty sure to turn out unfortunately, though we could point to some beautiful exceptions. To say that these persons wilfully deceive themselves is to make an idiotic statement. They are as honest in their con-

victions of the purity and enduring nature of the sentiment which dominates them as are those whose love ventures *prove* pure and lasting. They are in the power of something which so perfectly resembles love that it is impossible for *them* to distinguish between the two. Interested and disinterested outsiders will often deplore the man's choice, or the woman's choice, seeing nothing ahead but marital disaster and shipwreck. And yet we here and there find that these well-intentioned and apparently wise persons have been mistaken,—such unions sometimes turning out just the reverse of what has been predicated.

Girls in high life only occasionally marry their dancing-masters or their fathers' coachmen, and there are hosts of young women who do not belong to the class of professional anglers. What are we to say of the marriages contracted between parties in the same station of life, between worthy and conscientious men and women, which result disastrously? The love which they had so firmly and enthusiastically counted upon proved, after marriage, to have been a delusion and a snare. They are victims of incompatibility,—a Moloch which next to intemperance has destroyed more happiness than anything else. How is this to be guarded against when in most instances it can only be developed through the influence of the closest relations? If anything is true, it is that folks must live together to find each other out. But the marriage relation can not be taken on trial as one takes a servant or a clerk. The irrevocable knot must be tied, and "after that the judgment." We all know that love purifies and passion debases. And who does not know that passion is as sweet as heaven until it is gratified? And who that has studied human nature will dare to say that it is always or generally possible to distinguish between love and passion *before* marriage?

Of course there is no immediate remedy for this state of things. The cure will have to be slow and the result of a better education. Some things are so

obviously and actively wrong as to invite definite remedies. The veriest tyro can prescribe in a case of well-developed fever, but it takes a genius to successfully cope with the subtle, the chronic, the contradictory in disease. Then, again, there are some diseases that can not be cured. They were fatal from the start. Would it not sometimes seem that there were social ills that were purposely irremediable? The child learns to walk by falling down. This is a tedious and not infrequently a painful process; but the little muscles at last come to be obedient to the little will, and the result is accomplished. No child can learn to walk by seeing another child tumble down, though in some cases it may be a lesson in the direction of caution, but it is of no use in muscular development. Every single individual must work out the problem of life for himself. If he happens to have had a good home-training; if he is a student, an observer, and conscientious withal, he is likely to be so far developed as not to need the rack and thumb-screw of incompatibility, or the thousand-and-one other acute educators. His ancestors, perhaps, have helped to make things easy for him. But such men are few and far between, as are also the clear-eyed, perfectly poised women who are able to anticipate and decline unhappiness. Such men will see to it that their daughters are properly instructed and prepared for the battle of life by knowing the location of the enemy and how to meet him. They will not be treated to half stories, neither will they be *dependent* members of society. Such women, by the force of their example and the brilliancy of their career, will make labor honorable and single lives attractive. On these, and on the sensibly and happily married, must we depend largely for assistance, though the spectacle of the wounded and the dying in the ranks of the wretchedly married can not but do some good, if only on the principle that one tumbling child may teach another to be a little more careful.

It is easy to theorize and criticise and quote poetry; it is easy to say this should

be and that should not be, but "facts are stubborn things," and until they are met and disposed of even philosophy can avail but little.

We hear a great deal about "social and matrimonial ethics," the "laws of conjugal harmony," and "elective affinities," but somehow they don't seem to have much bearing upon the subject. They sound well, but who are likely to know anything about "the laws of conjugal harmony" till they have practically tried the laws and found out whether they are harmonious or the reverse?

We know this to be literally true, that marriage will put an end to all doubt on the subject of love. It is the one great eye-opener of the world. And this is about as much as we do know. But we will not lose heart; and if once in a while one can be found who thinks he sees in this apparent chaos of conflict and contradiction, this heartache and heartbreak, the hand of a loving and All-wise Father, let us try and warm ourselves by the fire of his faith, and do just as fast as we can all that our hands find to do.

"ELEANOR KIRK."

VICTOR HUGO.

THE eminent poet, dramatist, publicist, patriot, and idol of France has at length succumbed to the weaknesses and infirmities of old age. He was born of a good family; his father was the friend of those valiant soldiers, Kleber and Dessaix, and aide-de-camp of Alexander de Beauharnais. On Feb. 26, 1802, Victor was born at Besançon, and proved of so feeble a constitution that it was thought that he could not live. He began to write verses at the tender age of twelve, and even attempted a comic opera. When but fifteen he competed for the prize in poetry offered by the French Academy, his subject being "The Pleasures of Study." He might have received the prize had he not mentioned his age in a couplet, as that led the committee to think that the writer might be making sport of them. He received, however, honorable mention, and next year he obtained two prizes offered by the Academy of Toulouse, his poems being of a flavor in sympathy with royalist opinions.

He made some advancement in the study of mathematics, but felt mainly drawn toward literature; and finally determined, in spite of the disapproval of his father, to devote himself to it. At twenty he was compelled to start in the world on his own account, and a little volume of odes and ballads, which his brother helped him to put in print, fell

into the hands of the court-reader, M. Mannechat, who was pleased with its loyal spirit, and brought it to the notice of Louis XVIII. A pension of one thousand francs was the very unexpected reward the young author received from the king.

Soon after this, in 1822, he married Mlle. Foucher. A romance of the Norsemen followed; then a eulogistic Memoir of Voltaire. In 1826 he published a second series of "Odes and Ballads," that was warmly received by the public. He published "Cromwell," a drama, in 1827, and in the year following appeared a volume of his odes, entitled "Les Orientals." Hugo then became the champion of the romantic school of literature, which was at that time strongly opposed to an older literary faction, known as the classical school. He achieved success as a dramatist in 1830, when his "Hernani" appeared; and his reputation was more strongly established in 1831, when "Marion Delorme" was presented. Among his most successful and popular works are—"Notre Dame de Paris," a romance (1831); "Le Roi s'Amuse," a drama (1832); "Les Misérables," a novel (1862); "The Toilers of the Sea" (1865); "L'homme qui rit" (1869), and poems entitled "The Leaves of Autumn."

Aside from his literary pursuits, Victor Hugo played an important part in polit-

ical life. He was admitted into the French Academy in 1841, and in 1845 was raised to the peerage by Louis Philippe, King of the French. He gave his cordial support to the republic in 1843, and was elected to the Constituent Assembly by the voters of Paris. Opposing Caviagnac in 1849, he joined the party of advanced democrats, of whom he was a leader, and distinguished himself as an orator. For his opposition to the *coup d'état* of De-

resigned on the refusal of the Chamber to recognize the election of Garibaldi for Algiers. He was at Brussels at the close of the insurrection in Paris in May, 1871, and he protested against the action of the Belgian Government in refusing an asylum to the fugitive Communists,—an imprudent proceeding on his part, which led to his house being mobbed at night, and to his being commanded to leave the kingdom immediately, and forbidden



VICTOR HUGO.

cember 2, 1851, he was banished. He retired to the Island of Guernsey, from which retreat he issued many of his famous works. After the capitulation at Sedan, he returned to France amid the plaudits of his fellow-countrymen, and settled down in Paris.

He was elected a representative of the Seine after the signing of the armistice with Germany; he protested against the preliminaries of peace, voting for war in the present and peace in the future, and

to re-enter it in future under severe penalties.

Victor Hugo has been the most conspicuous Frenchman of the past half century in a general way, while as an author he was one of the best and most prolific of the age. A vigorous, enthusiastic man in his maturity, hating despotism and injustice in every form, his great talents and paternal character made him for many years previous to his death, on the 22d of May last, beloved by all Europe.

AIM HIGH.

THINE aims, if noble, must ennoble thee,
While sordid ones can but degrade. Thy goal
May be yon summit, or thou canst
Descend the crater of thy life's Vesuvius.
It rests with thee to shape thy path, and thou
Must follow it to good or ill.

Say not,

The mountain peak is wrapped in mists which make
Its far crest dim to lower eyes, and clouds
Rest on its mighty brow. Thou wilt ascend
To purer air and Heaven will be near;
And having reached it, thou wilt see beyond
Another peak, which will be easier to climb
From having gained new strength in triumphs past;
And on that most exalted height is peace.
Tho' lightnings flash around, yet they will seem
A near and glorious presence of thy God.
Of Him, the thunder's tones shall speak His voice,
Will ever find an echo in thy soul.

But easy paths are dangerous and lead
To depths of evil, so 'tis best to climb
From earthly things; and if thine aim be grand,
It can make failure far more glorious
(If thou art not content to miss thy way
And stoop to things beneath thee) than success
In a less worthy cause.

Then, having fixed

That bound, attain it, using no unworthy means
To reach a worthy end, debasing it.
So, evil motives must deform the soul
And stunt the better life which strives within.
Aim high, for life can be transformed,—
Made beautiful and grand thereby. Great thoughts
Fulfilled shall bring great deeds, and at the least
A true reward is found in well-spent years.

FRANCIS HALE BARNARD.

A FEW NOTED PLACES.

FIRST of these let me mention four
of the most wonderful structures in
the world, all corresponding in style, and
all of white marble. I refer to the Ca-
thedral, Baptistery, Leaning Tower, and
Campo Santo of Pisa, that ancient Italian
city, forty-two miles from Florence, on
the Arno.

The cathedral above mentioned, finished
in the early part of the twelfth century,
is a circular edifice, 179 feet high and
160 feet in diameter, beautiful with mosaic
pavement and carved columns.

The celebrated leaning tower is 50 feet
in diameter at the base, and 179 feet high.
The structure is divided into eight stories,
each having an outside gallery projecting
seven feet.

The model of the Italian cemeteries,
the Campo Santo, contains frescoes which
developed the genius of Raphael and Mi-
chael Angelo.

Perhaps not less interesting than these
older wonders is the famous "Alham-
bra," a suburb of Granada, strongly for-
tified, and inclosing the beautiful remains
of a Moorish palace, situated in the midst
of woody grandeur, and built with taste-
ful skill as well as royal magnificence.
In this gorgeous palace is "The Hall of

Lions," so called from a costly fountain
supported by lions, and entirely con-
structed of marble and alabaster, orna-
mented with the most exquisite raised-
work and arabesques. "The Hall of the
Abencerrages" here is even more beau-
tiful; the cedar-wood ceiling, inlaid with
mother-of-pearl, silver, and ivory, and the
stuccoed walls, ornate with arabesques of
wondrous design. But since the Castil-
ian conquest of Granada this rare palace
has been much defaced.

An interesting hamlet is Malmaison, a
village of France, famous for a palace
which was the home of the Empress Jo-
sephine. Here she resided after her di-
vorce from Napoleon, and here he often
visited her, and it is said that the very
room he used to occupy contains the bed
upon which he died at St. Helena.

Mauritius, or Isle of France, an exceed-
ingly picturesque island of the Indian
Ocean, belonging to England, has a ro-
mantic interest,—being the place where
was wrecked the *St. Geran*, in which was
drowned a young lady, whose story was
the basis of "Paul and Virginia," that pa-
thetic narrative by St. Pierre.

I close these brief sketches with Mecca,
the chief of the three holy cities of the

Mohammedans, famous as the birth-place of the great Mohammed, and the El Dorado of pilgrims, as many as 200,000 having visited it in one year. The Caaba ("Square House," the most holy and noted sanctuary in the Mohammedan world) is an immense oblong structure, built of fine gray granite; and at its southeast corner is the far-famed "black stone," believed by devout Moslems to have been brought by angels from heaven. It is said to have been broken, in 1022, by order of a heretical Sultan, but was afterward bound together by means of a silver ring. The color, as the name indicates, is black, and the stone is worn quite smooth by the lips of adoring pilgrims. The interior of the Caaba is plain, with no window or opening, except the entrance and one small door leading to the

roof. The walls and floor are of varied marbles, while the upper portion of the walls and roof are covered with red damask, gold embroidered. The interior of this odd temple is lighted by many lamps; and near the door of the Caaba, outside, is a small hollow, where, it is said, Ishmael and Abraham mixed cement for building the sanctuary; and on the northwest side, inclosed by a wall of marble, are the supposed graves of Hagar and Ishmael; while opposite the east corner they show you the zem-zem, or sacred well of Hagar.

Strange, this scene, these varied customs and beliefs! yet—

May not each earthly Mecca be
A step toward a heavenly shrine,
And heartfelt prayer of pleading lips
Open the gates divine?

CALLIE L. BONNEY.

WHO WAS IT?

IN the summer of 1864, Broad Mountain House had a pleasant addition to its boarders. The new arrivals were from Philadelphia, and consisted of the following-named ladies and gentlemen: Mr. and Mrs. Welcome Gay, their sister-in-law, Mrs. William Gay, a widow lady and her two daughters—Katharine, a maiden lady of thirty-five, and Eulalie, a beautiful blonde of eighteen; Lieut. Charles Gay, their brother, and his friend Col. Wolfington. I have been intentionally explicit in describing this party, as the reader will see hereafter.

Mrs. Gay was an invalid. She was always complaining, and would talk by the hour of her rheumatism and palpitation of the heart, but declared that their visit to the mountains was more for the benefit of her daughter Eulalie's health than for her own. Eulalie's lungs had been weak ever since an attack of pneumonia the previous winter. She was engaged to be married to Col. Wolfington in the coming autumn. It was natural, therefore, that the mother should desire above all things else, that her daughter's health should be re-established before she

left the maternal roof; "for she is my favorite child," added the garrulous old lady.

As I had often heard Mrs. Welcome Gay speak of Miss Katharine Gay as a strong-minded young lady, I felt like studying her at a distance, and I soon found that she was, as she boasted, "a perfect bundle of good health without any troublesome nerves to prevent her from enjoying life." She also said that she was without any "isms," and laughed at believers in mesmerism, magnetism, spiritualism, etc.

She was very fond of natural history—read Lyell, Cuvier, Audubon, Huxley, and Darwin with her brother. She had portfolios of birds, insects, mosses, plants, ferns, and wild-flowers; and not only walked several miles every day in search of such treasures, but spent a good many hours in arranging her specimens while her brother read aloud their favorite authors.

Miss Eula Gay was also her Aunt Welcome Gay's favorite. She spent a good deal of time with her aunt, whose rooms were next to mine, and we all became

very good friends in the course of the summer. Eula's health did not allow her to take long walks, like her brother and sister, but she was very fond of the beautiful mosses, the upright and trailing ferns which grew in such wild luxuriance upon the mountain. She would sit for hours arranging her mosses and trailing vines in hanging baskets, and filling her miniature grotto and fernery.

"They must not die. I have no taste for dried, dead specimens," she used to say. "I want all my pets to be alive. I love to see them grow—like to have everything thrive and enjoy life." One day I found her crying pitifully over some dead ferns which she had transplanted. "I wanted them to get rooted," she said, "for they are to grace my new house next winter," a blush staining her usually white cheeks. "But, oh, how sorry I shall be to leave this dear mountain! I wish I could carry it all home with me!" Then, with a little sigh, "I am so tired of the city—where I was so cruelly ill last winter,—that, were it not for *somebody* who would miss me too much, I would never go back to Philadelphia."

I have never seen a more delicate, flower-like face, a more sensitive, lovable girl than Eulalie Gay. Her mind was purity itself, her thoughts and words crystallized music and poetry. She was so careful of other people's feelings, so fearful of giving offence or trouble, even to the servants, that it was not possible to help loving the gentle, affectionate Eulalie.

Toward the latter part of September, Eula grew a little tired of the mountains. The fading, changing foliage affected her spirits so greatly, that they were obliged to hurry her off to Cape May. We heard that the sea air seemed to restore her spirits, that her languor and hectic fever decreased daily, but the cough and difficulty of breathing continued, however. Finally, her lover agreed with the physician in thinking a sea-voyage and winter in the south of France would entirely restore the beloved invalid to health.

Having obtained her mother's consent to an immediate marriage, preparations for the wedding were soon completed, state-rooms engaged for them on an outgoing steamer, and friends were invited to witness a ceremony destined never to be consummated.

A letter lies before me now giving a description of her wedding-gifts, which, she wrote, "are pouring in upon me like a gold and silver shower. The Colonel's gift is a complete set of pearls. Ann is constantly answering the bell, and I am so tired and excited that I can only lie back in my easy-chair and look at the beautiful presents while Kathie reads the cards and notes which accompany them. We sail to-morrow immediately after the wedding breakfast."

Poor Eula! Over-fatigue and excitement caused a violent fit of coughing. A severe hemorrhage of the lungs followed. Of course the marriage was postponed. A fortnight later, Eulalie Gay in her wedding-dress was lying in her coffin, the bride of *Death*. The bereaved young bridegroom followed her to her grave in Laurel Hill Cemetery, and thus ended my beloved friend's earth-life.

The next letter was from her sister Katharine, giving a description of Eula's last sickness. "It was the most agonizing death-scene I ever witnessed," she wrote. "Eula wept continually, and begged us not to let her die. When Col. Wolfington came to say 'good-bye,' she sobbed out: 'Surely *you* will not let me die! I am too young to go out alone into darkness—and—the—loathsome grave away from you all! I can not, I *must not* die! Doctor, can you not save me? Leonard, hold me back from death—dear Leonard.' Another hemorrhage followed, and she never spoke again. Leonard Wolfington had to be led, almost carried, from the chamber. Even after death, Eula's face, once so smiling and placid, looked as if her grief at leaving us all, was stamped upon it. Her last moments were spent in looking at each one of us with wide-open, terror-stricken eyes, as if appealing to us for help. Alas! love

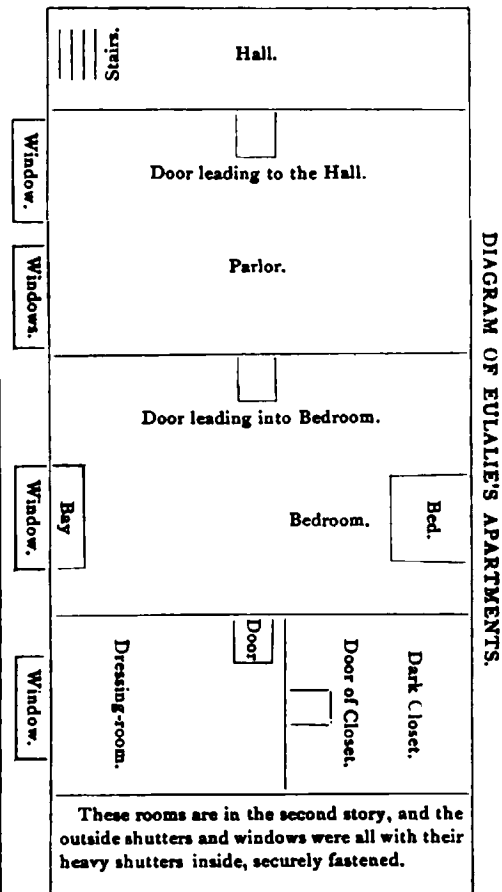
even could not hold her back from the clutch of death's relentless fingers.

"Mother's nerves are so shattered by Eula's sudden death that we have decided to close our house and go abroad for the coming winter. Everything here reminds us of our loss. It makes me rebellious to think that her mosses, the delicate ferns in her window-garden, her pet birds and tiny gold-fish are all alive, while their mistress, our beautiful beloved Eula, is even now mouldering away in the grave. There is—there *must be* another life beyond this incomplete existence."

Now, incredulous reader, here comes the strangest part of my story. The next summer the widow Gay and her daughter Katharine again visited the Mountain House, where I still boarded. Mr. Welcome Gay and his family had been there all winter. Lieut. Gay made his friends a flying visit sometime in July. He did not appear to be at all sensitive or imaginative, but rather the opposite. He talked a good deal about materialism; said that the organ of Spirituality was a myth. He had, he affirmed, convinced himself that death ended everything; declared that he could build a breastwork of dead soldiers with as steady nerves as if handling logs and stones. Report spoke of him as an officer whose narrow escapes and heroic daring proved that he was not wanting in courage. Judge of my astonishment on hearing both Miss Gay and her brother relate the following singular experience one evening while we were together in their aunt's private parlor.

Miss Katharine was giving her reasons for not returning to their old home in Philadelphia, for they had not resided there since Eulalie's death. She said, "After we were all ready to leave the house last fall and the servants had been sent away, I left mother waiting for the carriage, and ran up-stairs to pack away some linen which had just come in from a laundry. It had belonged to Eula and I wanted to lock it up in her clothes-press. Without the least thought of fear or superstition, I went hastily into her little

parlor. You know, aunt, how that suite of rooms is situated."



She handed me this diagram, showing me that the parlor, chamber, dressing-room, and closet all communicated—that there was no way of egress except through the parlor-door into the upper hall. After I had examined the situation of the rooms, Miss Katharine continued:

"You can judge of my astonishment on seeing in Eula's parlor a young and lovely girl. She appeared to be wringing her hands and weeping silently. In the dim light I did not at first recognize her, but thought, 'It is either a pretty shop-lifter—a kleptomaniac—or one of the maids who has come back to get some forgotten article. I followed her into the bedroom. She stopped at the foot of the bed upon which my sister died, and, still weeping convulsively, turned her agonized face

toward me, oh so pleadingly; but there was no sound. I then recognized her. Aunt, it was my dead sister Eulalie! I shall never forget the sorrowful expression of her death-white face! I sprang toward her, but she eluded my grasp, then, like a shadow, passed before me into her old dressing-room, and *disappeared*. I was still in the full possession of my senses. 'Some one is playing a trick—trying to frighten me,' I said aloud, as I set my basket down and followed her. The room was empty; so was the closet. I looked behind the doors, under the bed, everywhere, without success. I tried the shutters and examined the windows, only to find them closed. I hastily locked the doors and went down-stairs, feeling sure that I had seen Eula's *spirit*. You may imagine how my flesh seemed to creep—how difficult it was to act in mother's presence as if nothing strange had happened, as I hurried her into the carriage which was waiting to convey us to the steamer. I have not told a living soul, not even brother Charles; but I came near telling him this afternoon when he asked why we did not go home instead of wandering around in this aimless fashion. But nothing on earth will convince me that I did not see Eulalie's apparition; and this has caused my delay in urging mother to return to the old home."

Then Lieut. Gay related the following experience, saying that he had been afraid to write it, on account of his mother's weak nerves; but as this was a conference-meeting, perhaps an exchange of experiences might be well. I will give his own version:

"I visited Philadelphia some three months after our house was closed, and, more out of idle curiosity than anything else, used my night-key and made a tour of the lower rooms, then started for my old chamber on the second floor. Before I had ascended three steps I saw that I was not alone. A young lady, whose gait and form reminded me of Eulalie, was about five steps from the head of the stairs. Thinking it must be one of our

former servants who had been left to air and look after the house, I did not hasten my steps. I lost sight of her in the upper hall. After I had visited my old room and Katharine's, I unlocked the door leading to Eulalie's parlor, and stood for a minute looking at the pretty, familiar apartment, meanwhile thinking of its late occupant. You know, aunt, I was not at home when she died; neither did I see her after I met her here last summer. Suddenly, like a flash, came the conviction that I was again in company with the lady who had preceded me up the stairs. She was just going into the bedroom where they told me Eulalie had breathed her last. I locked the outer door, also the one leading into the bedroom, then approached her, saying: 'Now, my lady, I've caught you. What are you doing here?' She was leaning over the bed weeping silently and wringing her hands. I put out my hand, but she eluded my grasp, and walked backward toward the dressing-room with her beautiful, sorrowful eyes looking into my own as if trying to tell me something, or as if making a mute appeal for aid. 'What is the matter?' I asked. She did not answer, but, as she turned her appealing face from me toward the closet, I knew it was nothing mortal—*knew* that it was some shade or spirit's apparition—something without flesh and blood—for it disappeared before my very eyes like a dissolving wreath of smoke. I searched the closet and dressing-room, looked everywhere, tried the windows, searched the house through even, but saw no more of the strange appearance. Now, the question is, *who* was it? Was it an optical illusion or an imaginary ghost?"

"The house is haunted," replied his aunt. "There is no doubt of it. You and Katharine have both seen Eulalie's spirit!"

"Pshaw, aunt! What nonsense! Eulalie was usually so sweet and smiling. Why should her ghost be always crying? It was the most sorrowful face I ever saw. I can call up no picture of life or of imagination that will correspond with it."

"I can," said Katharine, wiping her eyes. "Eulalie's dying countenance was its very counterpart. That is why I instantly recognized the one I saw on the day we left the house."

"O, that accounts for *your* recognizing it. Association and memory, with the aid of imagination, painted your picture, but not mine. I was away, you know, when she died. You never wrote me about her weeping or her unwillingness to die. Consequently I could not have recalled a picture I had never seen."

"Perhaps there was a hole in one of the shutters, forming a natural *camera obscura*. The figure you both saw may be some weeping Niobe residing in a house across the way," suggested his aunt. The Lieutenant and his sister laughed. "No," said Katharine, "or the figure would have been inverted like all other sun pictures."

"Very true, Katharine, but I saw it on the stairs too. What puzzles me most, is

the mournful expression. What does it mean? Is she still unhappy? Does she blame us for letting her die? The theory of her dying face haunting one's imagination is not, can not be true in my case. The *camera* idea I have exploded on scientific principles. No living woman could have cast her shadow even, through those locked doors, unless through the keyhole; but even then not on the bed. It was about noon and there was sufficient light in those rooms for me to see everything distinctly."

The last time I heard from the Gays, they were all living in Europe. Their Philadelphia home was still closed, and had been advertised for sale for some time. I have been told since that Mr. Welcome Gay and his wife are both dead.

I have written this true story for your JOURNAL, hoping to draw from other contributors similar experience or some theory which will give a solution to those mysterious appearances. B.

CHARACTER IN WALKING.

ONE of our literary exchanges gets off the following conceits on this always interesting topic. We wish that our girls would wear sensible, broad-soled, low-heeled shoes, so that their tread could be like the flat-footed girl he describes. The shoes we wear have much to do with our bearing:

"It is well to beware of the man who carries his left foot in toward his right in walking, giving the impression that his right foot turns out and his left foot turns in. This man is a natural petty larcenist. He may, perhaps, have never stolen in his life, but that was because of fear or lack of opportunity; but all the same he is liable at any time to sequester unconsidered trifles for pure wantonness. He is of a kleptomaniac nature; but he is not nearly so dangerous as the man who deliberately lifts his leg up from the thigh as though he were going up-stairs. That man is a natural and an educated villain. In England, where the tread-

mill is used in prisons, many convicts acquire that peculiar step; but it is the naturally-careful, cat-like tread of the criminal. The girl who walks with a flat foot planted squarely on the ground as though she wanted it to grow there, may not be as attractive as the girl with the arched instep, but she is a good deal better natured. She is sure to be a good nurse, kind-hearted, sympathetic, and anxious to bear the burdens of others; while the girl with the arched foot is nearly sure to be selfish, and certain to be a coquette if she walks on her toes. The man of short, nervous steps is always a business man of energy; but if the stride is from the knee only, he is cold and selfish, caring for no one but himself. The man whose stride is long, and at the same time energetic, is generally bright, always erratic, often conceited, always careless, fond of admiration, and, while often a good fellow, generally unreliable. The diplomat and

the financier have a smooth, gliding walk, hard to describe, but easy to recognize. Great statesmen and great philanthropists always have a loose, shambling gait, which comes from thinking about others more than about themselves. The strut of the vain man, the teetering trip of the 'dude,' the lounging gait of the unemployed club man, are all too familiar to call for a description. To say that a person walks like a lady or like a gentleman is high praise. The gait can never be picked up in after-life; it must

be born in a man or woman, and cultivated in early youth. It is lost to a man when he falls into bad ways; for, so surely as he loses his consciousness of rectitude and pride of honor, so surely will he pick up the gait of the loafer. An honest man, gentle or simple, never walks like a thief, and a thief can never counterfeit the gait of an honest man; but in attempting to apply these rules to men, one knows it must be remembered that all thieves are not caught, and all suspected persons are not bad."

SOME ODD FANCIES OF ARISTOTLE.

AMONG other curious zoological statements of Aristotle's which seem to receive his support, and which may be set down as current folk-lore of his time, are the following:

"If any one make a noise as grasshoppers fly along, they emit a kind of moisture, as agriculturists say. They feed on dew, and if a person advances to them bending his finger and then straightening it, they will remain more quiet than if the finger is put out straight at once, and will climb up the finger, for from bad sight they ascend it as if it were a moving leaf."

"Persons who have parasites in the head are less subject to headache. Moths are produced in the greatest abundance if a spider is shut up with them in the wool, for this creature being thirsty dries up any moisture which may be present. Small birds during the day fly round the owl—which is called admiring it—and as they fly round it they pluck out its feathers."

"The anthus [some bright-colored bird] is an enemy to the horse, for it drives the horse from its pasture and eats the grass. It imitates the voice of the horse and frightens it by flying at it, but when the horse catches it he kills it."

"If any one takes hold of a she-goat by the long hairs of the beard, all the others stand still as if bewildered and gaze at her."

"The hawk, though carnivorous, does not eat the hearts of the birds it has killed."

"The jay has many varieties of voice; it utters a different one, so to speak, every day."

"The goat-sucker flies against the she-goats and sucks them, whence its name. They say that after the udder has been sucked it becomes dry and goes blind."

"Mares become less ardent and more gentle if their manes are cut. At certain times they never run to the east or west—always north or south."

"The sow gives the first teat to the first little pig that is born."

"When a serpent has taken its food it draws itself up till it stands erect upon its tail."—*Popular Science Monthly*.

HINDU PRAYER.

HAIL to thee, mighty Lord, all-potent Vishnu !
Soul of the universe, unchangeable,
Holy, eternal, always one in nature,
Whether revealed as Brahma, Hari, Siva,—
Creator, or Preserver, or Destroyer,—
Thou art the cause of final liberation ;
Whose form is one, yet manifold ; whose essence
Is one, yet diverse ; sinuous, yet vast ;
Discernible, yet undiscernible ;
Root of the world, yet of the world composed ;
Prop of the universe, yet more minute
Than earth's minutest particles ; abiding
In every creature, yet without defilement ;
Imperishable, one with perfect wisdom.

—*Vishnu Purana*, WILLIAMS.



THE VALUE OF DIET REFORM.

WE feel it right that, before taking up the special points of this paper, we should endeavor to restore to dietetics that dignified and exalted position of which ignorance and prejudice have too long deprived it. From the time when the disciples of Pythagoras were murdered at Krotona to the present day, the way has ever been to abuse what is not understood, to scout contemptuously every earnest attempt at reformation. The selfishness and laziness of man love darkness rather than light, and, when brought face to face with an uncomfortable truth, seek refuge in acrimonious attack and petty sarcasm. This is most unsatisfactory and childish, for the clear diamond of truth is none the less luminous because the eye of the beholder is turned away from its radiance. Nevertheless, few have ever had the good sense and fairness to reserve criticism until after examination. Hence it comes that the popular idea of anti-kreophagy, or vegetarianism, is that it is a matter of such trifling importance as to render even its mention ridiculous, a fastidious chimeras, too fanciful to be met seriously, too harmless to be feared, and, like food reformers themselves, too poorly sustained to endure a protracted existence. Now, is what we eat and drink of so little moment as anti-vegetarians immediately conclude the moment the question is approached from the other side? Surely they can not think it quite so frivolous

in reality, or they would not pass so many golden hours in studying and consuming the dishes and dainties of the table. Gordon says: "The people of England care more for their dinners than they do for anything else." We fear in too many cases this is true. What we ought to do, however, is not so much to give less care, but to change the object of that care. We must place first what is best, and altogether second what is pleasant. If we look honestly, we shall see that the question of food demands our most earnest attention. It is so intimately bound up with the very roots of almost every other question of our daily life—social, moral, and political—that it is impossible to consider it at all thoroughly in an isolated manner. The very groundwork and foundation-stone, however, of our argument, and we must ask to be excused reiterating it, is the recognition of the importance of the subject. If we do not keep this before us, any conclusion we may draw will, in all probability, be deduced from a wrong premise. Pythagoras and Plato were among the first and greatest of men to understand the grave claims on our attention of dietetics. Plato says: "I observe that men's thoughts and actions are intimately connected with the need of eating and drinking." Seneca is never weary of insisting that "We must so live, not as though we ought to live for, but as though we could not do without the body." In later times we

see that the greatest social and political events have sprung from the food question. All emigration has arisen through want of food. Does not every page of our own history contain reference to it, either in the shape of corn laws, or potato famine, or some other development? Was not the cry for bread the Alpha and Omega of the French Revolution? To keep the wolf from the door is the most important and the most difficult problem which is daily, hourly demanding solution in the great majority of English homes. The subject of the demand and supply of food lies at the core of our national troubles; it confronts us at every step. How can we regard it otherwise than as worthy of our best consideration?

The first aspect under which we may view our subject is its barbarity. Animal food may well be described as the food of barbarism. When man emigrated from his primeval home in Central Asia, he was at once cut off from obtaining his natural food. Left to his own resources, he was obliged to seek unnatural food. Only as he grew civilized and settled did he begin to cultivate grains. Account for it as we may, it is an axiom founded on broad, universal experience, that the more cultivated, the nobler and better one race is than another, so much the less does it indulge in an animal diet. That diet is the characteristic of barbarism, of low cultivation, of thin population, and, naturally, normally decreases with an increasing population. The practice of eating the flesh of animals is, however, barbarous from another point of view. A peculiarity of the barbarous nature is cruelty. Real culture and true progress are indissolubly connected with a regard for the rights of those that are weak, and with a tender compassion for the sufferings of animals. The agony of dying has not yet been smoothed away by any of the appliances of modern science; it has been reduced, we admit, but still the creatures eaten for food *have* to die. And then there are all the untold tortures endured in transport, and the misery occasioned by the efforts to meet a demand

so much exceeding the supply. If we would but realize, in a common-sense fashion, the simple facts connected with the production of animal food, and look at them, unbiassed by the force of custom or personal inclination, every chord of pity in our souls would quiver with the thought of the pain inflicted, every spark of sympathy protest against continuing it, every feeling of justice denounce our infringement of the rights of the self-defenceless.

In the second place, we maintain that animal food is not the natural food of man. We have already referred to his original condition; one of perfection—physical, mental, moral, spiritual. Then

"The state of nature was the reign of God;
Man walked with God, joint tenant of the shade,
No murder clothed them and no murder fed."

The anatomy of man points clearly to his fruit-eating nature. "His teeth have not the slightest resemblance to those of the carnivorous animals, except that their enamel is confined to the outer surface. He possesses indeed teeth called 'canine,' but they do not exceed the level of the others and are obviously unsuited to the purposes which the corresponding teeth execute in carnivorous animals. Thus we find that, whether we consider the teeth and jaws, or the immediate instruments of digestion, the human structure closely resembles that of the simiæ; all of which in their natural state are completely herbivorous" (Professor Owen). Other very striking contrasts exist between fruit and grain eating animals and flesh-eating ones. The testimony of the great naturalists on this point is most conclusive. Cuvier says: "The natural food of man, judging from his structure, appears to consist principally of the fruits, roots, and other succulent parts of vegetables," while Linnæus asserts: "This species of food (fruit) is that which is most suitable to man; which is evidenced by the series of quadrupeds, analogy, wild men, apes, the structure of the mouth, of the interior, of the hand." If a meat diet is unsuited to man's structure, which, in the face of such eminent authority can

scarcely be honestly gainsayed, it follows that it must be unhealthy. And here again the testimony of medical men and the facts of daily life come to the support of our arguments. Dr. Cheyne says: "For those who are extremely broken down with chronic diseases, I have found no other relief than a total abstinence from all animal food and from all strong and fermented liquors." Dr. Radcliff's opinion is "that the present practice of urging children to eat as much meat as they can may not have a little to do in causing the development of many nervous disorders and in deranging the health in many other ways." The testimony of Haller, the great physiologist, runs thus: "This food in which flesh has no part is salutary, inasmuch as it fully nourishes a man, protracts life to an advanced period, and prevents or cures such disorders as are attributable to the acrimony or grossness of the blood." Ordinary observation alone, however, tells us that the health of vegetarians as a class, far surpasses the health of any other class of people who may be selected for comparison. The Americans, on the other hand, are noted for their flesh-eating proclivities and bad health. Napoleon's hardest soldiers, in and around Moscow, were Italians who had grown up on bread with figs and raisins. The porters of Constantinople, vegetarians, are celebrated for their great powers of labor. The Scotch gillie, fed on oatmeal, and his English master, on the orthodox food, stand out in contrast when the question is deer-stalking. Then with regard to mental power: "Plato was pre-eminently the 'Lover of Figs.'" Plutarch denounces animal food as giving only "feebleness to the mind." Sir Isaac Newton wrote his *Principia*, and Luther many of his best works, on bread and water. Lord Byron composed some of his finest poems on a diet of biscuits. Among our greatest scholars, at this moment, are men who formerly studied in Edinburgh on a diet practically vegetarian. Leaving, however, these primary reasons for the avoidance of animal food,

let us look at it from the stand-point of social and domestic economists under the head of cost. The bitter wail now resounding from our great cities would hush itself in peace if food were cheaper. But while the working classes continue to demand as food, beef and mutton, they must not complain if they daily suffer semi-starvation. And why? Because to obtain this luxurious nourishment arable land must be laid out in grass. The farmers may and do profit by this arrangement, but the resources of the whole nation are thereby squandered. The quantity of human food resulting is but a fraction of what might be returned by crops. It is not extravagant to state that every acre well cultivated would feed seven times as many men by its crops as are now fed by the flesh of the animals reared on it. A striking example of the waste incident to the breeding of animals is exhibited in Cincinnati, where oatmeal, —a pure, wholesome, digestible article of food, used to feed the pigs would go four times as far as the resultant pork,—hard, indigestible, and most likely diseased. It is a matter of clear calculation that 3 $\frac{1}{2}$ sterling worth of wheat restores as much the waste of the body as 12 $\frac{1}{2}$ sterling worth of English beef: this quite exclusive of the actual injury to and inflammatory effects of the beef on the system. Beef contains 70 per cent. of water; pease and lentils, etc., 16 per cent. Bread and leguminous seeds are most valuable in the nourishment of the brain. Blood, flesh, milk, etc., are abundantly formed by pease, beans, and lentils. Hitherto, we have only brought anti-kreophagy chiefly from an utilitarian point. Yet to us, surely, ethical and even humanitarian grounds should appeal. We say the Greeks reached a high standard of civilization. We strive to follow them in literature, in art, in thought, even in dress, why not in food? *They* abstained entirely, or almost so, from flesh-meat. Antiphanes called them "The Leaf-Eaters." Their most popular dishes were wheaten porridge, bread, honey, beans, lupins, lettuce, leeks, olives, dates, and

figs. Their writers almost without exception advocate a fruit and vegetable diet, and to their adoption of this must be attributed, at least in part, their physical beauty, the calm grandeur of their mind, the sweet loftiness of their thought. Most of us are aware of the marvellous beauty and pathetic music of the Brahmin literature. They, the oldest civilized caste in existence, were, and remain, strict vegetarians. Their religion taught them that "he who forsakes not the laws and eats not flesh-meat like a blood-thirsty demon, shall attain good-will and not be afflicted with maladies." But the advancement and scientific wisdom of this nineteenth century make us sublimer than the Greek, purer than the Brahmin! As Sir David Brewster says: "Whatever races there may be in other spheres, we feel sure there must be one community in whose decalogue will stand pre-eminent in letters of burnished gold: 'Thou shalt not kill,' neither for territory, for fame, for lucre, nor for food, for raiment, nor for pleasure. The lovely forms of life and sensation and instinct so delicately fashioned by the Master Hand shall no longer be destroyed and trodden underfoot, but shall be the study of the philosopher, the theme of the poet, the companions and auxiliaries of man."

We have tried to point out a few particulars in which the adoption of a fruit and vegetable diet would be advantageous to us as a nation, as individuals. It remains for each one to come to a decision. No well-ordered, earnest minds

will urge the weak and selfish objection of personal preference in the face of what is best. They will remember the Pythagorean maxim, "Do what is right and custom will make it pleasant." And if we do so we shall not be standing alone, but treading in the golden footsteps of the world-compelling, world-impressing, world-improving men of all ages; taking up the thread laid down by prophets, priests, philosophers, poets, philanthropists, apostles. Foremost among the names we might mention of the famous men who have been Anti-Kreophagists, are Daniel and John, Epicurus and Epaminondas, Plutarch, Pythagoras, Porphyry and Clement, Milton and Shelley, Swedenborg, Wesley, Franklin, Lamartine, and Rousseau. Let us face all the difficulties and conquer them as they did by honest persevering effort. Those beautiful words of Shelley will then no longer float out as an idle chime from some Utopian land, but will stand a bright and glorious reality:

"My brethren, we are free! The fruits are glowing
Beneath the stars, and the night winds are flowing
O'er the ripe corn, the birds and beasts are dreaming.
Never again shall blood of bird or beast
Stain with its venomous stream a human feast;
Avenging poisons shall have ceased
To feed disease and fear and madness;
The dwellers of the earth and air
Shall throng around our steps in gladness,
Seeking their food or refuge there.
Our toil from thought all glorious forms shall cull
To make this earth, our home, more beautiful;
And Science, and her sister Poesy
Shall clothe in light the fields and cities of the free."

—*Food Reform Magazine.*

HONEY AND VEGETARIANISM.

BEING a great friend of honey, and believing that just among vegetarians there are many more friends of this sweet, I am exceedingly sorry to see it proscribed by some anti-carnivores who think, by doing so, to keep strictly within the line. I declare, beforehand, that even if honey should be proven to be an animal product, I should continue to eat it, because I do not want to suffer by a

principle, not even by one that I concede to be my own. I contend that there is hardly anything more vegetarian or more worthy of a vegetarian than honey. The bee, from whom we get it, is an animal, indeed, but that is no sufficient evidence that the bee made it. We get our letters and newspapers from the letter-carrier or the postmaster, but neither of them wrote them. The postmaster and the

letter-carrier are, perhaps, Republicans, and your papers Democratic, or *vice versa*.

Who makes the honey? Did you, severe anti-carnivore, who with regret, perhaps, and for principle's sake only, abstain from a sweet the taste of which you cherish and which agrees with you perfectly, never put this question and try to answer it? It is not so difficult to find out. When I was a boy, I very frequently anticipated the labor of the bee, and sucked the honey at the original spot of production. I enjoyed my childhood in the country, and roaming through the fields in the midst of the summer I used to pick the flowers of clover, pull out carefully the little tubes of which they are composed, and sucked them, and—there I got the honey, not much at a time, indeed, but just as much as the bee gets which sits down on the clover-flower and sucks it without picking it, but gets the honey exactly as ready-made as I got it; and this shows beyond any doubt, I should judge, that honey is a vegetable product, and that the most thoroughbred vegetarian may on account of his creed be not denied the enjoyment of its consumption.

Now then, there are some vigorous vegetarians who never drink milk; and this comes in here, because honey without milk is the best of the fun taken away from it. I confess I can not help admitting that milk is an animal product. But I run the risk of being called a bad boy among the stalwarts, and drink milk. I even eat it when it has become clabber, or when the girls make soup of it. I should never part with the milk on account of the honey; and I shall always keep up my habit of eating honey, because the milk tastes then so much better, and I believe vegetarianism would make gigantic strides into the carnivorous world if it would be less severe about abstemiousness as a principle, or, I venture to say, if this principle were more rational. Even if our vegetarianism does not fit any arbitrary pattern of "nature" or "anthropology," it may answer the purpose, especially as Nature itself is

not so rigorous, but accommodates herself to circumstances; the calf of the most accomplished grass-eater, the cow, even being given milk as long as the condition of its three stomachs renders this more digestible nourishment necessary.

Some people admit milk, but reject clabber, because, as they claim, it is like cheese, a dish which underwent decomposition. For some time I was puzzled by this objection. But on more mature reflection I found that milk, by forming clabber, does not undergo any decomposition at all; there is no fermentation as in the formation of cheese; but all the change is a mechanical one, the fat particles being lighter in weight, separating from the casein. A similar process is going on already in the udder of the cow, the milk milked last being considerably fatter than the milk milked first; if you want fat milk you have to drink the strippings.

This shows, I think, that it is a risky matter to go in vegetarianism by "Nature." There is in Nature nowhere a sharp boundary, and it is very arbitrary to put down the intelligent development of nature by man as unnatural. The yield of milk may be heightened in cows considerably by a careful, or if you choose "artificial" feeding. I have a couple of cows which get their "mush" of sweet potatoes, oats, shorts, and wheat bran for breakfast, cooked as carefully as our own Graham mush is being done, and you should see how they "pitch into it," to use the words of my negro boy, especially if it is a little warm yet. Now, if the feed of cows is better relished after it has undergone a cooking process, I believe we may conclude that even cookery is something natural, and that the idea of abiding by nature by abstaining from milk as a nourishment is nothing less than a kind of self-torment for principle's sake, or rather for a theory that even theoretically can not be upheld, and that practically ought to remain always in the background, no consideration prevailing but that of how in the long run it turns out for our health.

C. A. F. LINDORME, PH.D., M.D.

BETTER THAN A SLOP-HOLE.

I HAVE observed all through life, that many neat and economical housekeepers, who clean, and dust, and scour, and scrub the interior of the dwelling, from attic to basement, will have a filthy, unhealthful, and disease-breeding slop-hole near the back-door of the kitchen. They seem to think that there is no other way, as there must be *some* place to cast out the slops and dish-water. After the habit is once established, of stepping to the back-door to heave out every pound of slop and waste water, it is extremely difficult to adopt any other practice. Our own practice has always been to keep the surroundings at the back-door just as neat and clean as the environments of the front-door. When we commenced keeping house, more than forty years ago, in a small out-building of a farmstead, a large pail was placed beneath the waste-spout of the sink in the kitchen, to receive every drop of waste water. As often as once a day (or whenever the pail was nearly full) the slop was carried, either to the garden and emptied around trees and vines, or where it would be dug into the soil. The little labor incident to such a daily task did not amount to any work worthy of mentioning. But our yard at the back-door was kept as neat and clean as a grassy lawn. More than this, soap-suds, dish-water, and chamber-slops constitute excellent fertilizing material for the soil. During hot weather we carry a pailful of slop-water to the garden, and with a hoe make a broad channel around a hill of corn, or any other plant, into which the slop-water is poured, and covered with soil. Fresh earth is an excellent disinfectant. The hungry soil will absorb every atom of material that will make plant food; and the roots of growing plants will soon find whatever may be deposited within their reach.

I have in mind a neighbor, whose women are disgustingly dirty and greasy in the culinary department. But *he*

keeps a large pail at the back-door, into which he insists that everything in the line of slops and garbage shall be thrown. He carries the accumulations to his garden, which save him many dollars that he otherwise would have to expend for fertilizers.

Here is another important and very impressive consideration. A slop-hole near a kitchen door often keeps the whole family in a sick or a wretched condition. As soon as the weather becomes warm, decomposition of slops will commence. Dame Nature makes an effort to purify such places. During the decomposition, the atmosphere near by will be filled with *spores*, or seeds of disease, seeds that produce malaria or typhoid fever. When the kitchen door is open, the wind will waft countless numbers of such spores into the house. The occupants of the dwelling inhale them. The lungs and every part of the body are filled with these poisonous germs, or seeds of disease. A few of those poisonous atoms stick among the tissues of the human body. They are enemies to health. The effort put forth by the functions of the body to drive out these hostile invaders causes bad feeling—"malaria," if you please. After breathing that infected atmosphere for many days and weeks, the entire body will become so thoroughly impregnated with the poisonous emanations that all the vital energies of the man or woman can not expel the foes. Sickness then comes on. Then, the usual doctor feels obliged to administer *quinine*, a more powerful poison, to go through the system and drive out the spores, as one sends a ferret to clear out rats. It is like sending Satan to reclaim incorrigible sinners.

After this, let us keep the back-yard clean as a grass-plot, and sweet as a rose; and thus save the bills for drugs, and keep the soil of the garden richer and more productive.

ESS. E. TEE.

DISINFECTANTS AND THEIR USE.

THE Committee appointed by the American Public Health Association to consider and report on the best methods of disinfection recommend chloride of lime as superior to other known agents on account of its rapid action on excreta, and furnish the following information as to the mode of preparation and the cost of standard solutions:

"1. Dissolve chloride of lime of the best quality in soft water, in the proportion of four ounces to the gallon. (Good chloride of lime should contain at least 25 per cent. of available chlorine. It may be purchased by the quantity at five cents per pound. The cost of the standard solution recommended is therefore less than two cents a gallon. A clear solution may be obtained by filtration or by decantation, but the insoluble sediment does no harm, and this is an unnecessary refinement.) Use one pint of this solution for the disinfection of each discharge in cholera, typhoid fever, etc. Mix well and leave in vessels for at least ten minutes before throwing into privy-vault or water-closet. The same directions apply for the disinfection of vomited matters. Infected sputum should be discharged directly into a cup half full of the solution.

"2. Dissolve corrosive sublimate and permanganate of potash in soft water, in the proportion of two drachms of each salt to the gallon. This is to be used for the same purposes and in the same way as No. 1. It is equally effective, but it is necessary to leave it for a greater length of time in contact with the material to be disinfected—at least an hour. It is odorless, while the odor of chlorine in the sick-room is considered by some persons objectionable. The cost is about the same. It must be remembered that this solution is highly poisonous, and that it will injure lead pipes if passed through them in considerable quantities.

"3. To one part of Labarraque's solution (liquor sodæ chlorinatæ) add five

parts of soft water. This solution is more expensive than the solution of chloride of lime, and has no special advantages for the purposes mentioned. It may, however, be used in the same manner as recommended for No. 1.

"4. Dissolve corrosive sublimate in water in the proportion of four ounces to the gallon, and add one drachm of permanganate of potash to each gallon to give color to the solution. (Mercuric chloride [corrosive sublimate] is soluble in cold water in the proportion of one pint in sixteen.) Solution is greatly facilitated by heat. One fluid ounce of this standard solution to the gallon of water will make a suitable disinfection of clothing. The articles to be disinfected must be thoroughly soaked with the disinfecting solution and left in it for at least two hours, after which they may be wrung out and sent to the wash. Solutions of corrosive sublimate should not be placed in metal receptacles, for the salt is decomposed and the mercury precipitated by contact with copper, lead, or tin. A wooden tub or earthen crock is a suitable receptacle for such solutions.

"A disinfecting and antiseptic powder, as the following, is recommended for the disinfection of excreta in the sick-room and of privy-vaults, etc.: One ounce of chloride of lime; one ounce of corrosive sublimate; nine pounds of plaster of Paris. Pulverize the corrosive sublimate and mix thoroughly with the plaster of Paris. Then add the chloride of lime and mix well. Pack in pasteboard boxes or in wooden casks. Keep dry.

"As an antiseptic and deodorizer this powder is to be sprinkled upon the surface of excreta, etc. To disinfect excreta in the sick-room, cover the entire surface with a thin layer of the powder—one-fourth inch in thickness—and if the material is not liquid, pour on sufficient water to cover it.

"In all infectious diseases the surface of the body of the dead should be thoroughly washed with one of the standard

solutions above recommended, and then enveloped in a sheet saturated with the same.

"Boiling infected clothing for half an hour will destroy the vitality of all known disease-germs, and there is no better way of disinfecting clothing or bedding which can be washed than to put it through the ordinary operations of the laundry. No delay should occur, however, between the time of removing soiled clothing from the person or bed of the sick and its immersion in boiling water, or in one of the

solutions (see 4), and no article should be permitted to leave the infected room until so treated.

"Clothing and bedding which can not be washed may be disinfected by exposure to dry heat in a properly constructed disinfecting-chamber for three or four hours. A temperature of 230° F. should be maintained during this time, and the clothing must be freely exposed—*i. e.*, not folded or arranged in piles or bundles, for the penetrating power of dry heat is very slight."

"COLDS" AND CATARRH.

CATARRHAL disorders that are so prevalent in America, in spite of our comparatively dry climate, are due as much to the want of care in our modes of dressing and to exposure to cold as to our crooked habits as a people in eating. Take a person in fair health, he will resist the effect of cold. But, as the *Lancet* says, when the health flags a little, and liberties are taken with the stomach or the nervous system, a chill is easily taken, and according to the "weak spot" of the individual, assumes the form of a cold, or pneumonia, or, it may be, jaundice. Of all causes of "cold," probably fatigue is one of the most efficient. A jaded man coming home at night from a long day's work; a growing youth losing two hours' sleep over evening parties two or three times a week; a young lady, "heavily doing the season"; and young children at this festive season overfed, and with a short allowance of sleep, are common instances of the victims of "cold."

Luxury is favorable to chill taking. Very hot rooms, soft chairs, and feather beds create a sensitiveness that leads to catarrhs. It is not, after all, the "cold" that is so much to be feared as the antecedent conditions that give the attack a chance of doing harm. Some of the worst colds happen to those who do not leave the house, or even their beds; and those who are most exposed to changes of temperature, and who, by good sleep, cold bathing, and regular habits preserve the tone of their nervous system and circulation.

Probably a good many chills are contracted at night or at the fag-end of the day, when tired people get the equilibrium of their circulation disturbed by either overheated sitting-rooms or underheated bedrooms and beds. This is especially the case with elderly people. In such cases, the mischief is not done instantaneously, or in a single night. It often takes place insidiously, extending over days or even weeks. It thus appears that "taking cold" is not by any means a simple result of a lower temperature, but depends largely on personal conditions and habits affecting especially the nervous and muscular energy of the body.

A NEW PROCESS TO STOP BLEEDING.—At a recent meeting of the Academy of Medicine, at Paris, Professor Bonafoux read a paper upon a powder which possesses great hemostatic powers, and is capable, it is said, of arresting the bleeding of large arteries, so that it will prove serviceable in important surgical operations. This powder is composed of equal parts of colophony, carbon, and gum-arabic. Experiments have been tried with it on the brachial artery in man, and on the smaller vessels, on the carotid of the horse, and other blood-vessels of the same animal, with marked success. It has always prevented consecutive hemorrhage. The application can be lifted in the course of two or three days, when the vessels are found to be completely obliterated.

NOTES IN SCIENCE AND AGRICULTURE.

Local Storms.—A *local* storm is quite distinct from the general storm, yet it proceeds from the same general causes; therefore, in order to understand the local storm we must first understand the general principles that govern all storms. In order to have a storm we must have at least three things, the three principal things which make a planet habitable, viz., a surface susceptible to receive and retain heat and water. The surface of the earth is susceptible to and will retain heat; it will at least retain sufficient heat to hold over from sun to sun. The surface of the earth contains water, which is necessary for the formation of the clouds that produce the rain. The third factor is the heat from the sun. Two of these factors we see are of the earth; but without the third power, which is outside of the earth, they would be of no value; neither would the outside power, however active, be of any value by itself. These three agents or factors must work conjointly in order to produce the desired effect. Separately they are of no value—their power is 0; together they exert a mighty influence for good. By the weather-map we understand the workings and influence of these powers as never before. The map came late into the world, yet it was not possible for it to have come sooner. Only an advanced civilization, combined with large territory, can produce a map, at least a map of value. We must have the extended territory all under one general head, at least in this department. Herein the United States are most fortunate. To one who has had only a short experience with the weather-map, or only taken a casual glance at it, much praise of it may seem unwarranted; but the map is one of those things that it will pay to study and carefully follow, week by week, month by month, year by year. It is like a wise man, or a wise man is like it. Man, of course, is superior to dumb material; he has powers beyond the map. Man can gather material, and from it develop combinations of form, beauty, and usefulness. The map is a quiet factor; the value of the information that it imparts depends upon the observer. The observation must be continuous and steady, otherwise it will be of no great value, for in order to obtain that which is valuable, what are apparently small facts must be gathered and studied as well as the great or more observable ones; and it is only by long and close observation that we come to note the important things, whether they appear in large or small characters. The revelations of the map become more and more wonderful to us when we thus closely follow them up day by day, week by week, month by month, year by year. The scientific mind inclined to this branch of natural science will never tire of the remarkable changes of nature reflected on this map. The general information in regard to the map is the first thing to understand; from this we pass to the general storm and

the general fair weather; by and by we come to the local storm; not only understand its cause, but know when and where to look for it, the special wisdom that governs it both as to time and place or period of year and locality. The map reveals the fact that in one sense all storms are local, *i. e.*, all storms have their confines of space or territory. A general storm covers more or less continuous territory; local storms may extend over much territory, but they will not be connected, and may not be very near together, or all take place at the same time. The storm-centres which govern these are of various areas and outlines. As to size or extent we will include in the storm-centre all below a barometric pressure of 30 inches. Taking this as a guide, storm-centres are from a few hundred miles, say three to five, in extent, to a thousand, fifteen hundred, or even more. The smaller they are in circumference, the more concentrated in force are they apt to be. The lower the barometric pressure, as a rule, the more fierce the storm. The storm-centre "Low" may well be regarded as the valley of the surface atmosphere. This centre moves over the earth's surface on general lines from the west toward the east, or toward the rising sun. The general flow of the Mississippi River is toward the south, yet there are many points in its course where it flows east, west, and even due north; so with "Low" in its passage over the country it is generally toward the east, though at times it may travel for many hundred miles due north. The counterpart of "Low" barometer is high barometer, technically called "High." This, likewise, follows the same general movement of "Low." "High" is clear, cool, or relatively cool weather. "Low" is stormy weather, and, according to location, north or south, is warm or cold. The direction of the wind is from the "High" to the "Low." This being the case, if "Low" is on a high line of latitude we must have south winds, which are warm; if on a low line of latitude, north winds, which are cold. The only variation of this is when the winds may be neutralized by some peculiar location of "High" and "Low"; a high or north "Low" may be influenced by a south "Low"; *i. e.*, there may be at the same time an area of low-barometer moving on a high line and one on a low line of latitude. The two thus placed would neutralize each other as to heat. Wherever the "Low" is, there will the storm be; not always in the immediate centre, for familiarity with the map reveals the fact that "Low" is only the agent that gathers the clouds. Whenever there is heat and water the clouds will form. The wind, which is caused by "Low," starts them in motion, though if "Low" is a great distance away, they may precipitate their moisture 1,000 miles short of the centre which is drawing them on. The only law they obey as to precipitation is to precipitate as soon as they

become heavy enough—too heavy to be supported by the atmosphere in which they move. No axiom was ever more true than that the less, as to weight or strength, will not support the greater. What we call the atmosphere will not support the clouds when they become too heavy. There seems to be no regular rule in the matter; the precipitation depends upon the relative condition of "High" and "Low." It never occurs within the centre of a positive "High," though it may occur in the centre of a relative "High." A positive "high" would be 30. + inches, say, 30. 1, 2, 3, 4, 5, or 6. A relative "high" would be simply higher than the "Low." Oftentimes the "Low" is very high as to degree, say, 29.7, or even more, while the "High" is only 30.0. In this case the two centres of "high" and "low" are far apart and very extended; much precipitation then takes place within barometric lines that are quite high, as to degree. The clouds are the while being carried toward "Low," but if they are abundant and heavy they will precipitate where they happen to be when they become so. The *general* storm is what occurs within or around the regular centre, which may be 300 to 500 miles or more in extent. Such storms are first heralded by east winds, locally, southeast, east, or northeast, according to the relative location of "Low." If "Low" is to the northwest of the locality, it will be a south-east wind; if due west the wind will be east; if to the southwest the wind will be northeast; making what is termed a "northeast storm." After they have passed a locality a west wind will then follow. But although the wind is toward "Low" from "High," it must be borne in mind that the east winds, the north winds, west winds, and south winds meeting at a common centre react upon each other, so that as we near the centre of "Low," the currents obey the law of compromise and follow the lines of the volute-curve, or curve of the sea-shell, or of water in the whirlpool. The effect of this is, after the "Low" has passed a given point, to have at that place winds more from the west and northwest than would at first seem, if we had not considered the effect these winds from the four quarters of the compass must have upon each other. This is why a regular, or general storm clears off cold. A local storm, on the contrary, most always clears off warm. Years ago, and even now by persons who have no knowledge of the weather-map, how frequent the remark, "It is hotter after the storm than before—one would think that the rain ought to cool the atmosphere." Then follows the query, "Why?" The old system could give no answer. The map, however, reveals to us that the local storm occurs and only occurs under certain conditions. Perhaps many people have thought this term to be only a mere invention to cover ignorance, or to appear wise, but not so; it is a distinct meteorological phenomenon, as rain, hail, or snow. The local storm comes from the *posterior* "Low," or from the confines of "Low,"—at a great

distance from the main centre, a sub-"Low," and it may also come from a much-spread-out "Low," where there is no near positive centre. Whenever there is a clear sky and a good surface to heat, then nature strives to concentrate its power. But the earth is all the while on the move; no one locality can get all the heat. The more favorable the opportunity to heat, the more the concentration. We may say heat attracts heat; no storm without prior heat. In the track of a regular storm there is more or less effort to create little or sub-storms. These little storms have not the power to affect the surrounding country to any great extent. A local disturbance may occur, but it is after all subject to the greater storm within the limits of which it takes place. In the winter, in higher latitudes at least, there are few local storms; the local storm is a thing of the warmer months, or warmer countries or latitudes. Then at this time the storm-centres are less frequently concentrated; are more extended. What are termed the "gradients," that is, the lines of grade between the "High" and "Low," are wide apart—like the survey of the engineer when he desires to represent land very gradual in its inclination or unevenness of surface. When abrupt hill-lines are within the landscape the "gradients" are very close together. They indicate sharp and steep lines of ascent or descent. When the regular storm-centre has passed over the country, far to the north, say above 50° north, and "High" is far to the south, local storms will occur almost anywhere to the south of the centre—to the rear and to the south of it. They are termed local, because they only occur *here and there*, within these general lines. They do not form one extensive, continuous, or long storm, nor do they happen at any regular hour or at any regular place. One day they may occur at one hour or in one locality, and the next day in another. As much heat is required to develop them, they more frequently occur during the latter part of the day, and are heralded by heavy "cumulus," or thunder clouds, generated by this heat. Sometimes they take place during the first half of the day, but only when very warm. A peculiar feature of these storms is that it is often warmer after the storm than before, notwithstanding the air at the time is very much cooler. It is disagreeably warm, "close," at these times, because of the presence of large quantities of moisture in the air, and the general heat caused by the locality being included within the lines of the (high) "Low" far to the north. In the remarks relating to a general storm, I have said that a *high "Low"* causes it to be hot. The high or north "Low" is still present. The storm that occurs is only local; the greater absorbs the less; therefore, the dominant influence is the main centre which is on a high line of latitude. Possibly the public may think that these local storms should be more definitely located, but this is impossible. During a thunder-storm we know that the lightning will take place somewhere within

the radius of the storm; but who will say just where it will strike? So, when all things are favorable for the local storm, we know the limits within which it will occur; that it will occur within the outer lines of the storm-centre, or here and there within a much-spread-out or extended "Low," but just where to locate it, is beyond our wisdom, at least at present. Frequently the line of demarkation of these storms is very sharp; within a quarter of a mile from where we are in pleasant sunshine we see the storm pass us by—indeed, perhaps two storms. This is a peculiar feature of the local storm. The local or thunder storm is more of a tornado than anything else, and may be said to be a light tornado, or tornado of low degree. The tornado occurs in the same general place, *i. e.*, in the track of "Low," though it is more powerful and extended than the mere thunder-storm. Much of the rainfall during the summer, indeed the greater portion of it, particularly in the Southern States, is local; *i. e.*, does not come from any regular storm-centre, but from the extreme outer lines of "Low." Little storm-centres are generated here and there within the much-spread-out "Low." This is why they come up with a westerly wind, south-west, west, or even northwest. The main centre of "Low" is at a great distance, passing on a high line; it has passed to the eastward. The general wind is toward the far-away "Low." Under these circumstances there is an effort, on the part of nature, to establish little storm-centres. They are apparently an exception to the rule that the storm-centre "Low" is the agent of the storm; and those but slightly acquainted with the weather-map may be misled by the condition of the map for this season of the year. But for this diversity the Southern States, indeed States quite far to the north, would not get much rain from May to October, for during these months few regular and well-concentrated storm-centres pass over the southern half of the United States; indeed, few well-concentrated "Lows" pass over even the north country from June to September, or October. No two years are, however, alike in this respect. But for these *locals* the whole country would, at this season of the year, suffer from drought. The rule seems to be, the warmer the season of the year the higher the latitude on which "Low" passes, and the more it is spread out, or the farther apart are the "gradients." There is another point in this connection which must not be omitted, and that is reference to what is commonly known as "heat-lightning," which is associated with these warmer months and with the *local* storm. The weather-map has completely done away with many an old and absurd notion of the weather. It has among other things done away with the "moon-influence," the "northeast storm," and now, in addition, with "heat-lightning." All lightning proceeds from "Low," more particularly from "Low" on a high or north line, and from sub-"Lows" or *locals*, which are, as herein explained, mostly the result of relatively north

"Lows" during the warmer months of the year, as heat, great heat, is required to produce this phenomenon. What is called "heat-lightning," so common of a warm summer evening, is lightning from a storm some miles away, at too great a distance to hear the thunder or to see the line of the lightning; so far below the horizon that only the mere flash can be seen. Where this lightning is they are having a local or perhaps a regular storm. If to the south it is quite sure to be a *local*, because of the heat, and so if to the east or west; but if to the north, northwest, or northeast, it may be either from a local or a regular storm-centre. The reason for this is, if a regular storm is approaching us from the south, it will cause it to be cold, too cold for lightning, while if merely local it will make no material difference, though it will, if near us, temporarily cool the atmosphere. If north of us, the storm, whether general or local, is in that locality; "Low" to us, at least, being on a relatively high line, which causes it to be warm in our locality. To the weather-map we are indebted for a knowledge of these things. The darkness that it has dispelled is almost incredible; the light it has let in upon the world is most beneficial, and the more our appreciation of this wonderful instrument, the greater the practical results we may derive from it. Among all the wonders of the advancing nineteenth century, this is second, in my opinion, to none in results beneficial to the world. From a scientific point of view, it solves problems never before understood; from a practical point of view it is already of great importance, but its limit of usefulness is far from reached.

ISAAC P. NOYES.

Washington, D. C., Aug. 1, 1884.

The Great Forests of Puget Sound.—In Western Washington, between the Cascade Range on the east and the Coast, or Olympic Range on the west, and between the 47th and 49th degrees of north latitude, is a thickly timbered belt of fir, cedar, alder, maple, and other woods. Of these, fir probably represents three-fourths. In the midst of this wealth of forest, nature has placed a broad, deep arm of the Pacific Ocean—Puget Sound—with which it is connected by the Strait of Fuca. Thus not only has nature provided the timber, but the water-way also by which it is possible for the merchant marine of the world to come and obtain their lumber supplies, much of which, sometime in the future, must be furnished from these forests. Already the lumber trade with Australia, Central and South America, China, and the islands of the Pacific, amounts to fully 75,000,000 feet a year, and employs a fleet of about 15 vessels every month.

Puget Sound is 200 miles in length, and has a littoral of 1,800 miles. This irregular shore line forms innumerable harbors, splendidly adapted for the erection of saw-mills and other wood-working factories, and also for the establishment of ship-yards. Along this whole shore line, and from thence on both sides as far as the eye reaches, nothing can be

seen but the vast and magnificent wealth of timber, save here and there where man has established a mill port, a town, or an occasional farm. In the timber belt of Western Washington there are 20,000,000 acres covered with timber, most of which is included within the limits named—an area nearly equal to the combined areas of the States of Connecticut, Massachusetts, Vermont, and New Hampshire. This timber belt will average 25,000 feet of lumber to the acre, or a total of 500,000,000,000 feet of lumber. Hence the saw-mills of Puget Sound, with their present capacity of 500,000,000 feet a year, would take 1,000 years to cut it down. The fir-trees frequently attain the height of 250 feet, and planks of lumber are sometimes turned out of these mills 100 feet long.

The Vision and Hearing of Fish.

—But little has been written on the development of vision and hearing in fish, and that little has been theory rather than deduction from actual experiment. My own experiments as to the effects that sound produces on trout (and I assume that all fishes are more or less alike in this respect) have been confined to this: Frequently when able to observe a trout while myself unseen have I screamed and shouted at the top of my voice. These demonstrations have invariably been without the slightest effect, but when varied by a concussion which would communicate itself to the water this has no longer been the case, and evidence of alarm, or at least that the concussion was felt, has been apparent. In an English work, the name of which I in vain endeavor to recall, an account of some very interesting and more decisive experiments are given. The writer caused a building to be erected over the water, and made his observations through small apertures constructed for the purpose, so that he was quite concealed. His trout were well accustomed to the wiles of the angler and timid. Sending a man out of sight behind the building the firing of a gun by him produced not the slightest effect on the trout, who rose freely during the experiment to flies blown toward them through a tube. I am, therefore, convinced that no sound is injurious which does not communicate its vibration to the water. But concussion upon the side or bottom of a boat, or jumping from rock to rock, or blows upon a hard bottom with the wading-staff or with hobnailed shoes, I think are so conveyed through and by the water as to be in some measure perceptible to the fish and alarm them. That fish possess the sense of hearing, their anatomical structure goes far to prove; while that they are not insensible to sounds produced in the air must be admitted, unless the doubter is prepared to call in question the numerous accounts by alleged eye-witnesses of their coming to be fed at the sound of a bell, etc. This I, for one, hesitate to do, notwithstanding I have never been able to make a sound in the air which seemed to produce the slightest effect on trout in water, to which fish my experiments have been confined. It may, however, well be that the sound was

perceived while the fish were so habituated to the roar of the waterfall and similar noises, without any ill consequences ensuing, that sound alone was not regarded by them as an indication of danger.

H. P. WELLS.

A Sand-storm in New Mexico.—

In *Harper's Magazine* Mr. Birge Harrison describes an experience of his own when travelling through the country: "The air was still as death, and there was not a puff of wind nor a rag of cloud in the whole horizon. I observed, however, that the sky had undergone a curious change. There was no diminution of the blazing sunlight, but the deep blue had been superseded by a strange white glare that was nearly blinding, and the heat had increased rather than diminished. We saddled hastily, and were soon threading our way through the broiling labyrinth of sand-hills, and out on to the broad mesa again. We had not gone more than a mile or two in the direction of Española when Joe, who had been glancing about in all directions, suddenly remarked, 'There she comes!' and jumping off his burro, commenced tying him up behind an adjacent heap of large boulders. We stared in the direction he pointed, but could discover nothing save the white sky, the hills, and the sandy plains. As we looked, however, we gradually became aware that far down the valley two or three of the hills had entirely disappeared, and, stranger still, that more of them were being eaten up under our very eyes! A little brownish-black cloud, no bigger than one's hand, was the monster that was thus devouring the landscape. We hastily secured the animals in the shelter of the rocks, and came back to look. The cloud had already spread quite across the plain and valley, and was approaching with frightful rapidity. It was not more than five miles away. It swept along toward us, with constantly accelerating speed, a bellying, portentous black wall of dust, that sent long waving fingers up to the zenith. Mile after mile of mesa, and hill after hill, disappeared in its vast maw, until there was only one rise left. This was swallowed up, and then, almost before we could seek shelter, the storm was upon us with a shriek and a blast like the breath from a cannon.

"In an instant everything was obscured. I peered through my half-closed lids, and could not see a sage-bush which I had noticed the moment before only a few feet distant. The air was full of the dull roar of the battling winds. We could barely hear the sound of our voices when we shouted. Everything had been wiped away from the face of the earth, and a blur of gray dust was all that remained. I could barely distinguish those nearest me through this strange mist. The worst of it lasted for about half an hour, I should think, but the air was still full of dust when we arrived home about two hours later. Such is a New Mexican sand-storm. We found all our household goods covered with a mat of from half an inch to an inch of an impalpable powder, which had sifted in through every crack and cranny. Nothing had escaped."



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THE UTILITY OF PHRENOLOGY.—NO. 6.

THE NECESSITY OF MORAL CULTURE.

WE have dwelt at some length on the importance of a knowledge of one's capabilities, in his preparation for the work of life, and we would now direct attention for a few minutes to the special consideration of the moral element in education and development. The constitution of the mind embraces moral and religious qualities, and Phrenology points to certain original brain-centres, the function of which is the manifestation of moral and spiritual powers.

The metaphysicians also recognize the existence of original moral faculties, and group them under the general term, Sentiments, but ascribe a subordinate place to them as mental influences, the intellect being ranked as controlling in the procedure of thought; indeed, being in itself the chief thought-element of mind. Prof. E. J. Hamilton claims that "the science of intellect is the key to all the more abstruse questions of psychology," and "there is comparatively little need of study to understand the laws of our other faculties." *

* "The Human Mind; a Treatise in Mental Philosophy." Ed. 1883.

The phrenologist, on the other hand, ascribes an importance to the moral faculties at least equal to that of the intellect, and deems their influence fundamental in the formation of a balanced character, and the predominating element in all manly and noble natures.

The failure of common-school education to produce the result so much hoped for by its advocates in elevating the moral status of society, is due to the want of regard for moral culture in the system. While the Bible was permitted to be read as an opening exercise, some little influence may be said to have been brought to bear in that direction, although such a religious exercise prompts to action, for a brief space in the average pupil, but one faculty, Veneration, while other moral sentiments, that are constituted to enter more thoroughly into the every-day life, are scarcely affected at all.

Most of those moralists who are given to deprecating the prohibition of the Bible-reading, do not appear to realize that the training of the moral faculties should be conducted with just as much care as the training of the intellect. Nay more, that as the happiness of an individual is dependent chiefly upon his moral and social relations, the importance of his moral culture is primary. A New England observer says:

"Educate the intellect and neglect conscience, and a people like the inhabitants of New England, having learned men, great in science, theology, and law, but in numerous cases deficient in the eternal principle of justice, is found to be the result. This is proved by the many instances of fraud by bank cashiers, and persons holding positions of trust in wealthy corporations."

In youth the emotional nature is active and most susceptible to impressions; the

moral faculties are fresh and dawning, and much more easily blunted, dwarfed, or perverted than most of us fully realize. The selfish, or self-preservative organs of a child at ten or eleven years, having been earlier in activity, have attained a development almost mature, and for that reason the sympathetic, benevolent, devotional, dutiful qualities just then coming into positive activity as influential factors in conduct, demand careful attention. They must be drawn out with skill that is born of understanding and judgment, or they will not exert that control over the youth's conduct that is essential to its elevation and refinement.

Mr. Henry Bergh, the distinguished friend of dumb animals, claims that children are "instinctively heedless, turbulent, and curious," and intimates that these characteristics are likely to be developed into vicious and cruel habits to the perversion of the character, such are the irregular and improper practices of society. Mr. Bergh is making a special plea in behalf of his favorite topic, and indicating how children are led consciously or unconsciously to acquire habits of a cruel nature. He says:

"Spurzheim asserts that there is no part of education more shamefully neglected than the cultivation of *conscientiousness*. That he has judged rightly, it is only necessary to observe with what remarkable perseverance the youth of our generation are instructed in what are termed the 'accomplishments.' These social distinctions, for the most part, consist in dancing, singing, boxing, boating, riding, shooting, polo, and lawn-tennis. Patriotism, the domestic virtues, and the benevolent instincts take rank, if cultivated at all, below their more popular competitors in the college of human ethics. It were well if the damage ended there. But, alas! as a natural *sequitur*, a

tendency toward the propagation of the animal propensities is the result, in the form of a love of ease and luxury, an inordinate thirst for the sudden acquisition of wealth, destructiveness, envy, and cruelty. 'As the twig is bent the tree is inclined,' and children thus trained bear the fruit of the seed planted; and if at ripe maturity it should be discovered that the product is thorns and thistles, instead of grapes and pomegranates, who is to blame? Surely not the child."

"To know the disease is half the cure," according to an old maxim—and it has an application in Phrenological science—for with the analysis of the mind which it supplies, we are also furnished with principles to govern in the training of the mental faculties. Many persons live wrongly, viciously, criminally, thinking that they can not help themselves, and are but pursuing the course marked out for them by destiny. We have known such persons, and when they were informed that they were untrue to the laws of their own being, as well as violating the express commands of an all-wise God, they were surprised; and when they were instructed in the constitution of their mind, and the fact that they were sinning and suffering because of the neglect of high and noble faculties, and because of the tolerance of propensities that had grown strong through indulgence, new light poured into their souls, and inspiration to struggle against their old weaknesses was awakened.

In spite of the light modern psychology has imparted to educational methods, and in spite of the grand work done by teachers like George Combe, Dr. Caldwell, Horace Mann, and the thousand teachers, ministers, lecturers, and writers who present the facts of Phrenology, in one way or another, daily, there is a wide-

spread ignorance or misunderstanding of the nature and operations of the faculties in the formation of character. The Rev. Phillips Brooks recently in a sermon used language that has a direct bearing on what has just been said, and from which we quote :

"The notion that character is spontaneous is held by most people in the earlier portion of their lives, and is wrong too. Hosts of young men think that their character will form of itself, and that they will necessarily become better as they grow older. Hosts of old men believe that their character is fixed, and that it is impossible for them to become better. Such beliefs are foolish. People are also wrong in thinking that they can put off their bad traits and put on good traits. The old failures can not be thus transformed, but out of the old habits new can be formed. That is what many a poor creature wants to know. We must make what we are to be out of what we are already."

Just this is what Phrenology will do for a man who resolves upon extricating himself from the meshes of evil habit, and reforming. Thousands of men and women in Europe and America have testified to the saving power of Phrenology. A journalist recently said in a letter to the writer :

"I wish I could tell you how thankful I am to you for what you have done for me through the medium of your works. I used to be 'a hard case.' Drinking, fighting, and other vices of equal size kept me constantly in trouble. I met Dr. — (a well-known phrenologist), in the din of the fray, and he taught me how I might halter my charging passions and make them take me up-hill instead of down into the gutter. . . . I borrowed your books, and read the PHRENOLOGICAL JOURNAL with avidity. I became wonderfully fascinated with the science, and that fascination increases the more I observe its noble achievements.

. . . . You have benefited me greatly, and I am proud to say so."

We would have our children so trained that their moral faculties will be brought into exercise, and have that participation in the mental operations of their maturing years, that the impulses of propensity, the excesses of emotion shall be held in check, and the energies of the selfish faculties be made contributory to the normal work of the individual. Earnestness, thorough-going effort in any practical direction is dependent largely upon the stimulus of the selfish instincts ; men of broad usefulness and commanding industry are endowed with these instincts in a strong degree, but a cultivated intellect and well-developed moral sentiments guide their action. They who make shipwreck of life, who lament lost opportunities, and cry out that life is not worth living, are, as a rule, wanting in regulated moral insight. Without religious convictions, without a fixed individuality, they are unstable, morose, cynical, wretched.

In the home and at school, even more solicitude should be manifested for the inculcation of honest, dutiful, deferential, and generous principles in the character of our young folks than for the development of their ability to read, write, and cipher. The true interest of the child is the interest of society, and if we would have a pure, high-toned, truth-loving community, we must so guide our boys and girls in their early conceptions of truth and duty that they will go into the world with clear convictions of what is right and what is wrong. As a writer has said : "For the men and women who have developed from children without moral training, there is great excuse for the evil they may do." They have grown up without a knowledge of the power inher-

ent in their natures for good and for evil, and the perversion of faculty that, as a matter of course, tends to vice and crime, may occur almost unconsciously amid the thousand immoral influences that encompass society by conventional toleration. Society is therefore responsible for their conduct.

Until we have schools that will instruct the young in the A, B, C of morality as much as they instruct them in the A, B, C of literature, we shall be troubled on every side with that lack of probity now so common. An examination of the prison statistics of any of our older States, Massachusetts or New York, for instance, wherein the common schools are broadly distributed, and every village has its teacher by district appointment, will surprise one who is not conversant with the facts, by the large proportion of criminals who have received a fair English education. The proportion of illiterates, those who can neither read nor write, is very small in the penitentiaries, while upward of seventy per cent. can both read and write. In fact, the idea very much urged by some publicists, that universal education is the remedy for the evils prevalent in social, industrial, and political affairs, is not founded on experience, since the leaders in all schemes of public and private wrong, the most conspicuous defenders of salient abuses, and the notorious apologists for common disregard of the canons of honor and decency, are of trained intellect and subtile logic.

A writer who realizes the need of moral training in society, thus insists:

"The decalogue ought to be taught in every common school. It ought to be drilled into the child, and when he steps from the school-room into the world, he should have something more than an intellectual conception of the ten com-

mandments. Thou shalt not kill, ought to be a conviction. Thou shalt not steal, ought to be made a principle of life which the child and man could no more sacrifice than he would sacrifice his love for his mother; and the whole of the ten commandments ought to be impressed upon the mind and soul of the child until their adoption as the rule of life would thoroughly permeate its nature."

All this is entirely practicable, and with such an understanding of our mental constitution as Phrenology opens to the inquirer, it is rendered far less difficult a matter than is supposed.

To the young and ardent mind there is beauty and delight in moral and religious things; the parent and teacher may lead out the nascent sentiments of duty, patience, trust, sympathy, respect, devotion, obedience, and impart to them a strong influence in the character; may with care and perseverance render them the grand central pillars of the boy's or girl's life, and with their development open up a true "vision splendid" of the purpose and work of human being.

CRITICAL WITHOUT KNOWLEDGE.

IN a paper read before the Kansas City Academy of Science, by Dr. J. B. Browning, on "The New Phrenology," he finds occasion to say: "Memory we now know is no special localized organ or power. Phrenologists placed this, if I remember rightly, somewhere in the middle of the forehead, where the two tables of the skull separate and leave a cavity between them called the frontal sinus. Here, of all places throughout its extent, the form of the brain corresponds least with that of the skull. In fact, as far as I can judge, the greater the prominence of the skull on the outside, the greater is the depression inside. Yet here they

located the store-house, the arsenal of the mind, and judged of its size by the outward protuberance."

We do not impute to Dr. Browning an unworthy motive in making this statement—that he sought opportunity to disparage the teachings of phrenologists as a whole; but it is evident enough to every one conversant with the philosophy of the subject, that he indicates sheer ignorance of its rudimentary principles. The fact is, that the idea of memory having no special organ or seat as a separate entity in the brain, was early taught by phrenologists, and to them its demonstration as a principle in mental science was first due. Every intellectual organ has the property of memory; its special impressions are gathered and garnered according to its activity and power, and in the procedure of cerebration or thought many organs contribute to the formulation of conceptions. We can thus easily perceive how persons may differ in the definiteness and completeness of their views of a simple object. The primary faculties of form, color, number, individuality, order, time, etc., vary much in different people in facility of apprehension and in power of retention; and, of course, the reflective and esthetic faculties do also, while the effects of their variation are more pronounced in effect upon the intellectual capacity of men.

We infer from the statement of the same writer, with reference to the relation between the outer and inner tables of the skull at the situation of the frontal sinus, that he has not examined many human crania, for the hundreds in our collection do not sustain him.

Our chief object in calling attention to this writer, is for the purpose of showing how intelligent men, students of medi-

cine—although it does not by any means follow that because a man is a physician he is therefore well versed in the anatomy of the brain and skull—will make erroneous declarations, simply because of their ignorance of the subject they presume to criticise. Unfortunately, in most cases where they speak disparagingly of Phrenology, they address an audience as ignorant at least as themselves of the facts in the theory and practice of the phrenological system.

A few years ago we were invited to lecture on the structure and functions of the brain, before a well-known scientific society in this city, the president of which was an eminent physician and author, and the membership of which was largely composed of experienced physicians and scholarly men. We consented, and at the time appointed made as good an argument as we could in an hour, in defence of our views of localization. And when we sat down it was with the expectation that our points would be sharply criticised, if not made the target of the arrows of wit and sarcasm. But to our surprise, nearly every gentleman who rose to his feet declared that he had entertained views on the subject of Phrenology that he now saw clearly were unfounded, and that so far as he knew, the facts of anatomy were with the speaker. One gentleman deprecated the ignorance that prevailed among cultured men with respect to the principles of Phrenology, and was convinced that modern physiology was a greater debtor to Gall and Spurzheim than scientific men were ready to admit. Another speaker said that he had expected an opportunity to show the fallacy of certain popular impressions of Phrenology, and the men who went about lecturing and examining heads, but he

had never known before what Phrenology truly was; and he rose to his feet only to ask the lecturer of the evening to explain a little more fully certain points that he had brought out in the course of his remarks.

The "New Phrenology," so called, is but an outcome of the "Old Phrenology," whose founder was Dr. Gall. They who earnestly and candidly study its philosophy and practical bearings are, as a rule, willing to accord the "old" system much respect as a great instrumentality in modern scientific progress. A fair knowledge of its true nature compels them to believe it.

A MARBLE SUBJECT.

WE were slowly feeling our way through the Metropolitan Museum, in Central Park, not long ago. We go there as often as leisure and opportunity permit, because material of value to the anthropologist is often added to the already large collection, and we always find fresh objects for our study. The Museum is becoming a sort of South Kensington in New York, and our people are beginning to show an interest responsive to the noble spirit of the few men and women who founded the institution and patiently sustained it for years. Lingered among the fine marbles of latter-day art near the entrance, our gaze fell upon that central figure of Salvatore Albano, that is a crystallization in stone, of Dante's *Ladro*, thus described by the poet in his *Inferno*, Canto xxiv. (using Carey's rendering):

"And lo on one,
Near to our side, darted an adder up,
And where the neck is to the shoulders tied
Transpierced him. Far more quickly than e'er pen
Wrote O or I he kindled, burned and changed
To ashes, all poured out upon the earth.

When there dissolved he lay, the dust again
Uprose spontaneous, and the self-same form
Instant resumed

. As one that falls
He knows not how, by force demoniac dragged
To earth, or through obstruction fettering up
In chains inviolable the powers of mind,
He, risen from his trance, gazeth around
Bewildered with the monstrous agony
He hath endured, and wildly staring sighs,
So stood aghast the sinner when he rose."

They who have seen the statue need not be told with how much fidelity the artist has portrayed by attitude and look the horror, pain, and woful astonishment of the tormented church robber.

To the student of expression there is much in this figure, and when brought before it he is likely to remain for some time in close contemplation of the mould of misery at once dreadful and attractive.

The sculptor's model was evidently no common person, not the ordinary poser of the studio; the form of the head back and front is such as might be found in a bright, active man of average intelligence, but the expansion of the side above and back of the ears shows observation of the criminal type of head; and we feel assured that Senor Albano studied the head of some acute, skilful rogue, whose cunning and boldness made him notorious. The crown runs well up in Firmness, but is irregular and knobby. One peculiarity strikes the examiner at once: that is the lack of balance between the right and left sides, while a decided hump is conspicuous at Cautiousness on the left side; and at Combativeness on both sides the surface is brought out prominently. These features impress us with the reality of the type of criminal from whom the artist obtained his design of the head, and that he was convinced of the wisdom of reproducing the very surface markings of his model.

The majority of our modern sculptors do not concern themselves much about the form of the head, aside from a general correspondence to the peculiar phase of expression they would impress upon the features. To a wicked and brutal face they adapt the conventional head, low, beetling, and broad, with carelessly disposed hair. But in the Ladro we have

a high forehead, indicating perceptive readiness, sagacity and skill, intelligence that had become warped and perverted by selfish and vicious practices, the expression of which is marked; a nature that might have accomplished much in normal courses had it not been made the prey of envy, hatred, and malice through evil associations.



To Our Correspondents.

QUESTIONS OF 'GENERAL INTEREST' ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE contributions unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

CATARRH REMEDIES.—W. H. P.—The comments published a few months ago on the subject of catarrh, and its remedies commonly advertised in the newspapers, have evoked a flood of communications from the victims of the disease. In general terms we can only say here that one's everyday habits have much to do with the trouble. We can name no special remedy, no particular thing that will cure catarrh. It is systemic—generally a constitutional disorder. The sufferer must modify his life; reform, if he have irregular habits of eating and conduct. The food must be carefully

selected; there must be avoidance of exposure to dampness and cold. The sleep must be sufficient to restore the nervous system. There must be abundance of exercise to invigorate the muscular structure. The best treatment that we know anything about is hygienic, or the combination of simple, lawful, every-day habits and moderate hydropathy.

ANALYSIS OF VEGETABLES.—M. M. W.—For a complete analysis of the constituents of our common table vegetables we must refer you to the treatises on foods. Among recent publications are those by Pavy, Cleveland, and Smith. Lettuce, celery, cabbage, salsify, brocoli, spinach, etc., are from 75 to 90 per cent. water, leaving a small percentage of solid material. Potatoes and other roots, like parsnips, carrots, beets, and so on, are two-thirds or more water, and the greater portion of the remainder is starch. The nitrogenous element in nearly all garden stuff, except the lentil class, is very small. Pease and beans are richest in nutrition, and we find that they compare favorably with the best cereals in amount of nutritive substance.

REMOVAL OF BRAIN AND INTELLIGENCE.—S. A.—No portion of the gray matter of the brain can be removed without the subject being affected to an appreciable extent in some way. Pathological cases have demonstrated the fact that injuries to any part of the brain are attended with disturbance of the faculties related to the organs in that part. If a very small portion of the brain surface be removed, so small a portion indeed as one-fourth of an ounce, the person will suffer. The suggestions with regard to the effect upon Self-esteem must, therefore, be answered in the affirmative. A loss of substance in that region of the brain where Self-esteem is located, is attended with a loss of co-ordinating power; the character becomes irregular, depressed. Inflammatory consequences of a wound in the brain must always be taken into account by the observer. In most cases the inflam-

mation will cover the space assigned to three or more organs, and the consequential excitement must be disturbing, and show in the mental phenomena. If you could consult a file of the PHRENOLOGICAL JOURNAL you would note many instances of injury to the brain in which particular organs were affected by the pathological conditions. In the next Number we shall have an article from a physician describing a case which has come under his own observation, and which we think will help you to understand the points we have briefly endeavored to set forth here.

DISINFECTING SUBSTANCES.—Dr. C.—

Among those which are recognized as possessing the most power are carbolic acid, chloride of lime, bichloride of mercury, sulphur, sulphate of iron, sulphate of zinc. In another part of this Number you will find a description of the more active antiseptic solutions.

We are of opinion that the skin exercises an important influence on respiration; a hyperæsthetic state at almost any part serves to quicken breathing, and an anæsthetic condition, if it be at all extensive, retards breathing. Of course the condition must be one of sensitivity to show the relation to lung action. As to how long life would be sustained or maintained after the whole body had been covered by an impermeable coating we are not able to say. There is a romantic story of an artist who coated a boy with gold leaf, and killed him. We are not aware of any experiments of the kind on record.

CANCER AND EPITHELIOMA.—Cancers vary in structure, depending much upon the part attacked by the disease. There are different kinds of epithelioma. The cancer variety is deemed malignant; other forms may be painful, but not dangerous; they are called *benign*, although they may grow and become very inconvenient. Epithelioma, as its name implies, affects the epithelial tissue which lines the mouth and the whole intestinal canal. The case of Gen. Grant is regarded as an epithelioma of a malignant type. Strictly, a cancer is always malignant; it may be hard or soft; in the latter case it is deemed more active, therefore sooner accomplishes its dread work. A local cancer, one that is due to injury or irritation in a particular part of the body, may be cured if treated early in its existence. Cancer due to hereditary taint is practically incurable. A tumor may appear in one locality and by judicious treatment be removed, and apparently cured; but the disease is likely to appear somewhere else before long. Tumors of one kind or another are very common, and often frighten people, who think that they are cancerous. Comparatively few tumors are really cancerous. On their first appearance, especially if they be soft and have rapid growth, they should be examined. Habit, and nervous conditions have more to do with cancerous disease than most of us suspect.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

"THE PHRENOLOGY OF POLITICS."—In 1877, A. B. Keith, a bright, wide-awake young man, took a course of instruction in the American Institute of Phrenology. He was then as now editor of the *Bulletin* at Denison, Iowa. We are pleased to see frequent articles in his paper sparkling with the light which Phrenology kindled. Under the above title, in a recent issue of his paper, he writes an article, from which the following is taken:

"The most successful men are impelled by a natural impulse to the avocation they follow. It is said that poets are born—not made. In the same sense automatons only are made in any walk of life. The stronger the natural adaptability the greater the impulse, and other things being equal the more complete the success. A man may be a success in one or more avocations for which he is mentally adapted, and a comparative failure in others. Few men have the greatness of brain and power of physique to become successes in a great variety of occupations. The political world, however, has an atmosphere of its own. Instead of requiring the development of certain faculties, like other avocations, it requires the activity of all and the exaggeration of none. The organs that give to the mathematician or the painter his power may be abnormally developed and lead to renown. But think of a successful politician with any organ of the mind abnormally developed! If abnormally eloquent he talks too much; if abnormally secretive he is foxy and can not inspire that confidence without which greatness can not be attained; if poetically imaginative he is not practical enough for politics; if too practical, he lacks the polish that commands respect; if extremely social he lacks dignity; if very dignified he is too stiff; if frank and generous he is the prey of plotters; if cold and stingy nobody is his friend. A politician's weakness is in his extremes. An equilibrium of his faculties is better than a powerful mind built like the gable end of a Queen Elizabeth mansion. American history is filled with examples of men whose mental developments led them into an exaggerated conception of ideas and who reared to their memory one-ideaed monuments. Tides of popular enthusiasm may carry a politician into temporary recognition as the representative of an idea, but true greatness in political life is a matter of growth and the heritage of a cosmopolitan mind. It is not to be inferred from our reasoning that a man should enter politics when he discovers that he has no especial ability for anything else; but if his mind be assimilative in all directions, though it be great in none, he will be successful in poli-

tics to the extent of his opportunities. All that is necessary to success in the range of human effort is necessary for pre-eminent success in politics. A towering brain with an abnormality or a weakness may lose a coveted prize at the very threshold of success, while mediocre ability, well balanced in its inferiority, may seize the crown. Political success means plowing a furrow through as many kinds of soil as there are ambitions, eccentricities, and passions in human life. To know when to skim the surface or turn up the subsoil is the art of politics. Great men are sometimes indifferent plow-holders.

"Success in politics, as in business, is comparative. In State or county politics a man may be as truly successful within the limits of his field as the man upon whom the national eye may be focused. History is but a temple of timbers put in place by human energy, and when lines are hewed local workers help make the chips. The profession of politics is an honorable one. Disgraced by dishonest ambitions and the machinations of vile men it is ennobled by the good and pure who build the triumphal arches for God's great edict of reform and progress. While all men can not be politicians, in the sense of attaining office, there are none too humble to thank God for a free country and take part in maintaining its glorious institutions."

IMPORTANCE OF PHRENOLOGICAL INSTITUTIONS.—In a letter addressed to the students of the Phrenological Institute, Mr. L. A. Roberts, of Brooklyn, said: "It would give me great pleasure to attend the closing exercises of the class of the American Institute of Phrenology, but I must content myself by sending a word of congratulation, and its members know by this time that congratulations are in order. When a number of young people have the opportunity, as this class has had, to receive instruction from competent teachers on subjects of the most vital importance, one of the things they learn first is that they are among the fortunate ones. There are other educational institutions, better known because they have been longer organized, and their graduates are numbered by thousands; institutions that are entirely competent to instruct in their respective departments, as Law, Medicine, Theology, Science, Literature, Art, etc., but there is not another in all this wide world that essays to do what is done by the American Institute of Phrenology. In some institutions students are taught physiology—so far as the construction of our animal organization is concerned—but in what one of them is any attention given to the *mental* physiology? Natural philosophy has high place in others, but in what one is moral philosophy taught from any other than an assumed position, the foundations of which are in great part based on fallacy, and so far as the cultivation of the intellect is concerned, where in the same time can a student have a better opportunity than here?"

"Resides what they have acquired in these lines,

there is another that is of too much importance to be overlooked—that is, a knowledge that enables them to impart it to others. It is not how much one knows that is of real service, so much as how much he can use what he knows. The dollar that one drops in the ocean remains his dollar still, but of what benefit is it unless he can use it? And again, this use of the knowledge gained here is to benefit others. Knowledge used only to benefit the possessor is of little value compared with that which can be used in the service of our fellows.

"In this particular the instruction given by the professors and teachers of the American Institute of Phrenology stands far above that of any other institution. The student of Phrenology, other things being equal, is a better teacher than one ignorant of the science, because he can judge through what faculties his hearer can best receive instruction.

"The phrenologist is enabled to teach others how to know themselves, which is the *magnum bonum* of all knowledge. In no way can such self-knowledge be obtained save by the understanding of the offices of the various faculties and their relations to each other; all of the philosophers of the schools have undertaken it in vain.

"I congratulate the members of this class, then, because they have in these few weeks gathered wisdom, and with the wisdom understanding, and further than this, they have become able to impart that wisdom to others, thereby making them wiser and better; thus doing good in the world, which should be the end and aim of us all. L. A. R."

SOME little children were telling their father what they got at school. The eldest said, "Reading, spelling, and definitions." "And what do you get?" said the father to a little fellow who was slyly rubbing a ten-penny nail over the door panel. "Me? Oh, I gets readin', spellin', and spankins."

"MOLLY, I wish you would be a better little girl," said an Austin father to his little daughter. "You have no idea how sorry I am that mamma has to scold you all the time." "Don't worry about it, pa; I am not one of those sensitive children. Half the time I don't hear what she says."

"So you have got twins at your house?" said Mrs. Berumbe to little Tommy Samuelson. "Yes, ma'am, two of 'em." "What are you going to call them?" "Thunder and Lightning." "Why, those are strange names to call children." "Well, that's what pa called them as soon as he heard they were in the house."

WHICH?

It is but a step-oh
Down to the deep-oh
The way is quite steep-oh
That leads to the deep-oh,
I slipped on a grape-oh
Just by the day-poh.
In a store near the dee-pot
I bought this small tea-pot.



In this department we give short reviews of such New Books as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

THE "QUINCY METHODS" Illustrated.
Pen Photographs from the Quincy Schools. By Lelia E. Patridge. 12mo, pp. xvi, 660. Price \$1.50. New York: E. L. Kellogg & Co.

Who that has given attention to matters educational during the past ten years has not heard of Francis W. Parker and the Quincy system of teaching? On the Institute platform and in the columns of school publications there have been many battles fought over this system, and to-day its worth seems to be acknowledged by the great majority of educators since they have come to understand it. It has seemed to us from the beginning to be an application by a bold and progressive teacher of principles long ago advocated by that Ajax of teachers, Horace Mann, principles that are illustrated also in the Kindergarten. Miss Patridge is an enthusiast in her advocacy of the Quincy Methods. She went to Quincy, as did thousands of others, to find out what was the cause of all the talk about the peculiar teaching done there. She took notes, and seeing there was really a revolution in progress, gave up her time for three years to gather materials for an exposition of the movement. Her book clearly explains the reasons why the Quincy schools were visited so much, and why they have been talked about so much, and it is really a reproduction of not only the methods but of the spirit of the Quincy schools, and therefore constitutes an instructive manual for the primary teacher. We are introduced directly to the teachers and their pupils, and led from station to station as the work of instruction proceeds. We find Busy Work, Clay Modelling, Body Lessons, Plant Lessons, Thinking Exercises, Language Lessons, etc., described, in a pleasant conversational style, and the real talk of the school-room reproduced. It is a thoroughly practical book, such as few volumes on pedagogics really are, and contains hints of value to every teacher. The author evidently understands the underlying principles. We learn of "the generation of power," of "training to do justly," of "character building," of "teaching and not telling," of "learning to do by doing," etc.

THE WIT AND WISDOM OF E. BULWER-LYTTON. Compiled by C. L. Ronney. 12mo, pp. 264, cloth. Price, \$1. John B. Alden, New York.

The earnest reader of to-day is bewildered by the constant outpour of volumes fresh from the study.

He would be glad to scan the leaves of those that are worthy an examination, but their number and variety are great, and the attempt would exhaust his waking hours. Then there are the treasures of past generations, a mine of English undefiled that he would explore, and make himself at least familiar with the leading types of thought that gleam with brighter lustre than the rest. But time is wanting to the most determined will for such an undertaking. The long list of authors in philosophy, ethics, history, science, criticism, poetry, drama, and romance, from Alcuin down to our era, invite us to a feast of thought in vain,—the swelling, onward-pressing tide of modern literature suffers no lingering, abstracted study of the old to him who would be abreast with the times. Yet there is a way by which some acquaintance with the worthies of our literature may be obtained at the cost of a mere tithe of the time that would be necessary to go over all their work. In the volume under notice we have an example of this way. Were there a score of compilers who would divide the field, and give us the results of their gleanings from the best writers in English literature, they should command the gratitude of the reading world. Especially should they deserve our cordial acknowledgments were the labor of selection as carefully and appreciatively done as in this particular case of Bulwer-Lytton. Miss Bonney has performed her work evidently in no spirit of hurry, and as this distinguished author was of exceptional fertility, a great amount of time must have been consumed. She prefaces each of the thirty or more books represented in her compilation with an analysis of the characters, and a sketch of the plot and spirit of the volume,—the latter no simple matter in the case of such as "A Strange Story," "Alice," "What will he do with It?" and "Night and Morning," and spared no pains toward furnishing a comprehensive view of the author's work. Only one thing is lacking to render the book complete—and that oversight the publisher can remedy in the next edition—a good portrait of Bulwer, to accompany the biographical outline.

THE MORALS OF CHRIST. A comparison with contemporaneous systems. By Austin Bierbower, author of "Principles of a System of Philosophy," etc. 16mo, pp. 200. Price, paper 50 cts., cloth \$1.00. Chicago: Colegrove Book Co.

A book on Christian Morals or Christian anything from the pen of a liberal is usually viewed askant by one whose religious views incline to "orthodoxy," or who, in other words, accepts the dogma of Christ's miraculous birth. But it very often happens that the cultivated liberal who has made some subject of Christian doctrine or ethics a special study, treats it more appreciatively than the avowed disciple of the Church. Mr. Bierbower has made the mission of Jesus Christ a subject of study, and we think his carefully written book helps us to understand that mission in some practical respects

better than we did before. He shows how Christ in His life and teaching evolved broader and higher views of human sympathy and fraternity than had ever been known or illustrated before by any teacher or philosophy. "Christ was the first to teach that happiness, like virtue, is for all. For in His idea the unfortunate may be happy. Happiness is to be gotten by regulating the mind and heart, and not by the outward condition of the individual or society. Therefore it was that He wanted the moral to get possession of the world as the shortest and cheapest road to happiness." Again, "Christ's morality in its highest generalization is nothing but love; love being the great central idea from which His principles radiate, and the universal object to which they tend."

In the course of the essay the author shows the marked superiority of Christ's teaching and example to the Mosaic, the Pharisaic, and the Græco-Roman morality, and the need of the world for such a development as He represented.

ST. PAUL'S EPISTLES IN MODERN ENGLISH. Translated from the original Greek texts, with the Apostle's own division of the subject matter restored. By Ferrar Fenton, of Batley, Yorkshire. New York: DeWitt C. Lent.

In performing this work of a retranslation it may be deemed by many altogether unnecessary, now that the revised version, to which so many of our most classically learned divines were devoted, has been issued. Yet the dissatisfaction with that achievement, that has been manifested in many quarters, would prove an incitement to an ambitious man well versed in oriental scholarship. Mr. Fenton feels that he has responded to a want indicated by a large section of thoughtful people, especially among the industrial class, in rendering the teaching and thought of the greatest of the apostles into the spoken tongue of the every-day Englishman. In the execution of the translations as close adherence to the literal significance of the original has been observed as is consistent with colloquial English; and we think that the reader, as a rule, who reads less in a vein of criticism than of candor, will find himself catching more readily the meaning of St. Paul than he has been wont to perceive it in the quaint language of the old divided version.

INTOXICANTS AND NARCOTICS; their relation to the Mental Life. Also a philosophical exposition of Man and his World. By C. A. F. Lindorme, Ph.D., M.D.

This is a discussion of a very important subject, by a writer of experience and much thought. He reviews the properties of alcohol and other toxics, and shows how stimulation has little effect upon the activities of the mind in the production of normal results. The effect of stimulation is to disturb the mental balance; to interfere with the processes of intellection. The seeming invigoration is not a positive physiological improvement, but merely the

negative effect of a pathological condition, rendering the upper lobes of the brain dull or obtuse. Dr. Lindorme insists that literary work of the highest character was never aided or improved by the use of alcohol.

PUBLICATIONS RECEIVED.

LIPPINCOTT'S MAGAZINE for June contains several papers deserving of attention, such as "Letters from the Isthmus of Panama," and "With the Conquerors in 1870,"—which has relation to incidents and experiences in the Franco-Prussian war. "What shall a Woman Do when her Husband Falls in Business?" "A Great Little Man," "The Return of the Natives," "A Spring-tide Sketch," and other things, making up a Number of superior character.

POPULAR SCIENCE MONTHLY for June is very solid in the way of essay and sketch. Among the most notable papers we mention "Are we to become Africanized?" which is substantially an answer to the recently published "Appeal to Cæsar." "The State versus The Man" is a criticism of Herbert Spencer, and a rejoinder by that celebrated apostle of evolution. "Whales Past and Present," illustrated. "The Mediterranean of Canada," which is of course Hudson's Bay? "The Ways of Monkeys," "Concerning Kerosene," and other matters.

THE AMERICAN JOURNAL OF INSANITY is our most ambitious organ in the department of medicine, that treats of mind and brain disorders, and the discussions that are published in its pages are always worthy the consideration of those who give any attention to the subject of Alienism.

THE MEISTERSCHAFT SYSTEM. A short and practical method of acquiring fluency of speech in the Italian language. In fifteen parts, by Dr. Richard S. Rosenthal; published by the Meisterschaft Co. of Boston, Massachusetts.

This method of acquiring foreign languages is growing in popular appreciation. According to the views of those who have given it consideration there is no better way of learning a language, especially if one must study in private without a teacher.

THE PHRENOLOGICAL MAGAZINE, published by L. N. Fowler, of London, contains in the May Number an excellent notice of President Cleveland, also an essay on "The Nature of Conscience," in which the writer analyzes the metaphysical view of the moral sentiment. An article on "The Weight of the Human Brain," that much-abused subject of Physiology, and other topics of social and scientific interest, appear as we turn the leaves. This is a well-sustained publication, and fairly represents the science of Phrenology in England.

THE THERAPEUTIC GAZETTE, Detroit, Michigan, has acquired prominence among medical monthlies of the day; its later issues contain a variety of important discussions with illustrated views of the effects of drugs upon the pulse, and

also indications of the psymgraph in certain nervous disorders. To physicians of all schools there is matter of interest in nearly every Number.

CHRONIC SORE THROAT, or Follicular disease of the Pharynx, with a special chapter on the Hygiene of the Voice, by E. B. Shuldharn, M.D.; W. A. Chatterton, publisher, Chicago.

SUPPLEMENT TO THE CATHOLIC REVIEW; a Catechism of Christian Doctrine, in the form ordered by the Third Plenary Council of Baltimore, and approved by Archbishop Gibbons. Those purchasing the Number of the *Review* for May 10th, receive this catechism free.

THE APOTHEOSIS OF CHRIST, or the New Marriage, by Charles Stewart Welles, of New York, is a protest against the indefinite and very unsatisfactory condition of the marriage laws in most of the States. He shows how irregular are the practices of very many people in regard to marriage obligation; and that largely because of the encouragement afforded them by the State. In the State of New York for instance, the statute provides that no second marriage shall be consummated by the party who shall have been divorced for adultery, but there is no provision to prevent a citizen of New York so divorced from contracting a marriage in another State, and of returning to reside in New York. He can cross the Hudson River into New Jersey, and be married and return, the new wife by his side, within an hour after the decree of divorce has been announced, and so treat with contempt the law and moral sentiment of the community. Uniform legislation throughout the country is imperatively demanded by decency in regard to the forms and evidences of marriage, and the requirements for divorce.

SPIRIT VOICES is a new magazine, of which George A. Fuller, Mrs. Stevens, and others are editors; it treats of spiritualism in its different branches, and taken altogether is an interesting publication for those whose organs of Wonder and Spirituality are largely developed.

PRIMARY TEMPERANCE LEAFLETS, published by the National Woman's Christian Temperance Union, are well adapted for general circulation. For use among the freedmen of the South they are well fitted, and being generally illustrated by some incident in the life of the intemperate, they appeal to the convictions of those whose minds are still in the germinal state. Price \$1.50 per thousand; postage 20 cts.

HOW TO TEACH READING, by Caroline B. Le-
row, late instructor in Smith and Vassar Colleges, published by Clark & Maynard, of New York. A little treatise, yet comprehensive to one who reads it thoughtfully, and is earnest in his or her desire to improve in ability to read. There are large

works costing dollars, that possess few more of the essentials to a student.

The author says, "Reading is largely a matter of physical power, distinct utterance, good sense, and good taste," and farther on she says, "The secret of success is to begin at the beginning, and proceed naturally and logically."

MY COTTAGE is a story of an orphanage in England, where destitute girls are cared for. It illustrates practical benevolence; what can be done by an earnest man to help the weak and poor. In this orphanage there are thirty cottages, the homes of hundreds of girls. Other homes that provide for boys as well as girls are under the same management. Dr. T. J. Bernardo is the general superintendent.

Ogilvie's Popular Reading, No. 18, contains several stories by popular authors. Price 30 cents.

A CORRECTION.—In our notice of Prof. De Medic's Essay on Mathematical Commensuration, a misprint occurred that rendered the sense of a statement both obscure and incorrect. The statement as it now reads is:

"His method, to one conversant with 'figures,' may appear simple, as he borrows his first scheme of area relation from the kindergarten idea of object presentation; and shows how cubes formed on the side and diagonal of a given square are related, obtaining a ratio of 14 to 17."

For "cubes" we should read *squares*, and for 14, 24, making the proportion 17 : 24.

SOME RECENT BOOKS.

AN EASEL. By Mary B. Sleight. 12mo. Price \$1.25.

SOULE'S ENGLISH SYNONYMS, designed as a practical guide to aptness and variety of phraseology. Extra cloth. Price \$2.00.

A COMPANION TO THE REVISED OLD TESTAMENT, showing the leading changes and reasons for making them. By T. W. Chambers, D.D. Cloth. \$1.00.

HOME STUDIES IN NATURE. By Mary Treat.

LONDON OF TO-DAY. Illustrated. By Charles E. Pascoe. Price \$1.50.

TOURIST'S GUIDE-BOOK to the United States and Canada. With Maps and Illustrations. Flexible cloth. \$2.50.

SATCHEL GUIDE TO EUROPE. Revised Edition. Price \$1.50.

A HISTORY OF THE PEOPLE OF THE UNITED STATES. By John B. McMaster. 2 vols. 8vo. \$5.00.

GENERAL GORDON, THE CHRISTIAN HERO. By the author of "Our Queen." 12mo. Price \$1.25.

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GEORGE G. ROCKWOOD.

THE WELL-KNOWN PHOTOGRAPHER OF NEW YORK.

THE original of this portrait is thoroughly healthy, is of fine quality, compact build, and turns the scales at about 200 pounds. His head is large and amply developed in all parts, and from whatever side he may be considered, it will appear to the observer that some of his best points of character have been approached. His sociality is cordial, youthful, ex-

uberant ; one look of his bright blue eye tells a stranger that he has met a friend ; if one crowd him selfishly, he would be likely to find a bar to his progress that will arrest him ; if one seek to dominate he will find an opponent who is straight and stiff while the domination is persisted in.

If approached on the side of intellect, he is sharp, clear-headed, prompt to catch a thought and reflect it back with interest or with duplication ; he seems to remember all that he ever learned, and concentrates it into every movement and every sentence.

He is an excellent reader of character, seems to take the gauge of men, women, and children equally, and at a glance, and has that suave beneficent sympathy and affection which responds like sunshine, and settles the question of a lasting friendship.

His Order and Comparison and Ideality give him high capability for criticism in respect to matters of taste, and yet his criticism is not offensive and rigid ; he masters men by leading them and making the path he chooses for them to follow radiant with intelligence and friendship. His large Constructiveness and Ideality give breadth and fullness to the region of the temples, and explain the basis of the inventions and improvements which he has instituted in his pursuit. He has more of the talent to institute methods by which acquisition is attained, than he has of that prudent selfishness that accumulates.

He has a broad head, hence is rich in force and courage and fortitude ; we have often thought if he were a cavalry officer that he would lead gallantly a charge upon an important position, and that men would follow him as others did their intrepid leader at Balaklava.

His social development makes him a favorite with children and the mothers of children. He resembles his own mother ; has heart and tender affection for childhood and womanhood, and a certain quiet yet impulsive grace in manifesting his preferences that makes them particularly acceptable ; an elderly woman would always believe in him, from the time he was five years old till the present.

There is good moral development—the top-head is massive and well rounded ; the back-head is ample ; the middle section, in which force abounds, is broad and well filled, while the constructive and æsthetic region, located in the temples, qualifies him for the vocation in which he has become well known. Then his intellect is adapted to literature, science, and general information ; he is a good illustration of strong musical talent, and has for many years been prominent, not only as a soloist, but as a musical director.

Such an organization would make a good mark in any field of laudable endeavor ; the more of taste and talent required in the pursuit, the better he would like it ; but if he had been placed in the army or navy, if he were made a pioneer, or a miner where roughness of surroundings and difficulties to be conquered formed a part of the programme, he would have been found manly and efficient there.

MR. ROCKWOOD was born in Troy, N. Y., about fifty-three years ago, receiving his early education in his native town, and finishing off at the Ballston Spa Institute, where he was two years. A young man of an aspiring nature and a literary turn, he secured the place of local editor on the *Troy Times*, and the next year became connected with the *Troy Daily Post* as managing editor. His father died when he was but twenty-one years old, and the

young man suddenly found himself charged with the care of a family of nine persons. Thinking that the new art of photography offered a rapidly growing sphere to its devotees, he took it up in 1855, and after making himself thoroughly conversant with the process as then known, he came to New York and established the business that he has since conducted without interruption to the present day.

During all this time Mr. Rockwood has been an assiduous observer and student of the theory and practice of photography, and has contributed greatly to the development of new methods. He was the first to introduce instantaneous photography, and has acquired a reputation among our city artists for his "Quick-as-a-wink" pictures. He was the first to make *carte-de-visite* pictures in this country and the first to produce a life-size plain photograph. He has experimented much in the line of photo-printing, and succeeded in producing beautiful impressions with printer's ink from gelatine surfaces.

A very busy man, with a large force of assistants, and demands that compel him to devote most of his days to the work of his studio, he has nevertheless given much attention to the art in kindred directions. An interesting paper on new photographic procedures was read by him before the Polytechnic Institute of New York in response to invitation, and not long since an account of successful experiments made by Mr. Rockwood with the view to representing sound waves by photography, was published in the *Tribune*, from which the following is quoted:

"The instrument by which the sound wave was represented or made visible in its effect is a new telephone, the inventor of which has obtained from Mr. Rockwood a perfect ocular demonstration of its vocal repeating action. The vibrating diaphragm, upon which the voice is projected, has a fine metallic point mounted on the centre of its reverse side. This point meets the pointed end of a conduct-

ing wire so nearly that when at rest the interval between the two points can be discovered only through a strong lens. The thing to be done was to show in a picture of the instrument, or rather in a series of pictures, the alternate contact and separation of the points from the vibrations imparted to the diaphragm by the voice, involving the closing and opening of the electrical circuit and the consequent reproduction of the same rate of vibration in the receiving instrument at the other end of the line. In considering this problem Mr. Rockwood found himself indebted to his recollection of an experiment by Herschel in photographing (or daguerreotyping) with the electric spark. Herschel caused a four-sided prism of wood, around which a picture was pasted, to revolve at high speed as in a turning lathe. By illuminating this revolving picture with the electric spark (in total darkness otherwise) he obtained a photograph of it as standing still at that instant in its revolution when the spark flashed. In describing his experiment Mr. Rockwood said:

"Wheatstone measured the duration of the electric spark as one-twenty-four-thousandth of a second. It would follow that any vibration not quicker than this might be arrested on the photographic plate at any point in its travel. Whereas, according to the investigations of Plateau, the duration of successive impressions on the human eye will average half a second, the electric spark might separate and distinguish photographically waves of which 12,000 impinge on the retina while the first of them is still lingering there; in other words, 12,000 practically all at once. Now, the vibrations or waves of air that yield the respective tones or pitches of sound have been accurately measured and counted. Assuming the pitch of the ordinary masculine voice in conversation to be as low as middle C, the number of complete double vibrations imparted by such a voice to the telephonic diaphragm or tympanum would be 256 per second; that is counting both ways, 512 movements of the diaphragm with its metallic

point making or breaking the electrical circuit at each movement.

"To the eye, which retains every impression for half a second, 256 of these movements would make their impression as one, and would give a stationary, fictitious image, if they were of sufficient depth to produce any visible effect whatever, as they are not. The electric spark, however, would give its illumination and do its photographic work within a little more than one-fiftieth of the time of one of the tympanum movements. A succession of such photographs, therefore, would present fortuitously any position of the vibrating point from that of contact to that of extreme retraction, with an indefinite number of intermediate positions."

"To verify these calculations, Mr. Rockwood carefully focussed his photographic camera on the points of the telephone by daylight, and a battery of Leyden jars was so adjusted that when discharged it would throw the proper illumination on the points. Mr. Rockwood's instantaneous plates were now to be tested under action five hundred times quicker than a sensible instant, and of course invisibly

minute. Of course it was as yet a practical question whether they could effectively receive as quickly as the electric spark would give this infinitesimal action of light. Waiting until the darkest hour of the night, the plate was uncovered in total darkness, the telephonist began speaking into his instrument, and the illuminating spark was flashed upon the points. This operation was repeated with more than twenty plates in succession. The resulting negatives, on being developed, proved a triumph in two arts and a science. The photographs printed from them showed under the glass, in some, contact of the points and in others a variety of infinitesimally differenced intervals between them: not one of the impressions had more than the one-twenty-four-thousandth of a second in which to be begun and ended."

In musical circles of New York Mr. Rockwood has been known for many years, church music especially engaging his attention. Genial in his manner, well informed, accomplished in all the minutiae of his profession, he moves in a wide sphere, and is recognized as one of our most useful men.

SOME OLD SCHOOLMASTERS.

THE progress of the world has been the result of the efforts of the schoolmasters. In ages when they have not flourished, we see mankind reduced to its lowest degradation, the human intellect in bondage to the vilest superstition and the most brutish ignorance. From these low depths it has been lifted by the labors of a single class of men—the old schoolmasters. What we owe to them can hardly be estimated. Not to priests, nor lawgivers, nor warriors do we owe the elevation of our race, but to the teacher. More than Alexander or Cæsar, more than Zoroaster or Solon, more than a Clement or a Hildebrand, have Socrates, Plato, Abelard, and Roger Bacon set their seals upon intellectual growth and development.

Yet, strange to say, history, in its passion for martial glory, has too seldom paused to note the struggles, the self-denials, the ultimate success of this band of noble men. Some of their names, in fact, have been entirely lost, while those of the others are overshadowed by the pomps and pageantries of priests and kings. The truest benefactors of the race are well-nigh forgotten, while the shameless and bombastic muse we call history revels in the conquests of warriors and the intrigues of royal courts.

Who was the greater: Pericles, dreaming only of Athenian supremacy and of delicious conversations with Aspasia; or Socrates teaching the youth of Athens, and disseminating the sublimest truths of philosophy? Was it Charlemagne or

Alcuin that gave the impulse to early Teutonic civilization? Was it Abelard, the teacher, or Cœur de Lion, the warrior, who startled wondering Christendom with the innovations of thought and prepared the leaven that has not yet ceased its influence? It is very easily ascertained to which class of men the world owes the most. The time will come when history must set itself right with these men; and when this is done we shall learn that the strife of princes and barons is scarcely more important than the contests of carrion-birds. It is the slow progress of the indestructible mind alone that is worthy of the attention of the serious historian.

The first of the schoolmasters, considered clearly as such, was Pythagoras, of Samos, who lived five centuries and a half before our era. It is true that before his day learning existed, as the libraries of Egypt, India, and China testify. Homer had sung his lays; Moses, Menu, Manis, and Lycurgus had instituted their laws; Zoroaster and Buddha had promulgated their creeds, yet the mass of people were sunk in the most abject ignorance. In Egypt, Persia, and India, learning was confined to the favored few, and the stern mandate of a merciless caste prohibited the lower class from having intercourse with knowledge. The keys of science and wisdom were held by the priests alone, and no one dared reveal their mysteries till Pythagoras arose.

Born under the oriental skies of the Ionian Samos, Pythagoras united the grave, inquiring, philosophical mind of the Asiatic to the restless, adventurous, brilliant temper of the Greek. A thousand legends enshroud his name, but through the mists of that distant period we discover enough of the real to satisfy our curiosity. The son of an opulent merchant, he was given every facility for acquiring knowledge, and he improved them. He was an extensive traveller, and though we must discard the account of his visit to the gymnosophists of India as a fable, there can be no reasonable doubt that he visited Egypt, and perhaps

also Phœnicia and Babylon. Twenty years of travel and study, added to the instruction he received at home from Thales and Anaximander, made Pythagoras the most learned man of his time, and at the age of forty he returned to his native land, where he assumed the title of philosopher, the first who claimed the name.

Samos at this time was the foremost State of Greece. The earlier glories of Miletus and her sister colonies on the Asian mainland had succumbed to the Lydian and the Persian, and the greater fame of Athens and Sparta were yet to come. But in a voluptuous clime, in the midst of the shining sea, with a powerful navy and many potent alliances, the gifted Polycrates, the noblest of all the Greek despots, defied the Persian, and lifted Samos to a sudden and brief greatness. This man was the first patron, and at the same time the pupil of the learned Pythagoras. A school, the first of its kind, was established at Samos, and the philosopher soon gathered around him a band of disciples and pupils, converts to the new learning. All classes came to receive his instruction, and his flourishing school received support from the youth of every part of Hellas and Ionia. In the system of Pythagoras religion, morals, and politics, all had a part as well as philosophy. His aims were the highest that had ever yet influenced the human intellect. Too high altogether were they to be understood properly by the ambitious despot scheming a Greek empire, a dream that was afterward to awaken the ambition of a Themistocles and Pausanias. He and Polycrates quarrelled, and the philosopher left his birthland in disgust, after five years of brilliant and not unsuccessful exertion.

All Hellas opened her arms to receive the renowned sage whose wisdom was the pride and the wonder of that rude age. Southern Italy, with her warm skies, her flourishing cities, her democratic institutions, attracted the gifted schoolmaster. At Croton, the greatest of all the Greek colonies of that Western

land, long the rival of the sister colony of Sybaris, and finally its destroyer, Pythagoras once more opened a school. The city, famous already for its excellent physicians and for the number of its citizens who had won prizes at the Olympic games, was to become more famous still as the seat of the Pythagorean school of philosophy. As a teacher of youth he met with the most immediate success, and his reputation became so great that, as was not unusual in those times, he soon rose from the preceptor to the legislator. His doctrines spread rapidly over Magna Græcia, and schools like the one at Croton were established at Sybaris, Tarentum, and Metapontum. His pupils were from the richest and most influential classes, and their political influence soon became a power in Southern Italy.

Pythagoras himself possessed vast political power, but his ambition was that of a sage and not a hero. It was his desire to establish a system rather than exalt himself, and that system was the grandest that had yet been pronounced to man. Even as the promulgator of a religious creed Pythagoras is deserving of our respect, but it is as a teacher alone that we wish to view him. The purely intellectual additions he made to human wisdom were vast and permanent. His discoveries in arithmetic, music, astronomy, and geometry, constitute an era in the history of the mind. His scientific speculations mark the philosopher, and his doctrinal morality the wise man. Humanity to all things, gentleness, friendship, love, and above the rest, self-command, form the principal recommendations of his mild and patriarchal ethics. Wonderful must have been the acquirements of the man to have enabled him to make such a personal impression upon mankind. In this respect he stands alone among the Greek philosophers and teachers, both those that came before and those that came after him. During his life he saw his school spread over Hellas, and the leading men of Magna Græcia among his disciples.

The first great schoolmaster lived long

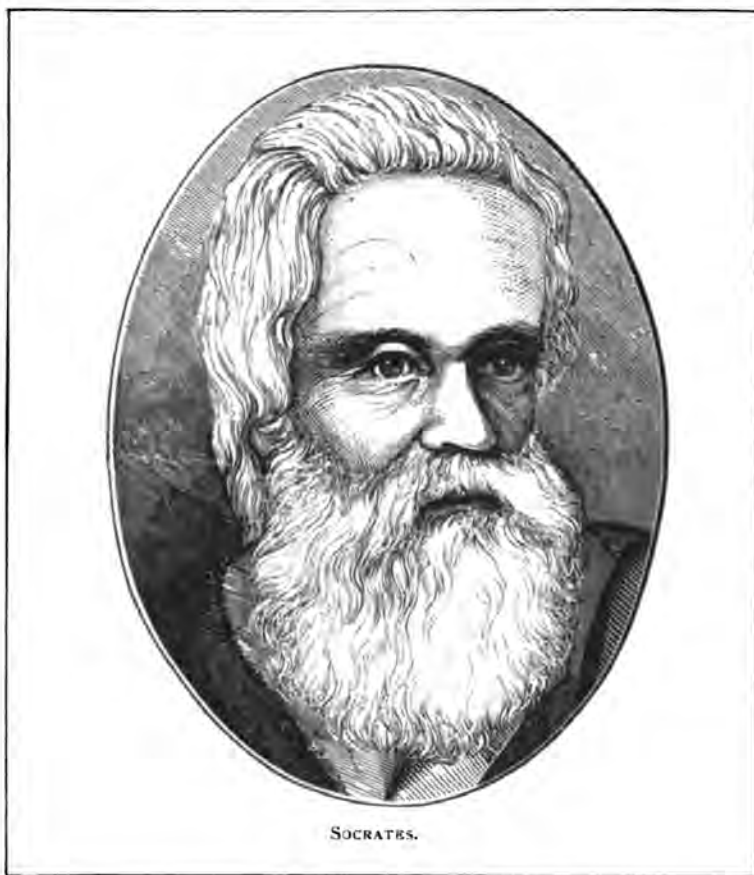
enough to see mind and reason triumph over brute force and ignorance. It was a Pythagorean army led by a Pythagorean general that overthrew the boasted luxury and splendor of Sybaris. In that half-barbarous western land where no school and no schoolmaster had been known before his day, he beheld numerous schools and a powerful following. Even at his death his influence did not die. His political code indeed crumbled away, but his philosophical sect remained, and for ages to be a Pythagorean was the highest honor that could be applied to man. His system of schools went on, and though women no longer were allowed to be pupils, they no longer were believed to be without souls. In the first schoolmaster women had also their first benefactor.

Not even the Pythagorean schools of philosophy could save Magna Græcia from the insweeping wave of luxury and effeminacy. Night settled upon the advancing mind. Wars, violence, northern immigrations and internal feuds overspread the fair fields of Southern Italy. One by one the beneficial works of the great schoolmaster passed away; books were forgotten, teachers despised. Knowledge, which alone can elevate a people, sought fairer haunts elsewhere. While Croton and Tarentum fell into intellectual decay, Athens advanced to that mental supremacy which to-day is the proudest remembrance of the city of the violet crown.

The gifted Greek mind, long dormant, awoke to life first on the shores of Asia, but its proudest accomplishments emblazon the fame of the parent city. Miletus, Ephesus, Samos, passed under the Persian yoke, but Athens withstood tyranny and began a race, both political and intellectual, which placed it far in the van of Greek cities. A succession of singularly able and astute statesmen directed its material growth, while as an intellectual shrine, the first painters, the grandest poets, the wisest philosophers of the world adorned the Athenian capital with their genius. Among this throng of

philosophers, artists, and poets, wanders a man with thick lips, flat nose, and prominent eyes. Squat and powerful in figure, of ungainly gait, poorly clad, he looks anything but the scholar. Yet that high, broad, noble forehead indicates unusual intellectual strength; every feature of the face speaks of quick perception, sagacity, and blunt independence. Prouder crown than the diadem of

equally as a commander and a historian; Crito, Aristippus, and Euclidus, all drank deeply of his wisdom. By his disciples he was regarded almost as divine, and the Delphian oracle eulogized him as the wisest of men. His disinterestedness, his temperance, his poverty, his easy affability, his unrivalled sagacity, and his captivating voice and manner, were valuable aids to one who early announced himself



SOCRATES.

Xerxes gives reverence to that grand pate. This man is Socrates, the greatest and most original of the Greek philosophers, the best and purest of all the teachers of antiquity.

The proudest memories of Athens cluster around her great philosopher and school-teacher. Some of the greatest minds of Greece were his pupils. Alcibiades, brave, generous, magnificent, and pleasure-loving; Plato, the profound and mellifluous; Xenophon, distinguished

as a teacher. He never wrote anything in his life, and taught in no fixed place, but his fame for wisdom spread abroad, and the sons of the noblest were sent to receive instruction from his lips.

Socrates with his wondrous gifts of mind could have hoped successfully to aspire to the highest political place in the Athenian State. But he had no desire but to teach. Engaged as a missionary in the service of philosophy, he was warned from participating in public af-

fairs by an authoritative mentor, an internal voice, which he professed to obey. Only once, and then late in life, did he accept an office from the State, serving as one of the Prytanes, after the battle of Arginusæ. Thrice he served in the armies of his country; the remainder of his life was devoted to learning and teaching. Under the shade of the olive, sacred to Minerva the industrious, and near the shrines of Mercy and Modesty, the great schoolmaster grew in aspirations and years. Every day was spent in public, wandering about the streets, the market-place, the gymnasium, the porticoes, and the work-shops, conversing with every one he met. He asked no reward for his instructions, and talked with cobblers and artisans as freely as with the richest citizens, the most imposing magistrates. The true schoolmaster distinguishes no caste, and Socrates was true to his vocation.

The two points in which Socrates surpassed his predecessors, including Pythagoras, were his simplicity and eminent practicability. The habit of former teachers had been to indulge in disquisitions upon the so-called principles of creation or of existence. Only the loftiest speculations were considered worthy of attention. Socrates marked a new era. Realities rather than mysteries were the topics he discussed, and he taught the simplest truths with greater zeal than other philosophers discoursed of mystics. Grand moralities were more to him than the profoundest speculations of abstruse learning, and his life was employed, not in advocating this or that principle as the essence of the Creator, but in inculcating habits of virtue and desire for truth. To awaken the worldly soul to moral consciousness, striving to win now Alcibiades, now Theodota to virtue, unravelling the subtleties of the sophists, these were the prime objects of his teaching.

Such was the humble, the liberal, and the simple teacher who opened the school of Athens. No teacher so great, and learned, and noble had preceded him; none loftier succeeded him for many a

hundred years. Unfortunate for the age rather than for the schoolmaster was the fact that his teachings fell upon stony places. Yet Athens is not to be censured for the death of the great teacher. It was not the city of Pericles and Alcibiades, the brilliant capital of the Athenian empire, the great representative of Greek democracy, that condemned Socrates to drink the hemlock-juice; rather it was Athens the enslaved, the subject of the oligarchal Lacedæmon, the spoil of the Thirty Tyrants. And the progress of thought was not stayed, though the dependence of the school upon the State was assured, by the execution of Socrates. Plato succeeded him, the grandest and the noblest of all his pupils. Plato, who wrote more than he talked, and whose style is so admirable that it was said: "If the gods should condescend to talk with men, they would use the language of Plato."

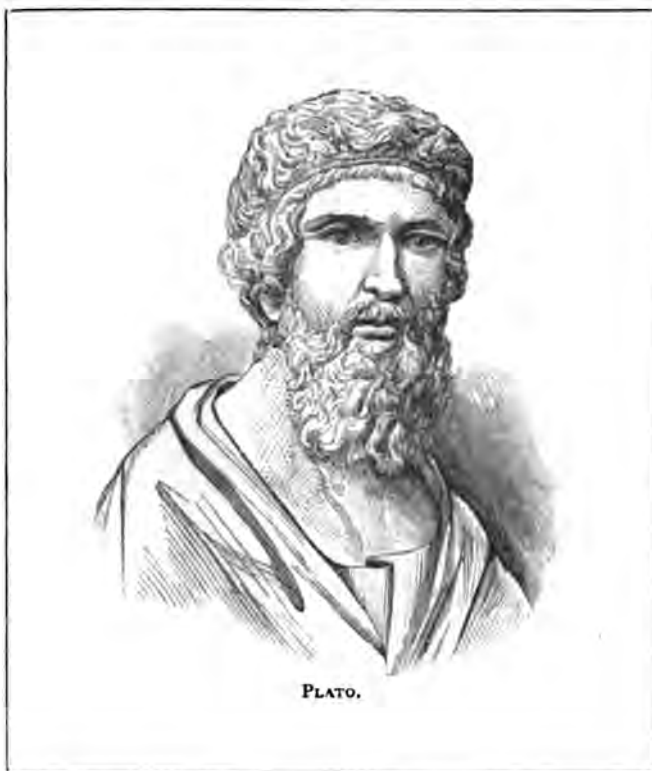
Plato possessed one of those capacious and imaginative minds that seem fitted for almost every sphere of literary culture and attainment. The exuberant fancy which he subsequently lavished on dialectics at first overflowed in poetical compositions, epic, lyric, and dramatic. But he burned his epics on comparing them with Homer, and having in his twentieth year fell under the influence of Socrates, he thenceforth devoted himself to philosophy. Of all his master's pupils, Plato most fully appreciated the intellectual greatness and seized the profound scientific conceptions of Socrates. Extensive travels and a long sojourn in Magna Græcia, where he became conversant with the tenets of the Pythagorean philosophy, had their influence too upon the mind of the future schoolmaster. He had less independence and simplicity than Socrates, and though far more learned was much less practical. He set no bounds to the capacity of the human intellect, and his standard of caste was that the wisest should be first. In affability he was his master's equal, and his wonderful vivacity, rich humor, and grace of diction made him a far more success-

ful teacher. When he opened his school in Athens, his genius and learning speedily attracted crowds of the most distinguished youth of Greece, and even females frequently attended his lectures in disguise.

In Plato's day the schoolmaster was what the editor is to the present. The successful teacher guided the opinions of his contemporaries and ruled with more than despotic sway the intelligent circles of his time. The master of a great school

scholar, and to the last he was a teacher. His school eclipsed that of every rival, and no teacher perhaps had the honor of attracting so many followers.

The schoolmaster continued to flourish after Plato's day. Mighty kings had learned the lesson that their best claims upon the memory of posterity lay in their patronage of learned men. But this reverence from the great had also a corrupting influence upon the teacher. Schoolmasters struggled for place and for com-



PLATO.

held a power that was often envied by kings, and fame, wealth, and regal favor were often showered upon him. Plato himself was an invited and honored guest at more than one royal court. He was a great political theorist, and his ideal republic he hoped to see realized in Syracuse. Two years' abode with the unprincipled Dionysius convinced the teacher of the impracticability of his scheme. The larger part of his life was passed at Athens, where he died at a serene old age. To the last he was a

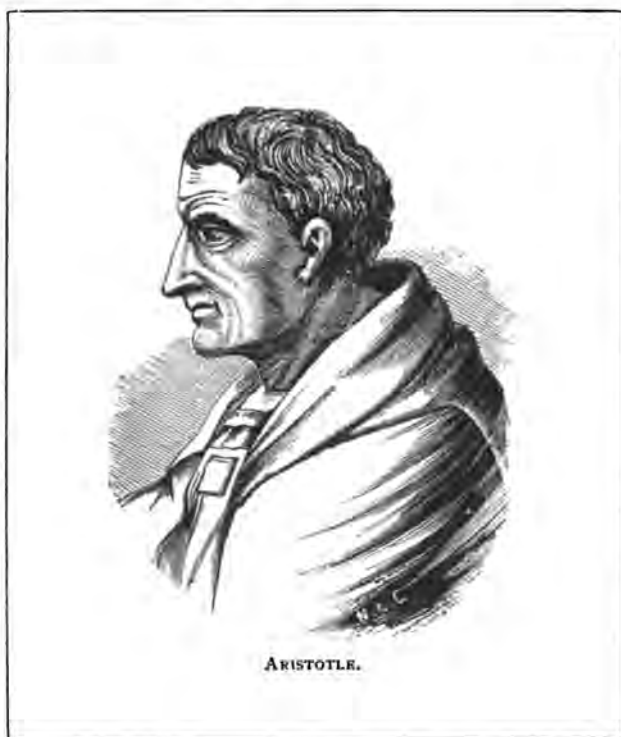
petency rather than to teach well. Fierce emulation sprang up between ambitious teachers. Vile and unworthy arts were resorted to, to win each other's pupils and destroy a rival's fame. Diogenes trampled upon the pride of Plato, and the sceptic heaped scorn upon the cynic. Sophistry took the place of reason, and philosophy was degraded to the mocking stock of puny rhetoricians. But before it sunk to utter insignificance the last of the great Greek schoolmasters threw about it a brilliant gleam of glory. Philosophy was

not dead so long as the Peripatetic lived to gather scholars around him.

Aristotle was the disciple of Plato, and by that great teacher had been termed "the intellect of his school." His life was one of considerable vicissitude, first a wandering dialectician, and then a student under Plato; now the honored guest of Philip of Macedon, whose son was his pupil, and finally the master of the great Athenian school of the Lyceum. He was the greatest logician that the

was the confession even of Plato. Small in size, with brisk, vivacious manners, well dressed and something of a fop, Aristotle was the direct antipode of Socrates in appearance. But he was a great schoolmaster, and held his pedagogy with absolute sway till his death in 322.

He may be said to have perfected philosophy, and logic which he made a science has scarcely been improved since his day. He brought together a vast



ARISTOTLE.

world has ever seen, and his caustic wit, his erudition, his powerful reasoning, placed him far above all the other schoolmasters of the age. His method of teaching was by lectures and from his habit of walking when discoursing to his pupils was derived the title that is applied to his system of philosophy. He studied everything and taught everything. The world of speculation was not too high, nor that of observation too wide to daunt Aristotle. There were teachers less simple than the Stagirite, but there were none less humble. "He needs a curb"

amount of erudition, which he put in proper shape, and which might have been lost but for his labors. As the friend of Alexander he is not so respectable as a philosopher, but the conqueror of the East was his best pupil. He left no successor who could fill his place, and the schoolmaster after his day became the servant of the State. A law was enacted, forbidding any one to assume the charge of a school without the consent of the public authorities. No human intellect lifted spear or sword against the promulgation of tyrants. Neither the

garden where Epicurus reposed, nor the stoa where Zeno argued, heard so much as an appeal against the oppression of philosophy. It had become its own oppressor.

The royal race of schoolmasters had died out, and learning had ceased to be creative or grand. Athenian schools still flourished, but no great master proclaimed the praises of intellectual supremacy. Upon the opposite shores of the Mediterranean, the royal city that Alexander founded, was slowly rising to mental pre-eminence. In the second, third, and fourth centuries after Christ, the schools of Alexandria were the foremost in the world. A throng of learned men, Jews, Christians, Brahmins, Greeks, prosecuted their studies and their teachings together. Greatest of all these great men was Origen. No reasoner so acute had appeared since Aristotle, no expounder so sublime since Plato. In his famous school were taught mathematics, logic, rhetoric, physics, metaphysics, and ethics, as well as theology. Pupils from every clime thronged to listen to his lectures; women as well as men were his scholars. His wonderful success, his bold teachings made him enemies. Christians and Neo-Platonists both regarded him with envy, and he was forced to leave Alexandria. He migrated to Antioch, and the school he founded there flourished for three hundred years.

Not so fortunate was the beautiful Hypatia, who lived fifty years after the devout Origen. She was a Neo-Platonist, and the most acute, eloquent, and erudite teacher of her time. Her extraordinary genius was the wonder of the world, and the fame of her extensive learning drew the most promising youths of Europe, Asia, and Africa to her feet. Had she lived in an earlier age she would have been deemed inspired and worshipped as a goddess, but the period bestowed the cross rather than the crown upon its wisest and purest. Fierce bickerings ensued between the opposing sects, and talents, learning, and goodness could not shield their possessor from persecution and death. Hy-

patia was an intellectual queen in one of the most brilliant periods of the world. Her announced object was to teach; her greatest desire to lift men from corporeal grossness to a level with the gods. No nobler object ever stimulated man; no one ever met with greater success. Her school was thronged with men of every race and creed; but in the midst of her labors she was cut down, and the brightest ornament of Alexandria in all her intellectual history perished by a mob. It was not the first time nor the last that the brow of the schoolmaster was crowned with martyrdom.

Through the shadowy gloom of the eighth century, amid the bloody wars and wild commotions that followed the dissolution of the Roman empire, a single powerful intellect struggled against the barbarism of the times. It was Alcuin, the most eminent and the earliest of the mediæval schoolmasters. When he came upon the stage of life there was not a single school in all Christian Europe. He was an Irishman or Scot, and had tasted the sweets of learning in the schools of Armagh or Iona. It was a dark age. Northern barbarism had swept away the old seats of learning and instituted nothing in their stead. Even the Church had ceased to educate; indolence and ignorance had their homes in the sanctuary as well as in the serf's cottage and the baronial hall. The apathy of the European intellect was deplorable.

Alcuin wandered through England and Italy, teaching wherever he went, and finally became fixed at Aix-la-Chapelle. As the capital of Charlemagne's great empire, this Northern city had been adorned and rendered magnificent by the power of the new Augustus. But prouder mark of royalty than the magnificent palace or the stately cathedral, rose the college of learning, to which the youth of Germany came to drink wisdom from the lips of the Celtic schoolmaster. Charlemagne, greatest of modern kings, was the patron of Alcuin, who became in time the rector of a royal university,—rude prototype of those later institutions which

flourished in Oxford, Paris, Padua, and Prague. To Aix-la-Chapelle and her university thronged the learned and the ignorant, and a system of education sprang up that arrested the advancing wave of barbarism, and planted the germs of modern civilization in the heart of Europe. In every district and monastery of Gaul and Germany, Alcuin saw free schools springing up, the outgrowth of the institution he had planted under the imperial patronage. The death of the great schoolmaster and his generous protector saw the beautiful vision vanish. Ignorance and oppression once more became the rule, and the school and the schoolmaster were succeeded by robber castles and plundering barons.

From amid the darkness of the succeeding century there shone forth one ray of light, when Erigena, the Scot, taught to wondering Englishmen the mysteries of mathematics, philosophy, and Latin in great Alfred's literary capital of Oxford. He was philosopher, theologian, wit, and heretic. Casting aside the superstitions of his contemporaries, his bold genius asserted the supremacy of knowledge over ignorance, of reason over superstition. He had travelled extensively, and at one time was the guest of Charles the Bald of France, with whom he was on terms of intimacy. They sat once together at table, and the king, merry over his cups, asked what the difference was between a sot and a Scot. "Only this table," was the ready answer of the teacher. He was invited to England by Alfred, who was making strenuous efforts to civilize his people, and in that insular kingdom Erigena spent the remainder of his life. He presided over the new college that Alfred built, and opened a school at Malmesbury, which numbered many learned men among its pupils. Erigena and Alfred were devoted pedagogues. No men ever labored more earnestly for the education of men. Schools were planted in different parts of the kingdom, and a royal edict ordained that the children of every free man, whose circumstances would allow it, should acquire the arts of reading and

writing, and that those who designed to be magistrates and ecclesiastics should be instructed in the Latin tongue.

Erigena was unfortunate in his latter days. His keen, powerful intellect revolted against the superstitions of the Church, and he enlisted the antagonism of the monks by his scepticism on the pope's infallibility, and the doctrine of transubstantiation. He fell the victim of monkish rage and violence, a martyr of science. Vain were his efforts in behalf of learning. Vast as were his labors, they bore seeds of little fruit. Men sunk again into barbarism, and the brilliant age of Alfred's great schoolmaster was succeeded by the mental torpor of the tenth century, in which, it has been remarked, no heresies appeared.

Darkest of the dark ages was this tenth century. Woe and desolation were marked on all its decades. The poor were the slaves of the rich; the rich were oppressed by the nobles; the nobles were the slaves of the priests, and the priests were degraded. In the whole history of the human race there are few sadder pictures than those outlined against this terrible epoch. A general consternation filled Christian Europe. The end of the world was expected, and all labor was suspended, while the churches were thronged. Famine succeeded, and men went wild from hunger. Metamorphosed to human brutes they devoured the flesh of their comrades, cities were depopulated, and Christian Europe seemed about to become a desert.

In contrast with this rude ignorance and degrading superstition shone the brilliant civilization of the Arabs in the south and east. Three Saracenic capitals, in three different portions of the world, revived the ancient glories of Athens and Alexandria. Bagdad, Cairo, and Cordova were brilliant centres of mental progress. There thronged the men of learning; and a thousand universities, under the fostering care of the acute Mohammedans, were pouring forth a constant succession of poets, philosophers, historians, physicians, and teachers. In every Arab vil-

lage the free school opened its door to the poor, and the generous Moslems looked from their smiling gardens, their fair cities, and their cultivated homes with something of scorn upon the savage manners and rude revelries of the feudal courts.

A taster of this civilization—for the Arab schools of Spain were open to both Christians and Moslems—was the next great schoolmaster, Gerbert. In the University of Cordova he had learned the deepest secrets of science, geometry, and medicine, and enriched with Saracenic learning he returned to France to teach. The school he founded at Rheims speedily rose to distinction, and as the chief schoolmaster of the age he attracted the attention of Hugh Capet, who had just placed the diadem of Charlemagne upon his brow. He became the director of the new dynasty, and revived the taste for letters that had died with Alcuin. The wise Emperor Otho III. patronized him, and upon the death of Gregory V., Gerbert was exalted to the papal throne as Sylvester II. Wise, acute, learned, pious, the gentle Gerbert must have regarded with pity the ignorance, crime, and superstition of his time. Mankind was so degraded that the schoolmaster was regarded as a magician, and Gerbert himself did not escape the accusations of his contemporaries. By many he was looked upon as a sorcerer, and his wondrous wisdom was considered magic. The most extraordinary stories were rife concerning him, and the great intellectual leader of his age was believed to be an emissary from the infernal world.

The following century was adorned with the learning and genius of Abelard. The greatest dialectician that ever crouched lance against sophistry and superstition, the son of the Breton baron startled Europe with his intellectual innovations. Born in a warlike age, and the inheritor of a feudal title, Abelard discarded all other callings to teach. No paladin would he be, knocking heads with iron pots on them, but a schoolmaster, a logical knight-errant. The labors of Gerbert had not been in vain, and the school was

already a powerful agent in Christendom. In many of the cathedral cities of Italy, Germany, England, and France there had sprung up universities, where successful teachers gathered around them vast throngs of students, and lectured with active emulation on theology and philosophy. One of the most famous of these in Abelard's day was the School of Paris, presided over by William of Champeaux. Abelard, at first the pupil, became at last the rival of his master, and the quarrels of these famous dialecticians resounded through Europe. Abelard's genius triumphed, however, and William of Champeaux, defeated, went from Paris, leaving his rival to succeed to his place.

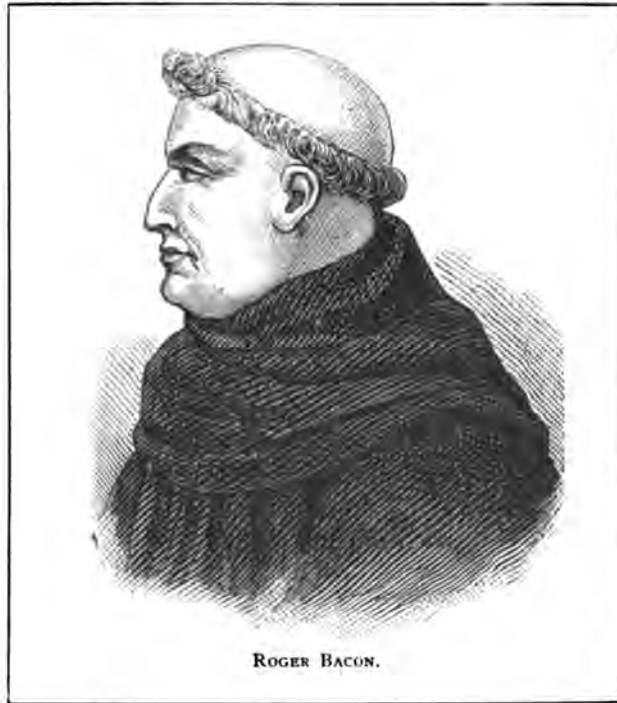
As the head of the school of Paris Abelard's fame went over all the world. Not since Plato's day had ever a teacher so large a following. Over five thousand pupils, gathered from all parts of Europe, the sons of kings, bishops, princes, and nobles, gathered around the eloquent lecturer. Future popes and future cardinals, men that were to be diplomats and statesmen and direct future European politics, were among those who came to receive culture at the feet of the gifted schoolmaster. Wise, erudite, brilliant in intellect, and handsome in person, Abelard was the idol of Paris. The highest honors seemed easy of attainment, and he might hope to grasp the red hat of a cardinal or St. Peter's mitre itself.

A fatal passion blighted the career of the ambitious teacher, and yet Abelard fallen is dearer than Abelard the chaste. Few care to remember the scholar and the teacher, but all know and reverence Abelard the lover. The woman to whom he is joined in mournful fame was also eminent for her learning and goodness. Heloise was another Hypatia, beautiful, gifted, scholarly, and her fate was scarcely less pathetic. Separated from her lover by the strong arm of the Church, and immured within a convent, Heloise's last days were spent in teaching her sister nuns the sciences and classics. She outlived Abelard by twenty years; and the most eminent schoolmaster and the most

gifted woman of their age now sleep together under a splendid mausoleum in the cemetery of Père la Chaise.

Arnold of Brescia was the most famous of Abelard's disciples, and upon his shoulders fell the cloak that had dropped from the stricken master. The history of his early life is involved in obscurity. He first appears as a scholar of the Paraclete, and was early distinguished for his finished and most persuasive eloquence. Returning to his native land (Italy) he drew multitudes around him by his powerful

influence among the cantons was unbounded, and Arnold was laying firm the foundation of the faith that afterward was to avenge his wrongs upon the papacy when he was called to Rome. Five years he had labored among the virtuous Swiss; ten years more were to be spent among the turbulent populace of the Eternal City. A senate and a free government ruled upon the Capitoline, and the new republic that recalled the image of the old commonwealth of the Scipios and the Fabii was directed by Arnold of Brescia.



ROGER BACON.

preaching. He was more radical even than Abelard, and attacked all the corruptions of the Church with the most vehement eloquence. The people recognized him as their champion; and though he startled the twelfth century with suggestions that seem ultra even to the nineteenth, he became the master of unnumbered subjects. The envy of the clergy was aroused, and he was driven from Lombardy, while a papal edict condemned him as a heretic.

The teacher took refuge in Switzerland, and speedily began a new school. His

From this perilous eminence the reformer and teacher fell, to be hurled like Pythagoras back upon the very men whose vices he had attempted to amend. The schoolmaster was sent to execution, and his ashes were scattered to hinder, as the historian remarks, "the stupid people from worshipping his relics."

The fame of Roger Bacon, or Friar Bacon, as he was usually called, was almost as ill-favored among his contemporaries, as that of his great predecessor Gerbert had been. His wonderful knowledge was ascribed to the evil one, and the teacher

was believed to be a sorcerer. Bacon was a teacher in the University of Oxford, which at his time had a reputation equal to those of Padua, Bologne, and Paris. He had studied in Paris and in Italy, until he could find no master to teach him, and with wonderful genius and vast erudition, he went to teaching and experimenting himself. It was not long before Friar Bacon became known as the chief schoolmaster of that day. He was a famous linguist and philosopher, but his forte was physical science. He was acquainted with the composition of gunpowder, and anticipated the discovery of the telescope, and the whole tone of his mind was three centuries in advance of his time.

His remarkable discoveries in science awakened the suspicion of the Church, and an explosion at Oxford produced by some of his compounds, brought against him the charge of magic. The dungeon was the reward of his long studies and costly experiments, where he languished for ten years. He came out an old, gray-headed man of seventy-five, but his spirit was not broken. He made no more experiments, but he recorded in writing the discoveries he had already made. He died at the age of eighty, in the year 1294, "unheard, forgotten, buried"; the old schoolmaster died as he had lived, and it was reserved for later ages to clear his memory from the obscurity that had gathered around it, and place first in the great roll of modern science the name of the Oxford teacher.

The greatest of the old schoolmasters have passed in review before us, and it only remains to note the results of their labors. The entire separation of Church and State, the enfranchisement of human thought, the founding of the great universities, are among the least important effects of their untiring exertions. The schools of the Academy and the Lyceum were succeeded by the Universities of Oxford, Paris, Italy, and Germany. Where Abelard delivered his brilliant lectures to five thousand pupils, three times that number now gather under the roofs of

its university. During the fourteenth and fifteenth centuries Oxford, which had expelled its most gifted teacher, became the tribunal of national opinion, and kings were governed by the decisions of its scholars. Our own Harvard and Yale are the legitimate outgrowths of the early and almost thankless labors of Alcuin and Gerbert.

But far more important than anything else that has followed the labors of the old schoolmasters is the institution of the modern common school. The idea dimly foreshadowed when Pythagoras gathered his pupils around him on the shores of the Midland Sea, and afterward developed by Alcuin and Arnold of Brescia, has now become the most powerful element of civilization. The idea of the first great schoolmaster was never completely lost. It slowly grew through successive ages, and the minds of men realized at last the necessity for a general education of the people. With the Reformation and the discovery of the art of printing a great change was brought about, and the system of free schools initiated in every progressive nation. To-day universal diffusion of knowledge is enforced by legislative means. Intelligence and mental power are at a premium, and the great truth uttered by Socrates twenty-three hundred years ago is regarded as an axiom by civilized man; namely, that knowledge should be as free as the air we breathe or the light from heaven.

FRED MYRON COLBY.

WOULD home be home, were cares unknown?
 Would light be light, were darkness dead?
 Would wheat be wheat, were tares unsown?
 Or hope be hope, if doubts were fled?

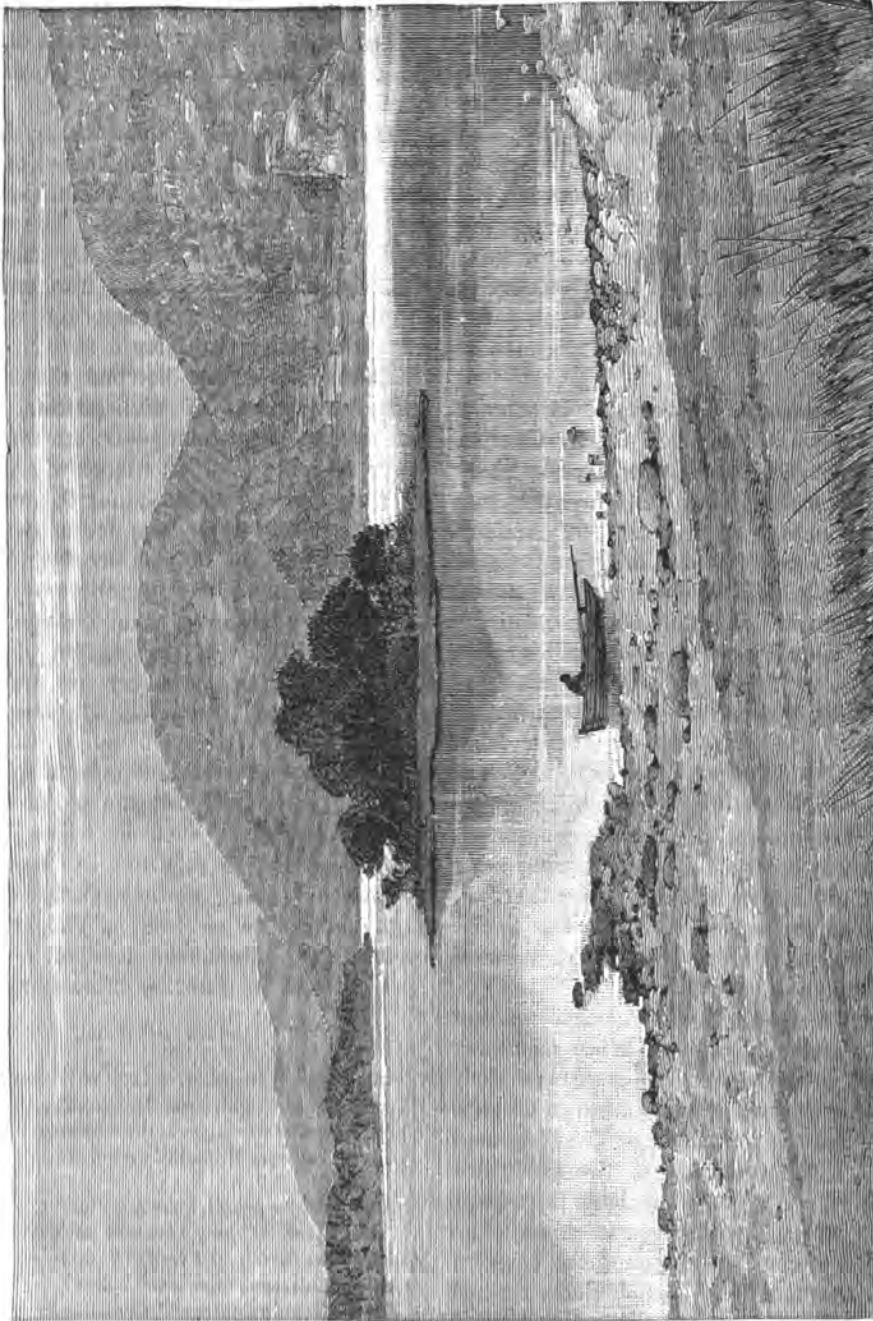
Would heights be grand, were ways less steep?
 Would shores be blest, were seas untossed?
 Would smiles be fair, did we not weep?
 Our loved so dear, were loved unlost?

Oh, calm is deep, though storms are loud;
 And flowers are gay through winter's breadth;
 And stars more bright, where looms the cloud;
 Thank God for life, thank God for death!

THE LAKES OF KILLARNEY.

THE County Kerry, away down on the southwest coast of Ireland, is celebrated for the variety of its scenery. It is perhaps not exceeded by any other section of the British Islands for its varying phases of mountain, lake, bay-indented

ocean front, and plain. A great deal has been written of its scenery, but no feature has enlisted more interest than the lakes



GENERAL VIEW OF UPPER LAKE.

of Killarney which lie in that part of the county where the diversity is greatest. There are three of these lakes, and

known by the names : Upper, Middle, and Lower Lake ; each of which has its peculiar characteristics of position and physiognomy. The Upper Lake lies in a deep hollow between the southeastern flank of the lofty Iveragh range of mountains and the group of Mangerton. This is a sheet of water about three miles long and three-quarters of a mile in breadth. It is inclosed on all sides by mountains from two thousand to three thousand feet in height, except at one point toward its eastern extremity, where it

discharges its water by a tortuous course of three miles, between the declivities of Glenna Purple Mountain and the precipitous side of Torc Mountain. Scattered over its surface are numerous islands all wooded, their luxuriant foliage contrasting most agreeably with the rough and generally sterile aspect of the steep heights that bor-

more than a defile. Nearly midway in its course there is a remarkable rock standing by itself, and rising to the height of eleven



UPPER LAKE WITH ISLAND: LOOKING SOUTH.

hundred feet ; it is called the Eagle's Nest. In this part of the defile is an echo that is famous for its long continuance and distinctness.

On emerging from the defile the river expands into the Lower Lake, which is eight miles long and about three miles broad, skirting the eastern declivities of



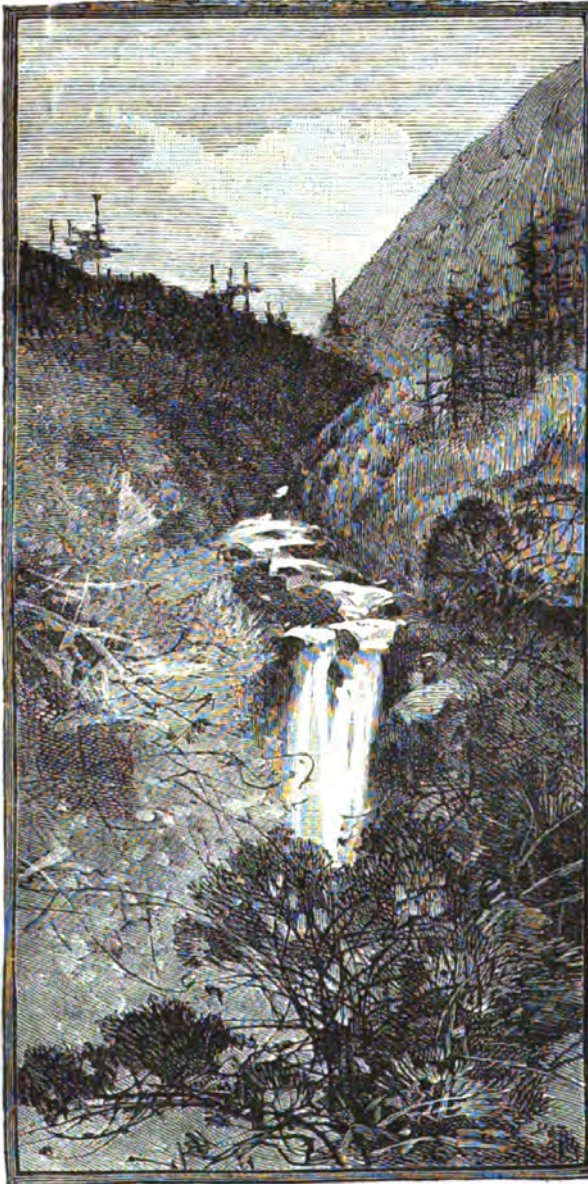
LOWER TERRACE, KILLARNEY HOUSE, ON LOWER LAKE.

der the lake. Groves of oak clothe the banks of the channel which leads to the Lower Lake. This channel is but little

the Toomies and Glenna Purple Mountains. The precipitous sides of these mountains are here clothed with a rich

growth of forest of various sorts of timber: oak, pine, alder, beech, etc., intermixed with yew, arbutus, holly, all mantling with their rich hues of green the sharp inclines for several hundred

the shore of the lake. On the opposite side the low and rather level banks are everywhere broken into promontories and numerous islands, on which the arbutus grows with uncommon luxuriance.



THE TORC WATERFALL.

feet clear to the water's edge, and extending along for a distance of six miles.

O'Sullivan's River descends in a thickly wooded ravine on one side, and forms a cascade seventy feet high and quite near

islands which add to their beauty certain attractions of historic or legendary interest. The largest of these is that of Ross Island, on which the ruins of Ross Castle, an old fortress, lie. This was once the

About a mile south of the mouth of the Flesk, the chief feeder of the lake, is the promontory of Muckross, which runs into the lake to a distance of about one and three-quarters miles, dividing the water picturesquely into two unequal portions: the upper being known as the Middle Lake, and sometimes as Torc Lake, on account of its skirting the base of the Torc Mountain. Two charming cascades descend into the water here; the larger of which is fed by a stream that flows from the Devil's Punch-Bowl, a small lake that lies high up near the summit of Mangerton Mountain. The illustration gives an idea of this waterfall.

Mangerton is easy of ascent by pedestrians, and from its summit a fine prospect meets the eye. The lakes of Killarney, and the mountain summits are spread out before one, and in clear weather several of the bays that indent the coast are visible.

The Torc Mountain, 1,760 feet high, towers above the southern shore of the Middle Lake. The Lower Lake, which is otherwise known among the people as Lough Leane, contains several

possession of the O'Donoghues, and the last stronghold in Munster to hold out against the army of the English Commonwealth in the Civil War. It is still a commanding feature in the lake prospects.

"Sweet Innisfallen" has been celebrated in the tuneful measures of Moore :

" Sweet Innisfallen, fare thee well,
May calm and sunshine long be thine !
How fair thou art let others tell,
To *feel* how fair shall long be mine.

" Sweet Innisfallen, long shall dwell
In memory's dream that sunny smile,
Which o'er thee on that evening fell,
When first I saw thy fairy isle.

" Might hope to rest, and find in thee
A gloom like Eden's on the day
He left its shade, when every tree,
Like thine, hung weeping o'er his way.

" Weeping or smiling, lovely isle !
And all the lovelier for thy tears—
For though but rare thy sunny smile,
'Tis heav'n's own glance when it appears.

" Like feeling hearts, whose joys are few,
But, when *indeed* they come, divine—
The brightest light the sun e'er threw
Is lifeless to one gleam of thine."

There are the charming ruins of an Abbey founded by St. Finian, near the close of the sixth century. Then there is the



MUCKROSS ABBEY.

" 'Twas light indeed, too blest for one
Who had to turn to paths of care—
Through crowded haunts again to run,
And leave thee bright and silent there ;

" No more unto thy shores to come,
But, on the world's rude ocean tost,
Dream of thee sometimes, as a home
Of sunshine, he had seen and lost.

" Far better in thy weeping hours
To part from thee as I do now,
When mist is o'er thy blooming bowers
Like sorrow's veil on beauty's brow.

' For, though unrivall'd still thy grace,
Thou dost not look, as *thou* blest.
But thus in shadow, seem'st a place
Where erring man might hope to rest.

old Muckross Abbey that was built by the Franciscan Monks in 1440, with its gigantic yew-tree which actually helps to hold up the trembling walls ; and could it speak, it would tell many stories of the ages past. The artist has endeavored to picture it faithfully.

The church of the Cloghereen, near this, is reputed as the oldest in Ireland. Then there is the Castle of Dunloe, and the ruined church of Aghadoe, which deserve passing mention, and invite the lingering notice of the visitor.

Killarney House, belonging to the Lord Kenmere, the mansion in which the Prince and Princess of Wales were en-

tertained on their recent visit to the lakes by the Lord Lieutenant of Ireland and Lady Spencer, is situated near the little town of Killarney, and Glenna Cottage is an appurtenance of this estate on the other side of the lake.

paradise for romantic minds. There the sentimental and the imaginative loiterer will find fitting suggestions for reverie. Sir Walter Scott was delighted with the lakes when he visited them in company with Maria Edgeworth; and although



ON THE BANKS OF THE UPPER LAKE.

The waters of the lakes discharge at the northern extremity of the Lower Lake through the river Laune, which after a course of twelve miles empties into the Bay of Dingle.

Altogether the Killarney region is a

travellers speak in warm terms of the impressions awakened by the picturesque beauties of the region, we wonder that no poet besides Moore has been drawn to celebrate its beauties in fervid verse.

D.

CHRYSOSTOM AS A PREACHER.

DURING the period intervening between the years 397 and 406 it was seldom that any stranger visited Constantinople without attending divine worship at the church of St. Sophia. It was not because the style of its architecture was more gorgeous than that of other churches, although St. Sophia was the cathedral of the Archbishop of Constantinople; it was probably no more imposing in its construction and internal decorations than other cathedrals. Was it then through curiosity, or a desire of information, that so many visitants of the city loved to linger around the precincts of St. Sophia, and to delay for months, and even years, for the sole purpose of at-

tending divine worship within its sacred nave? I have made mention only of strangers visiting the city, as if it were for these alone that the church of St. Sophia had such peculiar attraction; but it was not strangers only who flocked in large numbers to attend divine worship at this church,—the whole inhabitants of Constantinople and suburban towns would have been glad to have had even standing room in that vast cathedral. It was no uncommon thing to observe, almost every day in the week, the streets leading to the church of St. Sophia rendered impassable by the multitude of carriages and people making their way to the doors of this great edifice. There must have been

something very attractive within the precincts of St. Sophia to draw such multitudes. Gorgeous ritual, the sublime swell of music, vocal and instrumental, often captivate the human heart, but only for a time. The eye grows weary of the same genuflections, the same altar-lights, and the same surplus parades. The ear is jaded by the sound of the oft-repeated *Amens*, the meaningless intonations of psalms and prayers, and even of the sublime and gorgeous swell of anthem-music. Even suppose church-music and ritual were capable of drawing such vast crowds, yet we have no record that St. Sophia was more ritualistic than any of her sister churches.

Our wonder and interest is still further increased when we are told that on many occasions, not only was business suspended, but theatres, circuses, and places of amusement in general were obliged to close their doors because the people found the services of St. Sophia more fascinating. Great religious revivals have occasionally drawn devotees of the circus and theatre to listen to the impassioned eloquence of some popular preacher, but this effect has been rare indeed, and has only been accomplished by such powerful orators as Whitefield, by assaulting the theatre-goers on the ground of their places of amusement, and by very irregular, questionable scenes of violence; but we have never read of anything to compare with the scenes daily enacted at Constantinople.

Though St. Sophia was always, during the period I have mentioned, a place of attraction, yet toward the close of the year 403 had any stranger been visiting Constantinople, ignorant of what had occurred within that city a few months before, he would have been exceedingly surprised to witness a very imposing spectacle of which St. Sophia was intimately connected with the central figure. Though Constantinople had often witnessed stirring and imposing spectacles, yet there will never be one more memorable in history than this which I have just mentioned.

Constantinople at this time was one of

the most important cities in the East. Populous, rich, and prosperous, it was the home of the Eastern emperors whose fortunes had become ascendant since the dismemberment of the old Roman empire. Its citizens were given to luxurious living, frivolous amusement, and spectacular shows. But this spectacle was well worthy of the intense excitement it produced; probably no spectacle of a like nature ever happened in any other city; the whole of the Bosphorous was covered with innumerable vessels; the waters of the Golden-horn were gilded with sheets of flame. The shores of Europe and Asia strove to outshine each other with bonfires, flaming torches, and fire-works of every description. Amid the sound of martial music arose the joyous shouts of a victorious people. A grand procession filed along from the port to the church of St. Sophia, bearing in triumph her chief attraction. The people who formed this procession were the same who for days had crowded the streets, threatening with fire and sword the unjust power which had bereft them of their chief joy, their own true Archbishop. The facts attending Chrysostom's banishment are well known to history, and need no rehearsal. It is sufficient to say his banishment was exceedingly unjust, and the work of his enemies, the fawning parasites who sucked their support from a corrupt court and imbecile emperor. An earthquake which happened during Chrysostom's banishment alarmed the conscience of the profligate Eudoxia, and the clamors and threats of an exasperated people caused the emperor to issue a summons for his recall. It was the return of Chrysostom that the people were now so joyfully celebrating. It would be extremely difficult to describe the excess of joy which was manifested by the people upon the return of their exiled bishop. Leaving the multitude, therefore, to make their way to the famous church, we will enter it and discover if possible why such vast crowds of people were wont to frequent its services. We find it, like most other churches, nothing wonderful in its

construction or decorations, or in the ritual of its services. After a few hymns have been sung, and a few prayers have been made, a man clad in the ecclesiastical robes then in use takes his seat and begins to speak in a low tone of voice. His appearance at first sight does not favorably impress. His care-worn expression, his hollow cheeks, give the impression that he is a man who has undergone much suffering. His constitution, which bears evident signs of once having been robust, now seems shattered and worn, as from a campaign of toilsome marches, hunger, and inclement weather. His figure is short and not large, and the most conspicuous thing about him is his large head, very wide at the coronal region. Though his general appearance does not denote anything extraordinary, yet the experienced eye of a reader of human character would quickly discern much about him which denotes genius. He would recognize in that large, speaking eye the power of expression, and in that forehead so markedly protruding on each side of the top-head, laterally the organs of Wit, Ideality, and Sublimity, most essential organs in a great orator, and even his body would not be an insurmountable obstacle; he would recognize the mental temperament which gives fervor and sharpness to delivery; the ruins of a once strong vital temperament would also be recognized, which gives buoyancy, depth of feeling, and force to an orator.

His personal appearance, however, is soon lost in the majestic action of the man as he kindles with his subject. His hollow cheeks are lost in the marvellous expressiveness of his countenance. He seems to be alive with some spiritual influence; his pallid cheeks glow with a vitality not his own; the eye flashes; the body quivers; the gestures are few, but wonderfully appropriate; every attitude, every look, is thoroughly in keeping with the emotion intended to be conveyed. As he warms with his subject he rises from his seat and advances nearer to his audience. The voice, which was low and

scarcely audible at first, now has an irresistible clarion ring. The modulations of time, pitch, stress, and inflection fall upon the ear with silvery sweetness. If he is not an orator in stature he can not at least be surpassed as an orator in voice; sonorous, round, full, and ample in sound, it fills with its lowest whisper every recess of the vast cathedral. Disdaining the obstruction of windows and doors, it steals out into the open air and is distinctly audible to the vast crowd of intense listeners outside. It was not unusual for many of the spectators, as the excitement grew intense, to applaud by clapping their hands as they were wont to do in the theatre, but by far the greater number felt the force of his genuine oratory in a nobler way by giving vent to their sin-stricken consciences, by tears, sobs of anguish, and even shrieks of despair; nothing seemed to be proof against that mysterious penetrating quality of voice underlying every syllable which fell from the orator's lips, a kind of electric current which stole through the integument of the body along the responsive nerves, drying up the warm blood or thrilling the heart with pathetic chills, seeming to take possession of the whole being of the auditor and to command him at will; now prostrating him before its awful denunciations or raising him to heights of ecstatic joy. So intense was the effect often produced by this man's eloquence that the whole audience hung with breathless interest upon every word he uttered. They did not desire to leave the sacred precincts of St. Sophia. They had no desire to flee from the spell which his eloquence had thrown around them; nay, even upon many occasions, when they had already listened for hours they besought him to continue still to preach the Word of God. It is needless to say that this great orator, the centre of attraction of the luxurious city of Constantinople, the living magnet of the church of St. Sophia, is the preacher John Chrysostom, or John of the golden mouth.

In all the annals of oratory we can

find few orators who have held the mastery over the hearts and minds of people so well as St. Chrysostom. At Antioch, that city of apostolic fame, he was the king of preachers, and it was only by a stratagem that the Government was able to remove him from that city to Constantinople. The people undoubtedly would have resorted to violence, as they did in later times at Constantinople; to retain their beloved preacher.

For an equal number of years he held sway in the Eastern metropolis. There he gathered around him a body of men so devoted to his interest, that a word from his eloquent tongue would have been sufficient to prevent the banishment from which he so gloriously returned. As it was, in order to prevent a mutiny of the people in the city on his account, he secretly delivered himself into the hands of his enemies, to be conveyed quietly outside the city. If ever an orator had the power of playing the artful demagogue it was Chrysostom. With their beloved preacher as their leader, the people of Constantinople would have stormed the royal palace itself in his cause. Thrice, but contrary to his will, the quiet of Constantinople was threatened with insurrection, fire, and blood, and after his final banishment, fire did indeed break out in the city which consumed the cathedral, the senate house, and the adjacent buildings. This fire was imputed to the faction which supported the orator in despair of his ever returning, and to prevent the desecration of their sacred church, which had been the scene of so many fond memories of their pastor, by the administration of a stranger. His popularity followed him even to the wilds of Caucasus, where the Empress Eudoxia had ordered him into exile. There his eminent qualities as a preacher and as a man endeared him to the people, who from all places flocked to hear him.

In foreign countries his fame spread, and in Rome his cause was gaining ground, and there was every prospect that he might be recalled to his Arch-

bishopric again. Chrysostom even cherished that hope himself, but it was soon dashed to the ground by the intrigues of his enemies, who influenced the court to have him removed to a more barren spot. Ruthless men were employed to convey him to the place now allotted for his exile: a more barren, inaccessible spot could hardly be found than Pityas, on the shores of the Black Sea. Secret instructions were given these men to take the most uninhabited countries through which to pass on their way, and that if Chrysostom should perish through fatigue or disease, or even through means more unlawful, they would be praised, not blamed.

The great orator, seized by fever and ague, caught in his toilsome marthes and weakened by a lack of proper nourishment, succumbed to the ill-treatment of his conductors. When he knew his last hour was come, he resolved to die in battle harness; he therefore begged permission to don his churchly robes and to perform service in a church which stood near the way-side. This was the last service ever performed by Chrysostom—the last prayer ever spoken by that eloquent tongue. He died soon after, and was obscurely buried in an unknown land, far from the scene of his eloquent achievements.

Still no desert could bury such a man. Calumny might blacken for a time his noble character, and envious tongues might hiss their hatred of one now dead, who while living they could only secretly oppose. The winds which often blew the sand over the spot where his precious relics lay might whisper, "Here lie the bones of the great orator, John of the golden mouth"; but they could not say that the orator's spirit was buried there, but rather the same winds as they travelled from port to port, fondly caught the echoes of his fame which lingered everywhere. The upright character, the benevolent spirit, the quenchless zeal for Christ and His Church which ever fired Chrysostom's bosom, and which found vent only in burning words and golden deeds which

touched the hearts of all God's people, could not be buried even under the scorching sands of the desert. Nay, his very fame only increased by the inhuman act which had consigned him to an untimely death, and quick as lightning the dreadful report took possession of almost every person, that one of nature's noblest heroes had been foully murdered. Nor was this all; popular feeling rose so high that finally the very bones of Chrysostom were conveyed from their wild grave and solemnly interred under the church, the scene of so many of his labors. His relics were attended to their last resting-place by aged men, who had listened to his impassioned eloquence, and by youths who had been baptized by his hands. Even Theodosius and his sister, children of Eudoxia and Arcadius, fell prostrate before the relics of the man their parent had injured, and implored the forgiveness of Heaven for their father's crime.

More than a thousand years have passed since this wonderful man thus drew admiring crowds to listen to the Word of God in the luxurious city of Constantinople, and yet his fame has not diminished, but if possible has increased. The Church still regards him as her greatest preacher, and his sermons are still studied as models of eloquence.

As Demosthenes and Cicero are to the secular oratory of Greece and Rome, so St. Chrysostom is to the sacred oratory of the Christian Church.

We may conjecture much as to wherein lay St. Chrysostom's power as a preacher; to point to his moral character, the general purity of his intentions and acts, is hardly enough, though without these no man can be truly successful as a preacher; there have indeed been men as perfect in moral character as he, and yet they have not produced the same effect upon their age which Chrysostom has done. There was nothing in his manner of life which would fully account for his power over men. His asceticism might commend itself to some, but was just as likely to prove distasteful to others. The truth is, that although by his retirement and as-

cetic practices he did learn habits of self-control which were useful to him in a city so given up to worldly enjoyment as was Constantinople, yet it is also true that he learned many habits which were a hindrance to his usefulness; a sort of irritable temper, caused by excessive fasting which had brought on dyspepsia, made him unnecessarily sarcastic and oftentimes rash, if not hateful. He knew well that the precepts of the gentle Christ whose religion he preached enjoined forgiveness of enemies, yet we often find him hating many of his own personal foes under the name of enemies to God and His Church.

He accepted no public entertainment which were freely offered him by the rich, but always shunned gatherings which would oblige him to mingle with the people. This was attributed to moroseness and the gloomy wilfulness of an unloving nature, and not to his dyspeptic infirmities contracted during his years of retirement.

Occupying himself exclusively with religious duties, he neglected the society of secular men and hence knew but little of business, depending for his knowledge upon the reports which his favorites brought him concerning the Court and its attendants. These reports were apt to be colored, and unfortunately gained a too easy credence in the ear of Chrysostom. It was in acting upon these reports that Chrysostom did and said things which often brought him into trouble with the rulers. His simplicity of life, which led him to abandon all the pomp of his predecessors, to disband the numerous retainers, to sell the furniture and costly decorations of his office, and to give the proceeds to the poor, made him extremely unpopular with the rich and imperious class of the people.

There was nothing then in his manner of life, his bearing toward others, his knowledge of secular business, which would render him popular. We must look for the cause of his popularity somewhere else. Classical education was no doubt a powerful aid. His time was not

spent in the way much of our time is to-day, mumbling over dead languages out of sympathy with his age, but he carefully studied the living languages of his time and filled his mind with the beauty and grandeur of the orations and poems of their great masters.

He was laboriously and carefully instructed in elocution, then an important branch of education, and deemed the time thus spent not wasted, as so many young men in our age imagine who conceitedly believe themselves born good readers and speakers. His voice was probably naturally good, as we learn of no vocal impediment, as in the case of Demosthenes and others, but he preserved its native virtues and increased its power and flexibility by constant practice. Hence the marvellous effects he produced with his voice; hence the epithet applied to him, "Chrysostom of the golden mouth." To this preparatory study he added the study of law, an extensive range of information, a keen observation of human character, and diligent study of the Bible.

His theology was broad and liberal, considering the character of the age in which he lived. He followed the grammatical and natural exegesis of the Antiochian school, and hence his interpretations and explanations are such as we can accept to-day. As a preacher his style of exegesis gave him great power. All his expositions of Scripture are natural, luminous, and convincing—not clogged, as were many of the discourses of his contemporaries, by mystical, obscure, and far-fetched readings. His preaching was direct, and he sent every sentence home to the hearts of his hearers by ample illustration and well-chosen metaphors.

He aimed not at a philosophical style, nor yet did he weary by sentences couched in the formal logic of the schools. There were logic and philosophy in abundance, but they were concealed under the burning words of the orator. His style, though in general polished, rounded, and periodic, was full of pointed, short, antithetical clauses, loaded with conviction and

power. Thus endowed with the highest qualities of diction, voice, and oratorical genius, he played upon the human heart as the master musician plays upon his instrument. When he chose he could awe the vast concourse before him by the sublimity of his conceptions, thrill them with his pathos, make them writhe under his biting sarcasm, and turn their anger into ridicule.

If there were anything before which all bent, it was the undaunted courage of Chrysostom. He feared neither Empress nor devil, but fearlessly launched his caustic thunderbolts at wickedness in high places. It was for his over-boldness in this respect that Chrysostom lost the favor of the Empress and was sent into banishment. Still, he recked but little of his own personal safety or advancement, when laboring under the strong conviction that he uttered only the commands of God.

This boldness and earnestness are elements necessary to arouse a people sunk in darkness and sin, and to bring about great revolutions in morals or politics. When we look back, after we enjoy in peace the fruits of revolutions brought about by men whose boldness awes us, we are prone to censure their rashness, but oftentimes it is the prompt action we call rashness which strikes the decisive blow which turns the scale in favor of progress. Martin Luther, Calvin, Knox, and others may appear to have been bold and rash in their day, but we know from history that their courageous conduct was just what was needed to awaken the interest necessary. So also with Chrysostom—the very boldness of his preaching contributed much to his success.

THOMAS A. HYDE.

I THINK that to have known one good old man—one man who through the chances and rules of a long life, has carried his heart in his hand like a palm branch, waving all discord into peace, helps our faith in God, in ourselves, and in each other more, than many sermons.—G. W. CURTIS.

"KINDNESS."

How softly on the bruised heart
A word of kindness falls,
And to the dry, and parched soul
The moistening teardrop calls.
Oh ! if they knew, who walked the earth,
Mid sorrow, grief or pain,
The power a word of kindness hath,
'Twere Paradise again.

The wealthiest, and the poorest may
The simple pittance give,
And bid delight to withered hearts
Return again and live.

Oh ! what is life, if love be lost,
If man's unkind to man ;
Oh ! what the Heaven that waits beyond
This brief and mortal span.

As stars upon the tranquil sea
In mimic glory shine,
By words of kindness in the heart,
Reflect the source divine.
Oh ! then be kind, whoe'er thou art
That breathe'st mortal breath,
And it shall brighten all thy life
And sweeten even death.

LOVE'S VICTORY.

FROM THE LIFE OF A TEACHER.

A TALL, overgrown lad came into my school the first morning of a new term some years since, and stood with his hands full of books against the wall. The monitor gave him politely his own seat until school should open. He had never been into the high school building before, and was embarrassed and sulky. His father had pushed him into the entrance, and closed the door with energy behind him, just as the school bell tolled, and as others hurried into the school-room, so did he, but in an instant every seat was full. He was just going out, or to have a cry, he didn't quite know which to do, when the loveliest lad in the room took his books and his dirty hand, saying, with a smile, "I'll take you to my seat; come right along." The tears dropped freely then; there was a ray of sunshine in the new room, something he had not met in the "Flat Street School," and it gave to him an entirely new sensation.

Joe Winters was well known by many of the pupils in that room. His father was a rough, stern man, whose home life with his second wife was not always cheery. This lad had been a burden to the new mother. He hated her, was cross to her little children, and willful. The gentle words of the lad who gave up his seat to him, won his regard at once. Every one looked happy around him. They sang; they listened to the Bible reading;

they repeated the "Lord's Prayer" together; they sang again. This was as novel to him as it was interesting. He looked all around, to see, during the teacher's prayer, not one uplifted head or unclosed eye. When the bell rang every one looked at the teacher. "The new pupil will please step to my desk," she said. Then all was still. The monitor from the recitation seat saw that Joe was not obeying the summons, and stepped back to lead him forward, and introduced him with as much grace as if he had been a king's son.

"Joseph Winters, teacher. He lives near me, and is a little timid. Please may he sit with me?"

There was a look of triumph in Master Carlton's sunny face as I made a place for the stranger beside him.

"He is a very *bad* boy, indeed, and one much hated in the street," he whispered, when afterward he was called to my desk.

"There is work for you, my brave boy," was the reply, "for you, and for me."

Master Winters' lessons were usually a failure. Day after day they had to be studied over, explained, simplified, and the lad encouraged. Still he did not learn. I wondered much at this, for he was strong, and bright, with eyes far apart, and a full brow. He certainly could spell if he would; of that I was sure. Language was large, and the mathe-

mathematical talent, while his memory had as good indications as one could ever wish to see. Still, though he seemed to study, no lessons were the result. I watched and noticed everything he did, and was for a long time puzzled for a solution of this mystery. Once when the enthusiasm of the class ran high over a long line of figures to be added, he raised a hand. I called his name, "It's 111,910," he said. "Right; please count it for us." He stepped forward and named the amounts as fast as I touched the figures down the line. He was waking up. Again he spelled down the class one general exercise day, then relapsed into nothingness, and no amount of urging could move him on.

He was a very uncared-for boy; his long hair hung down his neck and over his brow; his hands looked as if just from his father's forge, as indeed they were; and here lay the difficulty that shadowed his whole being. If there was one thing in the world above another he hated, it was blacksmithing. His father had insisted that he should work there, and many were the hard blows the poor lad had received from his injudicious parent. One night I called him to a seat by my side when all were gone, and drew from him all his troubles. I reminded him that while it would be right to obey his father in the present, he could live in the thought that he would one day be old enough to choose his own occupation. I had in store for him a little gift in my desk, a parcel containing a handsome cake of soap, a dressing comb and towel. I asked to have his father see that his hair was neatly cut before the morning session, caressed him, and sent him home without a word about the faulty lesson. The next morning as I entered the school-room, there sat the lad so transformed that I scarcely knew him. He had begged the janitor to let him in that he might study, and was all ready to answer any questions. His face had been scrubbed until it shone, while his delicate, beautiful complexion was as fair and sweet as any babe's. His hands, too,

were clean, and the nails cut and trim. His hair had been lifted by a barber from a high, intellectual brow that was worthy of a statesman's son. A suit of grey, fresh from the tailor's, set off the solid, compact figure, showing that nature had been lavish of her gifts with him. I was delighted. "Master Winters," I said, "what do you want to do in life. I will ask your father to let you do anything that is useful, if you will tell me what." He clasped his arm about my neck and said: "I want to go out of the city where the green fields are so bright, and never come back. I want to own a farm all myself, and have sheep and calves, and things to love. Nobody loves me here, but I think *they* would if I were kind."

"But *then* there will be no time to study, and if you succeed you must have some understanding of books first."

His father called ere the day's close to thank me for my kindness. He had awakened to his son's need. I laid the matter before him, but it was very hard to give up his own will to save his son. I had resolved to conquer, and by God's help I succeeded.

He was to study and work on until sixteen, then he should be apprenticed to a farmer; and if he were faithful in his study and work, he might spend his vacation in the country. What a student we had the last of that term! Nothing needed explaining any longer; there were no lagging feet, no defiant glances, no failures.

The years have slipped over our heads. Joe Winters is a good farmer, and much esteemed as an honest, intelligent man. The supreme wish of his heart is realized, for love follows him wherever he goes, and is the crowning joy of his life.

L. R. DE WOLF.

MORN IN AUGUST.

NOT a white dimple stirs amid the corn,
Not a low ripple shivers through the leaves;
Since, wrapped in gold and crimson gleams un-
shorn
Came, flashing through the east, the regal morn,
No throated twitterings gurgled round the eaves.

JOHN PIERPONT'S CENTENNIAL.

ON the 6th of April last, a meeting was held in Boston to commemorate the centennial anniversary of the birth of this distinguished man; and on this occasion the Rev. Drs. Bartol, Waterston, May, and A. A. Miner, were present and made addresses.

John Pierpont died August 26, 1866, being then in his eighty-second year. The year previous, on his eightieth birthday, a large number of friends and ad-

And late his summons to the shore,
Where he shall meet his youth once more."

Mr. Whittier also sent a poem in his usual warm and felicitous manner; and on this recent commemoration at Boston, Whittier recalled in a letter his high esteem for his long departed friend.

John Pierpont was born in Litchfield, Conn., of Puritan ancestry. His grandfather, Rev James Pierpont, was one of the founders of Yale College, at which



JOHN PIERPONT.

mirers commemorated the occasion at Washington, D. C., and congratulatory letters were read from many prominent literary men in the country. Mr. Bryant, then over seventy years, addressed Mr. Pierpont in these terms :

"The mightiest of the Hebrew seers,
Clear-eye'd and hale at eighty years,
From Pisgah saw the hills and plains
Of Canaan, green with brooks and rains,
Our poet, strong in frame and mind,
Leaves eighty well-spent years behind ;
And forward looks to fields more l right,
Than Moses saw from Pisgah's height.
Yet be our Pierpont's voice and pen
Long potent with the sons of men ;

institute young Pierpont was graduated in 1804. First as a teacher, and next as a lawyer, he wooed the goddess Fortune, but the practice of law not agreeing with his health, he went to Baltimore, Md., and there engaged in mercantile pursuits; but was not long in finding out that he was not adapted to the life of the business man. A fervent, religious nature had been his from youth, which strengthened with his maturity, and he determined finally to enter the ministry and became a student of Divinity at Cambridge in 1818. A short time later he was invited

to succeed the celebrated Dr. Holley as pastor of the Hollis Street church in Boston. By nature a man of strong convictions and direct in speech, he stirred up a good deal of controversy in and out of his congregation on the subject of temperance. At that early time, the men who dared boldly to advocate the principles of abstinence and reform were few and far between. Mr. Pierpont hesitated not to throw himself into the dawning movements, having in view temperance, anti-slavery, and improvement in prison discipline. He retired from the Boston church and became the first pastor of the Unitarian church, in Troy, N. Y., in 1845, where he remained four years, when he accepted a call to Medford, Mass. There he remained seven years. He became a convert to Phrenology early in the history of its introduction into the United States. He studied its principles with enthusiasm, and took a great delight in explaining their practical application. He saw in it a powerful auxiliary to the cause of education and to moral and religious truth in general. One of his addresses delivered before the Phrenological Society then in New York, was published in pamphlet form under the well-known title, "Harmony of Phrenology with the Scriptures," and is still in print.

When Dr. Spurzheim visited America in 1832, Mr. Pierpont became his intimate friend, giving him the benefit of his influence, his counsel, and his sympathy. In that sudden and fatal illness which bereaved a great cause of its greatest advocate, no more faithful friend than Mr. Pierpont stood by Spurzheim's dying bed.

The depth of his feeling is most beautifully shown in the ode that was sung at Spurzheim's funeral :

"Stranger, there is bending o'er thee
Many an eye with sorrow wet"; etc.

In personal appearance Mr. Pierpont was of marked dignity; at eighty years of age he was as erect as an Indian warrior. His manners were graceful and impressive, his voice silvery, and with a singularly agreeable cadence.

At the celebration of April last, Mr. May said: "Mr. Pierpont was chief of all a preacher; but he was not only that, he was a scholar—a man of high literary taste, a writer of nervous prose and of glowing verse, author of public discourses and poems of acknowledged merit, which have received the encomiums of competent critical authorities on both sides of the water; an orator in the pulpit and elsewhere; a large contributor to the means and objects of public education; an active friend in many measures of public advantage." And Whittier said in his letter, "One of the manliest of men. He verified Bayard Taylor's words that the bravest are the tenderest."

It is pleasing to refer to such characters as this of Pierpont. There have been many noble souls who have taken up and borne proudly the standard of Phrenology; and as a class the true disciples of this science are like the exalted disciples of Christianity, earnest in conviction, noble in character, fearless in the assertion of truth, and illustrating in their own lives the effect and beauty of the principles they declare. H. S. D.

INTERACTION OF ORGANS IN MENTAL PHENOMENA.

CHARACTER is made up by a gradual unfolding of the mind, and the blending action of the different faculties as a whole, or a combined action of a limited number of faculties to do certain things. The infant has no character, but is governed by simple wants requiring the action of single functions of body or

mind. As it approaches seven years of age, however, it begins to have some combination and complication of ideas, and is interested in seeing things and parts put together, and tries to do simple things itself. First it counts things, then divides them, then multiplies or subtracts from them, and so becomes acquainted

with numbers, and finally with simple and pure mathematics. At first the child makes straight lines, or tries to, and then curved ones, at one end or both, then a circle; it makes a v, then puts two v's together and makes a w; then it makes a triangle, then a square, and so on till it learns or can learn how to make all the geometrical figures.

The boy's curiosity to see is gradually increased until he wants to see everything, and go everywhere to see new things; and if taught to see correctly, he in time acquires a great amount of knowledge. His curiosity to see increases his desire to talk and see things done; hence, he says: "Let me see; I want to see: What are you doing? What is that? What is that for? What makes you do that so? What makes the watch go, and the engine pull the load?" And so he goes on looking and inquiring until he succeeds in making watches and engines himself. He piles up his blocks in all sorts of ways to suit his fancy until he wants to build a house, which he tries to draw a plan of on his slate, and which finally results in his being an architect and builder.

All the letters are learned one by one, and the child thinks he has done great things to say all the letters without making a mistake; but a greater difficulty comes when he begins to put these letters together to make even short words of one syllable, and then compounded of many syllables; still, all this is mastered in time, and reading is a great pleasure. His first ideas are very simple, such as fire is hot, and wood and coal burn; and he wants to know why they burn, and what makes the heat, until in time he learns the philosophy and source of heat. He eats, and sees himself grow; he puts seeds into the soil, and in time they grow, and flowers and fruit come if planted under certain conditions, but planted in dry sand they do not grow. This leads to the inquiry *why?* and may result in a general knowledge of horticulture and agriculture.

After a few years of looking, doing

things, asking questions, the boy begins to think for himself, and have ideas of his own, to understand complicated subjects, and so goes on into manhood, and becomes learned, and a teacher of philosophy, and has a character of his own.

At first the child has no control over its body or mind, and gives unrestrained vent to its likes and dislikes, and will cry in prayer-time as quickly as at any other; but in long years of tried discipline and experience, after the boy or girl has reached manhood or womanhood, he or she learns to put a curb on temper, passion, appetite, and selfishness. An infant is perfectly prodigal, and would destroy a hundred-dollar watch with as little concern, to find out what makes it tick, as it would a penny whistle. At first the boy wants and claims everything, and only slowly learns the difference between mine and thine, and the greater value of one thing to another, and thus takes better care of that which he likes best; and not only saves but adds to, and by and by becomes economical and rich. So it is by a long process of observation, experience, and increasing desires and wants, that he learns to use his various faculties, and gratify his different wants in a reasonable manner.

At first the youth takes very limited views of things and subjects, and sees only one application of a simple principle, but in process of time his ideas are more numerous and complicated, and sees more various applications of the principle.

The child learns gradually to govern his temper, regulate his appetite and selfishness; guide his love, and cultivate his intellectual and moral faculties; and his character is being formed as a whole, or in sections, in proportion as he controls and guides the different functions of his nature. Human development and the formation of character are slow at best; nor, with few exceptions, are they very perfect, stable, or reliable. Strong powers of body or mind that are first called into action are at the foundation of the formation of character. As the functions

of the body have a powerful influence on the mind, so the different faculties have a still more powerful influence on each other.

Physiognomy is of great service in indicating some points of character. A few illustrations will serve to explain. A large, straight nose, with a retreating chin and forehead, do not go with strength of constitution or originality of mind. A large mouth, with full lips, and wide-awake projecting eyes, indicate a talker. A brain set back and large behind the ears, and small in front and small in the coronal region, with a large projecting face, indicates a low, animal type of mind. A large neck and face, with coarse, heavy features, with a head smaller in proportion, indicate a mind averse to study, thought, improvement, reform, or benevolent enterprises, especially where personal sacrifices are required. A person with a predominance of the mental temperament and brain power, with a high, upright, and coronal brain, will be given to study and general improvement. A person who is high in the crown, with a narrow, retreating forehead, and a heavy base to the brain, and a large, stiff neck, will show the elements of a tyrant. A natural born philanthropist will have the vital and mental temperaments, and a narrow, long, high head, and especially a high forehead. Such persons will also be disposed to teach and help others.

A person with a low, broad, short head, is anxious to accumulate property, and will only let go when death loosens his grasp. A full eye and a long eyebrow, and a prominent outer corner to the eyebrow, indicate great powers of observation, and a strong desire to study nature and science; and if the eyebrow is projecting there will be a capacity for mathematics, art, and business. A person with full temples, and a high, broad forehead, will be musical, ingenious, and given to scheming and contriving new modes of doing things; and will be disposed to think, theorize, invent, combine principles, and try to account for every-

thing. A coarse, gross organization, with a wide head from ear to ear, will be more carnivorous than herbivorous. A narrow head, with the ears high, and a refined temperament, will be more herbivorous. A person with small, dark, deep-sunken eyes, with a vigorous, impulsive temperament, will give off condensed thought and feeling in short sentences and vigorous language. Projecting ears, standing out from the head, with a large orifice, and a fully developed speaking eye, indicate the power to recite verbatim and repeat correctly. A large back portion of the head, with a rather small, or small and narrow front portion, indicates local attachments, and a domestic, stationary state of mind. A small, short head behind the ears, and high in the crown, broad at the base, and narrow above, with a large lower part of the forehead, and a desire to travel and go all over the world, and come in contact with everything, go together. An irregularly formed body, imperfectly formed features, and an uneven head, and a strikingly one-sided, peculiar, eccentric character, go together. Thin skin, fine, bright hair, small features and bones, bright blue or hazel eyes, betoken a tender, susceptible, active, wide-awake, earnest, and intense state of mind, and a tender, delicate body. Thick skin, veins out of sight, coarse black wiry hair, rough harsh features, large face, bones, and joints, and black eyes, indicate a slow, coarse, blunt, low, rough state of mind—one difficult to cultivate. Such persons usually have a strong, tough, enduring constitution, and are not very susceptible to great pleasure or pain, and their enjoyments will be physical rather than spiritual. One with a predominance of the digestive system will be easy, elastic, and graceful in motion, fond of pleasure and luxury; will have a pliable nature, and will show versatility of talent, character, tastes, expression, likes and dislikes, and will have longings for what he has not, will be always wanting more, and be very susceptible to excitement and alimentive pleasure.

The phrenological organs in the base of the brain begin to manifest themselves first. Individuality, at the root of the nose, wants to see things. Eventuality, directly above it, wants to see things in action. Comparison, directly above that, wants to compare actions. Causality, on each side of Comparison, wants to know the cause of action. Form, Size, Weight, Color, Order, and Calculation, are delighted to see the things appropriate to their functions, and are properly arranged and adapted to each other, so as to please the eye and show proper fitness and arrangement. The faculties acting with Constructiveness, and other organs, make many useful and ornamental things, and bring system out of confusion. Language is one of the mediums by which the different faculties express themselves. The most active faculties talk the most. Ignorant and uneducated people use language and speak words that are in harmony with their tone of mind. Anger and prejudice use strong, provoking language and words. Love uses soft, smooth, gentle words. Educated people use words appropriate to the ideas they wish to express. Highly-organized and refined peo-

ple use refined and delicate language, so different from low, coarse, ignorant people, that the one can scarcely understand the other. Spiritually-minded people talk about heavenly things, while worldly-minded people talk about money. At first short, simple words are used ; but as the mind becomes more developed, and the ideas are more complicated, compound words of more meaning are used. Each faculty has a tone and quality of its own, and uses a language peculiar to its own nature : hence some are always talking about themselves, others talk about their friends. Some talk about their possessions and pleasures here, and others about those connected with a hereafter. Large Language, a highly mental temperament, and little restraint, disposes a person to be a great talker, if social and ambitious. Large Language, with a dull, cold temperament, large Secretiveness, Cautiousness, and Veneration, and small Self-esteem and Mirthfulness, are peculiar to a person of few words. Modesty keeps some from talking, while courage stimulates others with the same degree of language to talk.

L. N. FOWLER.

TRAUMATIC INSANITY.

IT will serve our purpose to classify this form of insanity under the general term *Dementia*, and define it as the result of injuries inflicted upon the brain by external violence. It is a common thing to see, hear, and read of accidents in which persons are said to have received severe lacerations, concussions, and fractures of the skull, when quantities of brain-substance were spattered around ; heads laid open, brains exposed, and more or less of the pulpy mass is said to have oozed from the gaping wounds ; and yet little or nothing is said about their effects upon the individual.

The current reports in the daily papers, and too often in our medical journals, read somewhat after the following manner : " We are pleased to note that Mr.

So-and-So, who, it will be remembered, about ten weeks ago was so severely injured, having been thrown from his carriage, and received a fracture of the skull, losing a quantity of brain-substance, is all right again ; his mind is not in the least impaired, and he has regained his usual vigor of intellect, and usefulness." How absurd ! This is contrary to all known laws, for there is a penalty attached to the violation of every physical or moral law.

I desire to show the relation between the seat of an injury and the particular part of the brain injured, as manifesting the various forms of insanity, and to prove that the brain is not so obtund an organ as some would have us believe, but that it is a highly ingenious and com-

plex affair, and that every part and parcel of it is essential to our individuality, and that it is susceptible to every shock or strain brought to bear upon it. We might as well talk of slicing an inch or two off the end of our nose, and causing no disfigurement or inconvenience, as to talk about losing a quantity of brain-tissue and leaving no lasting and detrimental effect upon the individual.

The mind invested with royalty is located functionally in the brain, and the former is invariably affected where disease or injury of the latter exists. It is well known that *pressure* upon any part of the cerebral mass is attended with more or less mental derangement; for brains have been exposed, and consciousness has been suspended at pleasure, by merely pressing upon the exposed surface with the finger.

To illustrate the manner in which cases are reported in our medical journals, I quote the following. Fischer reports in the *Deutsche Zeitschrift für Chirurgie* (Bd. xviii.) an interesting case of an accident which occurred during the unloading of a carbine, by which the brain was transfixated by a ramrod without fatal result: "After an opening had been made into the neck, the rod was driven backward through the skull by the strokes of a hammer, and taken out at the neck. The patient recovered, except that he remained blind in the right eye."

Another case, quite similar to the foregoing, is reported by Biglow in the *American Journal of the Medical Sciences* for July, 1850. A pointed crowbar was driven through a man's head by the premature explosion of a blast. "The patient became delirious and comatose, but recovered, although with loss of vision in the eye of the injured side, and lived for twelve years." In both instances the men are said to have "recovered," with but the loss of an eye, while nothing is said about any subsequent abnormal mental condition, which in all probability existed.

Dr. Proctor Thayer, Professor of Sur-

gery in Cleveland (Ohio) Medical College, during the fall of 1877 reported a case of insanity of long standing, upon whom he operated, and restored the maniac to his former mental soundness. The man had been a maniac for sixteen years, caused by a severe blow upon the forehead. Not the least guidance could be obtained by the contour of the skull—no depression, elevation, or mark of any kind was discernible to indicate the spot for the proposed operation. "The trephine was applied at the prominence of the frontal bone," this being the point at which the maniac occasionally put his hand as if he suffered there; this point coincided also with his wife's statement as to its being the seat of the injury. In this case we had no loss of brain-tissue, but a simple compression, which darkened the reason and allowed the other faculties of the brain full sway, and uncontrolled by intellectuality.

About a year ago the following subject came under my observation, and considering the case of much import, I took a cast of his forehead and caused engravings to be made to show the true condition of the depression:

Mr. —, a German, was born in the Province of Saxony, in 1844. During the year 1877 he was employed as a miner in the coal region of Westphalia, near the great Krupp iron works. While employed at "bearing in," a large mass of coal gave way and crushed the unfortunate victim under its weight, inflicting several severe wounds and crushing his forehead in, as illustrated by the accompanying figures, Numbers 1 and 2.

He was taken to a hospital and laid there insensible for three weeks, and remained under treatment for three months. For some unknown reason the depressed portion of the skull was never raised, but allowed to remain in its deformed condition. It is solid and can not now be overcome. He is a man of family, and while in our city was employed as a laborer in a large tannery. The depression is quite large, extending from the outer edge of the frontal eminence upon the left side to

a point corresponding with the centre of the frontal eminence of the right side, and from the nasal eminence to the roots



FIG. 1.

of the hair, which is a distance of about two and a half inches. The depression is most marked upon the right side of the median line, and as a whole it will admit the rounded surface of half an ordinary sized pear. In disposition the German is a good sort of a fellow, pleasant, jovial, and a hard-working man; very obedient to his employers, but when ordered to do anything he becomes restless and excited from a desire to do it immediately, often running to their bidding. He exercises very little discretion or reason in whatever he does. He is something like a piece of machinery which, just as soon as steam is applied, moves without any knowledge of cause and effect. He can not argue upon any topic, but takes everything as a matter of fact. Being asked why he did not learn to talk English, he pointed, in reply, to the depression in his forehead, and said, "*Me can nel.*" He spoke of his forehead hurting him, and said it made him forgetful, and claimed that he could read and write before the accident, but since he has forgotten all, except that he can still write his own name in the German language. He takes no delight in ordinary conversa-

tion, but is restless and unsettled, scarcely sitting for a moment while others are talking. Upon one occasion he was ordered to clear away a quantity of ashes from under some boilers. Everything about the furnace and boilers was hot, and instead of using common discretion, and proceeding slowly and cautiously, he opened the door of the ash-pit, and made a plunge into the hot chamber, but came out in double-quick time, almost suffocated from the heat, gas, and dirt.

The marked contrast between Dr. Thayer's case and the one herein illustrated can not but elicit investigation: no trace of the injury in the one, and the deep frontal depression, causing a deformity in the other; the complete insanity of the former, and the passive mental weakness in the latter, while the location of the injuries in both men is very similar.

William McCready, by occupation a "carder and fuller," and in winter a school-teacher, was a man of average size, fine physique, and of more than ordinary mental powers. No insanity is traceable in his family on either the paternal or maternal side. In 1856, when forty-two years



FIG. 2.

of age, he was thrown from his horse and kicked by the animal on the head, sustaining what was supposed to be a slight

fracture of the skull, about midway between the superior portion of the temporal ridge and the termination of the coronal suture, on the right side of the head; or, in other words, at a point just above and a little back of the right temple. The skull was not trephined, nor was an examination made by the attending surgeon to determine the full extent of the injury. The man made what might be termed a prompt recovery, except the mental unsoundness which resulted as a sequence to the traumatism, and which remained until his death, which occurred about five years ago.

During the twenty-three years of his life from the date of the injury, his mind was less or more erratic, with occasional emotional and poetical manifestations. Although previous to the injury he was never known to have written a stanza of verse, yet this became a mania with him, most of his effusions, however, being light and trashy, or parodies on other poems. He was the reputed author of one or two of considerable merit, however, which gave evidence of mental power.

Before the accident he was a quiet, reserved man, but ever afterward he had a great disposition to talk, and his conversation was generally rambling and disconnected. His mental aberration was often marked by paroxysms of brilliancy, usually preceded by periods of great forgetfulness. He was known to drive eight miles to camp-meeting, forget his horse and buggy, and walk home. He became the companion of children, and at their request would sometimes deliver an address to a crowd of them on the roadside or at a street corner.

Another feature of his insanity was the increased activity of his mathematical faculties. He could solve any arithmetical problem given him, and maintained his wonted business integrity, being considered by his neighbors strictly honest and trustworthy, although somewhat reckless with his own affairs, and seeming to attach but little value to worldly goods.

A friend of mine some seventeen years

ago, while passing through a dark corner in our rolling-mills, was pounced upon by a coward, who felled him to the ground by the strokes of a club, inflicting a wound two inches in length, and fracturing the external plate of the skull (so diagnosticated by a leading physician of our city) at a point corresponding with the union of the frontal and parietal bones, about an inch to the right of the sagittal suture. He subsequently complained of a cold spot and a peculiar dull feeling at the seat of injury. "It feels to me as though there was a chunk of lead in my head where that fellow struck me," is about the way he expressed himself when mention was made of the injury. He died rather suddenly a year and a half afterward, from a convulsive seizure, and I am led to believe that the convulsive action was primarily due to the effects of the traumatism. He was a young man, gifted with talent, and was free from all habits of dissipation; and being intimately acquainted with his personal history, I am quite satisfied that there were no other causes, either centric or eccentric, of his death besides the brutal attack related.

G. E. POTTER, M.D.

Johnstown, Pa.

CARLYLE ON WEBSTER.—The stolid Scotsman met the great Massachusetts statesman in 1839 when the latter was in England, and this is the note he entered on his memoranda:

"I will warrant him one of the stiffest logic buffers and parliamentary athletes anywhere to be met with in our world at present—a grim, tall, broad-bottomed, yellow-skinned man, with brows like precipitous cliffs, and huge, black, dull, wearied yet unweariable-looking eyes under them, amorphous projecting nose, and the angriest shut nostrils I have anywhere seen. A droop on the sides of the upper-lip is quite mastiff-like—magnificent to look upon, it is so quiet withal. I guess I should like ill to be that man's nigger."



THE AMERICAN CLIMATOLOGICAL ASSOCIATION.

SOME remarks in the address of the President, Dr. A. L. Loomis, at the June meeting of this recently established association, may be of interest to the readers of the JOURNAL, especially to those who may be afflicted with pulmonary consumption. Speaking of health resorts in this country and in Europe, Dr. Loomis said the medical profession at large on the continent are far better informed regarding the differences in climate, and the composition and effects of the different mineral springs in Europe, than American physicians are of those in our own country. From a careful study of the subject he was convinced that neither in climate nor in mineral waters are they superior to us, but in their more thorough system of employing these agents. It was hoped that this society, through properly organized committees (which were appointed later in the session), will determine the real merits of the various health resorts which claim patronage. He then spoke of a plan, adopted at Saranac Lake, in the Adirondacks, to enable the sick with moderate means to avail themselves of the advantages of health resorts. At the place mentioned a number of cottages were erected, and the expense of living at present was five dollars a week. There was an examining and consulting physician, a local physician with an assistant, who gave their services free. The patients were encouraged to live out of doors,

to cultivate flowers, etc. In his opinion the advantages of the Adirondack regions for consumptives were due largely to excellent drainage, the soil being sandy, and the consequent purity of air and freedom from morbid germs.

Dr. Loomis attached particular importance to efficient drainage at health resorts. A clay soil was always damp because it interfered with drainage, and thereby rendered the atmosphere unwholesome for the consumptive. Speaking of the causation of phthisis, he said he was confident that a non-specific infiltration of the lung precedes tubercular invasion and furnishes suitable soil for the development of tubercle, as well as for the growth and multiplication of tubercle bacilli when they are present. The therapeutical indications are best reached by good hygiene, good food, a suitable climate, and those medicinal agents which promote and maintain that normal performance of digestive and assimilative processes essential to healthy nutrition. The most important of these is suitable climate, which acts in two ways in arresting the phthisical process; first, by its invigorating effects on the general system and its power of improving defective nutrition; and, second, by its local effects in preventing diseased processes in the lungs, and in arresting such processes after they are developed. Continuing to speak of climate, Dr. Loomis showed the necessity of porosity

of soil to free drainage and dryness of atmosphere, and that where the soil did not favor drainage there was an unwholesome dampness for the phthisical although the annual rainfall might be the minimum. The advantages of altitude, of evergreens, of sunshine, etc., were pointed out. We should never send patients in the advanced stage of phthisis, if the disease is in active progress, far from home to seek health.

During the course of the meeting other members expressed an opinion that thorough and quick drainage was an important element in the climate suitable to the phthisical; and that dryness of the atmosphere as shown by the observations of the Signal Service Bureau, or altitude, were not the all-important factors was evident from the statistics of the English army and navy. Both the army and navy were composed of picked men, yet the army showed a much higher mortality from phthisis than did the navy, the only essential difference of condition being that the one class of men were most of the time on land and the other on water. It is true two gentlemen expressed the opinion that dryness, altitude, and equability of temperature were the chief elements of a climate suitable for the consumptive, but the other members were unwilling to accept this test. One physician exhibited the working of an apparatus for the treatment of consumptives which he said had, in a large number of cases, given excellent results. The pa-

tient was made to sit in a box and breathe through a tube connected with the outer atmosphere. By creating a partial vacuum in the box the atmospheric pressure on the chest was lessened, and the air entering the tube through which the patient breathed consequently penetrated more deeply into the air cells. It was thought advantage might be gained by medicating the inhaled air. A farther trial of the apparatus would show whether or not it was really advantageous, or might give rise to dangers, as pulmonary hemorrhage. In the opinion of the writer the advantages of this machine, without any of its disadvantages or the expense attending its use, could be gained by a series of gymnastic exercises at one's home. By swinging the arms above one's head the thoracic cavity is enlarged, and one can easily take a deep inspiration which the act itself tends to induce, and as the arms are again brought down to the side of the body complete expiration ensues. By repeating this procedure several times, especially when the clothes are removed on going to bed, and by making a series of rapid movements with the arms and throwing the body into various contortions, the muscles of respiration and of the body in general will be strengthened. Passive congestion in the viscera which tends to take place during a sedentary life will be overcome, and the general health, and especially the breathing capacity, will be improved.

R.

A SYMMETRICAL OLD AGE.

THE foundation for a happy old age is a well-spent youth. This much quoted proverb is confirmed by the observations of science. Dr. G. H. Humphrey lately discussed the tissue changes incidental to old age in the *British Medical Journal*, and among the conclusions warranted by his own experience, he states:

"It may be said, indeed, that at all periods of life the healthy and well work-

ing, and especially the enduring, quality of the body, depends upon a good adjustment, a good balance, of the several parts and it is upon the well-ordered, proportionately or developmentally regulated, decline in the several organs, that the stages which succeed to maturity are safely passed, and that crown of physical glory—a healthy old age—is attained.

"A time comes at length when, in the course of the descending developmental

processes, the several components of the machine slowly and much, though equally, weakened, fail to answer one another's call, which is also weakened when the nervous, the circulatory, and the respiratory organs have not force enough to keep one another going; then the wheels stop rather than are stopped, and a developmental or physiological death terminates the developmental or physiological decay. The old man who had gone to bed, apparently much as usual, is found dead in the morning, as though life's engine had been unable to repair itself in sleep sufficiently to bear the withdrawal of the stimulus of wakefulness. Or some exertion may be followed by too great exhaustion. Dr. Willis, the attendant upon King George III., at the age of 90, after a walk of four miles to see a friend, sat down in his chair and went to sleep, or was thought to be asleep, but he did not wake again. Or some slight, unusual, scarcely noticed excitement may have the same result. A cattle-dealer, aged 98, who attended Norwich Cattle Market on a Saturday in December of last year, soon after talking and laughing somewhat heartily with a few friends on the following Tuesday, was found to be dead. Or a slight indisposition, further lowering the status and force of some organ, fatally disturbs the feebly maintained equilibrium. A lady, aged 94, attended the early service at church, to which she walked a distance of a quarter of a mile, to and fro, caught a slight cold, and died in the night.

"How much may those who pass gently into this natural or physiological death be envied by the many sufferers under the protracted and painful pathological processes which too often induce a premature extinction of life! The most distressing part of medical duty is the being called upon to witness, with the inability to arrest, the onward course of disease; such, for instance, as that of a slowly but surely growing cancer, boring its way into the strong and sturdily resisting frame; and the great hope and aim of medical study is to prevent such fatal interfer-

ences with the developmental processes, and to enable these processes to work out in their own uninterrupted way the quiet, easy, gradual method of dissolution.

"The first requisite for longevity must clearly be an inherent or inborn quality of endurance, of steady persistent nutritive force, which includes reparative force and resistance to disturbing agencies, and a good proportion or balance between the several organs. Each organ must be sound in itself, and its strength must have a due relation to the strength of the other organs. If the heart and the digestive system be disproportionately strong, they will overload and oppress the other organs, one of which will soon give way; and as the strength of the human body, like that of a chain, is to be measured by its weakest link, one disproportionately feeble organ endangers or destroys the whole. The second requisite is freedom from exposure to the various casualties, indiscretions, and other causes of disease to which illness and early death are so much due. Now, in both these—notably in the second—woman has the advantage over man, and she consequently attains to greater age. In the report of the Registrar-General for 1873, eighty-nine persons were returned as dying at or over the age of 100. Of these ten only were males; and the superiority of female life is well known by insurance offices to exist, notwithstanding the higher rate of mortality that has been observed during the child-bearing period, and which there is reason to think is now slowly disappearing. That this superiority is not entirely due to the comparative freedom from exposures and to the great temperance in the women, but is partly a result of a stronger or more enduring inherent vitality, is shown by the fact that, even in the first year of life, when the conditions and exposures of male and female infants are the same, the mortality of girls is less than that of boys. A somewhat larger number of boys are born, but they are more difficult to rear; so that the females soon gain the numerical lead, and main-

tain it with almost steadily increasing ratio to the end.

"This superiority may be to some extent associated with the less wear and tear in the smaller machinery of the woman's frame as compared with that of a man; and one might expect that the small persons in both sexes would live longer than those of greater stature. This, however, scarcely seems to be the case. We find from our returns that the average height of the woman above 80 is about 5 ft. 3 in., which, allowing an inch for the shortening incidental to age, makes it to fall little, if at all, short of the average middle-age stature. The men, also, we find to be 5 ft. 6 in., which, making a corresponding allowance, gives them a good average height. It may also be observed, which we should not have expected, that the rate both of the pulse and of the respiration is quicker in the longer-lived sex. The average pulse in the women over 80 is 78 to 79, while that in the men is 73; and the respiration in the women is 22, while that in the men is 18 to 19.

"It is a point of interest, in connection with the inborn, or hereditary quality,

that phthisis is reported to have appeared in some of the immediate relatives—father, mother, brothers, or sisters—of 82 of the 500 aged persons, in 51 of the relations of the 250 females, and in 31 of those of the 250 males. In the reports of some of these it is stated to have occurred in several members of the family; and, in a few instances, the disease was manifested in both father and mother. It is evident, therefore, that the delicacy, or peculiarity, whatever it may be, of constitution, which is associated with the tendency to the development of tubercle, is not only not incompatible with longevity, but is not infrequently associated with it.

"The greater proportion of those who have reached old age are reported to be of long-lived families, to have enjoyed good health throughout their lives, to have had good appetites and good digestion, requiring little or no medicine, to have been moderate or small eaters, to have taken little alcohol, and commonly not much meat; they have been good sleepers; and they show no traces of gouty or rheumatic affections in the joints of the hands."

AMATEUR DOCTORS.

AN English paper discusses the disposition of many people of the "goody-goody" sort to practice medicine gratuitously and without a diploma, in the following semi-humorous style. The statements apply about as well to American as to English society:

"The well-known story of the cabman who nearly killed himself by swallowing some sort of black draught which had been left in his vehicle, and which he thought might do him as much good as the 'party it was meant for,' is by no means an exaggerated illustration of the ludicrous readiness with which the more ignorant of our population will take anything in the nature of physic if they are in the slightest degree indisposed. To go to the chemist for medicine, however, is an expensive proceeding for them, and

when they need doctoring, therefore, they do not often doctor themselves, but they go to the hospital. People a little above them in their station of life are able to buy their own medicines, and find it cheaper to do so than to waste their time at the hospital or to go to the private practitioner; and if constant practice in drugging and dosing would make physicians, probably a good half of the population might be entitled to the 'M. D.'

"If this should appear to be a somewhat exaggerated view to take, let one indisputable fact be pondered over. Last year the duty paid in this country on patent medicines amounted to £150,000 (about \$720,000, which is very much exceeded in America). If we reckon the selling value of the medicine at about eight times this, we have for this one

class of medicine alone a total of nearly a million and a quarter pounds sterling—all of it spent in amateur doctoring.

"It is curious, when one comes to think of it, that people should be so exceedingly ready to set about the remedy of anything amiss in the system of either themselves or those about them. If a man's kitchen clock wheezes and whirrs a little, and presently begins to betray a difficulty in getting along, he will admit at once that he does not know what is the matter with the thing, and will have the clock-maker ordered in to attend to it. If his watch gets a little slow, and does not seem to be amenable to the regulator, he will not even run the risk of touching it here and there with a little sweet oil. If his piano gets out of tune in only a note or two, he does not dream of investing three and sixpence in a tuning hammer and put it in order himself. He does not understand the business, he will tell you, and might do more harm than good. But if his own internal mechanism begins to wheeze a little, and to show symptoms of running down—if he himself feels somehow a little out of tune, it is very likely indeed that he will be quite confident that he knows all

about it, and will forthwith resort to the family medicine chest or the nearest druggist. It may be argued that he probably knows more of his own interior than he does of the inside of a clock or a watch. On the other hand, he may have been studying his own constitution for thirty, forty, or fifty years. Every man, it has been said, is a fool or physician at forty, and there is just enough truth in the saying to make it plausible.

"But then the remarkable thing is that the amateur doctor is usually just as ready to prescribe for other people's constitutions as he is for his own. Give him ever so slight a hint of your symptoms, and he will at once prescribe for you. He knows, of course, that your mechanism is ten thousand times more intricate and delicate than that of any clock or watch, and it might occur to him, one would think, that in so intricate a machine, similar symptoms might possibly arise from very different causes. Nothing of the sort occurs, however. 'Pains in your chest, eh? Ah, indigestion, my dear fellow. I used to have that sort of thing terribly. Try a box of Quackie's pills. The finest thing in the world for indigestion.'"

A REMEDY FOR A FELON.

"CURES" for whitlow, or felon, are as common as "cures" for cancer, and we are always inclined to smile at the easy credulity of the periodicals that give them space in their columns. Lately we have met with the following, alleged to be the statement of a physician named C. C. Gratiot, in several of our medical and other exchanges, and as it is of a character that is simple enough for any one to try who may be suffering from this painful form of periostitis we publish it:

"One day in July, 1883, after returning from a call in the country, I found a gentleman waiting in my office to consult me about a felon, that was giving him great pain, upon the index finger of the left hand. While waiting for me he had

picked up one of my medical journals, and read an article entitled 'How to Cure a Felon.' My patient asked me to try it on him. I advised him to let me make a free incision down to the bone, believing it the only course to pursue that amounted to anything in the treatment of paronychia. As he was a little timid and insisted on my trying the other plan, I consented. The mode of treatment is this, and I quote the writer's own words: 'Take common salt, roasted on a hot stove until all the chlorine gas is thrown off, or it is as dry as you can make it. To a teaspoonful, and also a teaspoonful of pulverized Castile soap, add a teaspoonful of Venice turpentine; mix them well into a poultice and apply to the felon. If you have ten felons at once

make as many poultices. Renew this poultice twice a day. In four or five days your felon will, if not opened before your poultice is first put on, present a hole down to the bone, where the pent-up matter was before your poultice brought it out. If the felon has been cut open or opened itself, or is about to take off the finger to the first joint, no matter, put on your poultice; it will stop right there, and in time your finger will get well even if one of the first bones is gone. Of course it will not restore the lost bone, but it will get well soon.'

"So far as my faith went in the treatment of a felon in that way, I never would have tried it. My patient came back to me in four days, with pain and throbbing all gone, and with no tenderness or swelling. Upon removing the poultice there was a round hole down to the bone, discharging a bloody, thick pus, such as I have sometimes seen come

from acute ulcers. He stated that after the first application of the poultice, about eight hours after he left my office, he suffered no more pain; in three days more he was almost entirely well. This induced me to determine to try it on other felons that I might be called upon to treat; and from July until the middle of October a great many felons occurred among the farmers, caused by the frequent handling of pitchforks in making hay, and in stacking and threshing grain. Suffice to say I tried it on seven cases of felon, and it never once failed me. It is simple in preparation, and the soap and salt are always at hand, which with a few cents' worth of Venice turpentine will make many poultices. The cases in which I used it got well more rapidly and suffered less pain, and the finger regained its normal condition more quickly, than after incision or any mode of treatment I had ever previously adopted."

A SUMMER IDYL.

EVE.

You must wake and call me early, call me early,
mother dear,
To-morrow will be the happiest day of all this very
year.
To-morrow will be the happiest, the maddest, mer-
riest day,
For I am going on the excursion, no matter what
they say.
I must wear my new kid slippers, and my charming
white lawn dress,
And every one who sees me will admire my love-
liness.
They'll weave a garland fair for me, they'll weave
a garland sweet,
And I'll be crowned the queen, mamma, my face
is hard to beat.

MORN.

Prepare the mustard plaster, ma, the water-bath
likewise,
For chill the wind blows, though the sun is shining
in the skies;
And in this dress so very thin, no shawl about me
rolled,
I know that while the sport goes on, I'll catch my
death of cold.
My new kid slippers too are thin, and yet they look
too sweet;
And dancing in the long damp grass, I know I'll
wet my feet.
But I'm going on the excursion, mother, as well as
Sue Magee,
And when you see me home at night I'll have the
pleurisy.

H. S. D. (*Adapted*.)

RECORDS IN ANTHROPOMETRY.

AT the International Health Exhibition an extensive system of measurements was put into operation under the direction of Dr. Galton, with comparative results that are exceedingly interesting to physiologists from many

points of view. There were a variety of special instruments in use for testing keenness of sight, the color sense, hearing, breathing power, strength of pull and squeeze, swiftness of blow, span of arms, height standing and sitting, and

weight. All these measurements were taken during a stay of twenty minutes in the laboratory, and occupied the attendant but seven minutes. Among the results attained it was shown that of 850 persons 40 per cent. only had both eyes equally effective, while the remainder had notable differences of the two eyes—sometimes the right, sometimes the left, being the stronger. The highest audible note was measured by five whistles, set to make 10,000, 20,000, 30,000, 40,000, and 50,000 vibrations per second respectively. Of 317 males between 40 and 50 years of age, all heard the first, while only 4 per cent. heard the last. In this, and in every other particular record, the male sex was proved superior to the female, though the extent of the difference was very variable.

One of the particulars in which the females showed most unfavorably was breathing capacity. This increases in youth, becomes stationary between 20 and 30 or a little later, and then declines. Up to the age of 20 the breathing capacity of the two sexes is about equal, but at that age that of the males becomes

half as great again as that of the females, and this ratio is maintained in after life. It would be interesting to know how much of this great difference is really attributable to sex, and how much to the kind of life led by most women. An unexpected result was that there is no close relation between the breathing capacity and the strength of the pull or squeeze. Out of 1,657 adult women, the strongest could exert a squeeze about equal to that of an average man, viz.: eighty-six pounds. In strength of pull, when the results were reduced to percentages, it was found that the 7 per cent. of the females who were strongest, were stronger than the 7 per cent. of the males who were weakest. In men, for all statures up to six feet, the relation between the height sitting and the height standing was as 54 is to 100; but in women an increase in stature is accompanied by a disproportionate increase in the length of the legs. The measurements were made upon 9,337 persons, of whom 4,726 were adult males. Some of the results have not as yet been fully discussed.

MURDER AND SUICIDE IN THE UNITED STATES.

A VERY sinister study is offered to the moralist by a table which hangs beside those of the United States census, showing by means of colored parallelograms the positive and relative degrees of homicide and suicide in different parts of the country. In the eastern section suicide in general appears to be about six times as frequent as murder. In the western there is a rather larger proportion of the latter, and about two-thirds less of the former. The South presents a broad field of homicide, nearly twice as large as that of all the rest of the country, with a very narrow strip of self-destruction. In New York and New Jersey suicide is as about three to one of murder; in Pennsylvania about two to one; in Delaware and Maryland just the reverse of these, murder exceeding suicide by one-third and one-half. Homicide in

the District of Columbia is appalling, compared with its population; there appears to be little disposition to *felo de se*. In Virginia the suicide is about a quarter of the homicide; in West Virginia the two crimes are nearly equal, suicide preponderating slightly. In the Carolinas murder is to suicide as three to one. In Texas the area of murder is something awful, unless one can pitch one's mood to the key of De Quincey's famous essay; it is ten times as great as suicide. In Nevada the proportion of the latter is about one-fifth of the former. In California there is a vast amount of both, suicide preponderating; can it be because of homesick Chinese? With regard to murder, the distribution is not difficult to understand, but it seems impossible to get at any general laws respecting suicide. The proportion of female suicides (indi-

cated by a delicate pink tint) varies very much in the different States, but generally falls far short of the male suicides. In Delaware, the District, and Oregon, there are few or no female suicides; in Minnesota and North Carolina, the number nearly equals that of the other sex; in South Carolina, it is considerably in excess; in Florida, it is very small.

OATMEAL CAKES.—We are very fond of oatmeal prepared in any good form for breakfast, and take the following recipe from the *Rural Cyclopaedia*, published at Edinburgh, Scotland, for making oatmeal cakes. Well made we know they are delicious:

"As much meal as will make a sheet twenty-four or thirty inches in diameter and one-eighth of an inch in thickness, is put into a wooden basin, with a sufficiency of water for working the meal into a light paste. The meal and water are mixed by the fingers of the right hand, while the basin is turned constantly around by the left hand, till the paste is made; the paste is then turned out on a clean board or

table, and alternately kneaded with the knuckles of both hands, sprinkled with meal, gathered up, kneaded and sprinkled, and kneaded again and again, till it becomes a well-kneaded and homogeneous dough; the dough is then flattened out with the knuckles into a circular cake of half an inch or less in thickness, and immediately afterward distended with a roller into a sheet of about one-eighth of an inch in thickness; and the sheet is then pared round the edges and cut into three or four parts from the centre with a knife. The parts of the cut sheet of dough are fired or half baked, first on the one side and then on the other, upon a thin circular plate of iron, called a griddle or girdle; and then they are toasted or whole-baked by being placed on their edge on a toaster close before the fire, with first the one side and then the other exposed to the heat. Some butter is sometimes mixed with the paste, to render the cakes 'fresh' and highly relishable, and occasionally a few caraway seeds are also added, but in the estimation of racy, unsophisticated oatmeal cake eaters all such admixtures are an abomination."

HE WANTED TO "TAPER OFF."

A CLERGYMAN called upon a well-known physician, one day, and said: "Doctor, I wish to consult you about my health; I am afflicted with very uncomfortable symptoms; my hands tremble and shake, my eyelids twitch and quiver, and my lips are without sensation, as if they were numb. Isn't it a serious matter? Am I not in danger of paralysis?"

"It is, indeed, a serious matter," replied the physician, who knew his patient, "but you can be cured entirely if you will follow my advice; but I am afraid you will not be willing to take my prescription."

"I certainly will, doctor; try me; what is it?"

"It is simply to give up the use of tobacco entirely and forever. That is the whole cause of your trouble."

"Aren't you rather hard on me, doctor? I own up, I both chew and smoke when I am digging out a sermon, and I need to. I couldn't write well without it. If I should give it up my people would see the difference at once."

"Excuse me, but do you really mean to say that you, a minister called of God to preach the way of salvation to lost sinners, must depend upon a filthy weed for your inspiration? What kind of a call is that?"

"I will give up tobacco if I must, doctor, but you will allow me to taper off gradually, won't you? I am afraid it will injure my health to give it up all at once."

"'Taper off!' it would soon be tapering on, again. I never knew of a man who turned from a wrong way to a right way too quickly. My dear sir, if I were a re-

pentant horse-thief and had come to you for spiritual help, would you tell me I might 'taper off' and stop stealing horses, and only steal pigs and chickens and smaller things, until finally I should reform altogether? No, you would not preach any such nonsense. You would tell me to leave off stealing entirely, once for all."

"If, after I had given it up for a week or two, a terrible hankering and craving should come over me, what could I do?"

"Go down on your knees, and pray for Divine help until you get it."

"Well, doctor, I think I must stop

using tobacco, but I will wait till I go to the Adirondacks in the summer. I can attend to it better then than now."

"Like Felix, you would put off this important matter till 'a more convenient season.' I warn you, sir, that you can not trifle with your health in this way without serious consequences. It must be attended to immediately or I can not answer for the result."

The patient finally concluded to follow the physician's counsel fully, and the gain in health and vitality proved the wisdom of the course.

MARY WINCHESTER.

NOTES IN SCIENCE AND AGRICULTURE.

The Exploration of Hudson Bay.

—In the month of February last a report was laid before the Parliament of Canada detailing the results of an expedition dispatched by the Government of that country particularly for the purpose of inquiring into the navigability of Hudson Strait and Bay, and, at the same time, of gathering information concerning the resources of that region, and its availability as a field for settled habitation. This report represents the first properly organized attempt that has ever been made to pierce the secrets of Hudson Bay for the public benefit.

It is at first blush not easy to understand why this mighty expanse of water, occupying the peculiarly important position that it does, should remain for so many generations comparatively unexplored and wholly unutilized, except as a hunting-ground for a few New Bedford whalers, or a medium of easy communication between some half-dozen scattered factories of the Hudson Bay Company. Although called a bay, it is really an inland sea, 1,000 miles in length by 600 in width, having thus an area of about 500,000 square miles, or quite half that of the Mediterranean. It drains an expanse of country spreading out more than 2,000 miles from east to west, and 1,500 from north to south, or an area of 3,000,000 square miles. Into its majestic waters pour feeders which take their rise in the Rocky Mountains on the west, and in Labrador on the east, while southward it stretches out its river-roots away below the 49th parallel until they tap the same lake-source which sends a stream into the Gulf of Mexico. Despite its distance northward, its blue waves are never bound by icy fetters, and its broad gateway to the Atlantic is certainly navigable four months out of the year, and possibly all the year round to properly equipped steamships. Its depths abound in finny wealth, from the mammoth whale to the tiny caplin. Its shores are serrated by nu-

merous streams, some navigable for long distances inland, and all stocked with the finest of fresh-water fish, and clothed as to their banks with valuable timber ready for the lumberman's axe. Its islands are rich in mineral ore of many kinds. The country whose margin its tides lave is well adapted for tillage and pasturage, while all around the region swarms with animals and birds whose flesh or fur render their chase a highly lucrative employment.—*Popular Science Monthly.*

The Earth a Great Magnet.—Everything on earth and in the air above is permeated with the earth's magnetic force,—it goes through your clothes, it penetrates your bodies, it saturates your brains, it is a part of life itself. Gauss, the illustrious German astronomer, has computed (taking as a unit of his measurement a magnet fourteen inches long, one inch wide, one-fourth inch thick, weighing one pound, made of the hardest steel and of the strongest magnetic force possible) the earth's magnetic force as equal to 8,464,000,000,000,000,000,000 such magnets. The attracting or lifting power of such a magnet is about ten pounds, which would make the attractive power of the earth 42,310,000,000,000,000,000,000 tons. If this magnetism were equally distributed throughout the mass of the earth, the magnetic intensity of each cubic yard would be equal to six of these magnets, or about sixty pounds attractive force. Prof. Mayer has shown that this magnetic influence, this invisible force, is a power filling space to an unknown distance, and radiating in the lines of magnetic force very much as the rays of sunlight, the lines of the earth's magnetic force being from South to North, as indicated by the compass needle.

Micro-Organisms and the Germination of Plants.—M. Duceaux has recently sent a communication to the Académie des Sciences on "The Germination of Plants in Soils Freed from Micro-organisms." He

chose for his experiments the Dutch pea and the haricot bean, the first of which has its cotyledon in the earth, the second on the surface. The soil having been sterilized before the seed is sown, germination did not take place. This soil was also covered with milk, but it was not altered. Thus it seems that it is essential to germination that there be micro-organisms in the earth. M. Pasteur thus also states that he has found, by experiment on animals, that food which is free from micro-organisms can not be digested, as they are necessary to the process of digestion.—*Journal Am. Med. Asso.*

Hardening Plaster.—A new process for rendering plaster very hard, and capable of being substituted for wood in flooring, has been brought out by M. Julhe. Plaster has this advantage over cements, and even over wood, that it increases rather than diminishes in bulk on being applied to structures; but it fails in hardness and surface resistance. To overcome this difficulty M. Julhe mixes six parts of good plaster with one part of rich lime, recently slaked and finely sifted. This mixture is to be used like ordinary plaster, and the object made from it, when it is very dry, is caused to imbibe a solution of a sulphate which has a base precipitable by lime, and this precipitate is insoluble. Such are the sulphates of zinc or iron. The theory of the process is as follows: The lime contained in the pores of the plaster decomposes the sulphate, with production of two insoluble bodies, to wit, sulphate of lime and oxide, which fill the pores of the object submitted to the treatment in question. With sulphate of zinc the object keeps of a white color, but with sulphate of iron the object, at first greenish, takes, on drying, and with lapse of time, the color of the sesquioxide of iron. With sulphate of iron the hardest surfaces are obtained, the resistance to rupture being twenty times greater than with ordinary plaster. To obtain the maximum hardness and tenacity it is necessary that the object should first be very dry, and steeped in a solution which is practically saturated. The first immersion of the object in the solution ought not to last over two hours, as a too long immersion at first is apt to render the surface friable. On drying the plaster object afresh after the first immersion, there is no further fear of its becoming friable. If the proportion of slaked lime is too great, the surface is apt to take a very hard marble-like skin, which prevents the hardening of the inner portions of the object. The proportion of one of lime to six of plaster, as stated above, has given the best results. Plaques made in this way can be browned by rubbing them with linseed oil and litharge, and glazed on the surface with hard copal varnish. A beautiful glossy flooring, like polished oak, can in this way be prepared.—*Sc. American.*

An Old Farmer's Advice.—A correspondent of the *New England Farmer* writes warmly of his vocation, saying: "I am a

farmer of the fourth generation, and always was a farmer, and am living on the same acres owned and cultivated by my great grandfather before the revolutionary war. I will also say that I am a farmer from choice, because I like it. I also used to raise and fatten sheep because I liked it, and it would pay. The person who goes into any calling, unless his whole heart is in the business, may as well stop, as he will never succeed; and I never, under any circumstances, advise any of my friends to engage in any business for which he is not adapted, to which he takes no liking. As I said before, I am and always was a farmer from choice, and have studied it out carefully, and practiced it in its details, which has given me what little success I have attained in my profession. Now, to know what that success has been, I will say that when I commenced farming for myself, forty-seven years ago, on the same acres where I now reside, I sold from twenty-five to thirty tons of hay a year. Last year I sold 115 tons, and this year, notwithstanding the frost and drought of last summer, a little over 100 tons. Could not raise wheat at all then. This year I had, from about eleven acres, 340 bushels. Corn nubbins only grew then, now I get the corn-house full way up to the peak. Oats were thin, so that they would fall through the cradle-fingers. No reapers and binders then. This year and last I raised seventy-one bushels from the acre. Other crops, fruit, etc., ditto; all of which goes to show that farming,—when well planned, skilfully conducted, and energetically pushed,—will pay, and pay well; and that any young man who takes a farm, and is willing to study his calling and push his business, with a clear head and a good constitution, can surely succeed."

The Banana or Bread-Fruit.—This tropical fruit has become as common in the city markets of the North as the apple, but there are thousands, doubtless, of our readers who would not know the kind of plant it grows on were they to see it. In the greenhouses of some of our parks excellent specimens can be seen in fruit. It also makes a famous ornamental plant for the lawn in summer, but unless the situation is sheltered, strong winds are apt to deface the foliage. People who make a trip to Florida, or the extreme South, can, if they choose, easily get a good strong plant to bring back with them, and plant in the ground after June 1st. It is too rank a grower elsewhere than in a large conservatory in winter. Though not generally known, perhaps, it is easily kept in a dry state in a common greenhouse if it is dug up and laid on its side, giving no water during winter. If again planted out when hot weather comes, it will form leaves, and the growth will be more adapted to outdoor culture than if kept growing in a greenhouse, which means a high winter temperature.

Pear-Growing for Profit.—Perhaps of all tree fruits the pear is the most certain, and, if thoroughly understood and mar-

keted, probably the most profitable. Not even in the apple,—which we admit is the king of fruits,—is there more money to be made. It is true, however, that not all localities are equally well adapted to the growth of the pear, nor are all varieties equally productive and paying. The summer varieties, especially, do not give the money return that the fall and winter varieties do; besides they have to be marketed promptly, not admitting sometimes twenty-four hours to elapse after picking them and having them upon the market stalls for sale. Still, when the work is attended to in the nick of time, summer pears of good quality command ready sale and good prices. But this is the beginning and ending of them. With the fall varieties it is different. They will admit of barreling and sending to distant markets, and bring excellent prices, provided they are of such sorts as meet the wants of housekeepers for canning, preserving, and laying by for table use. As to the winter varieties, the value greatly enhances, provided they are of such kinds as the Lawrence, Glout Morceau, Sieulle, Aremberg, Reading, Easter Beurre, Josephine de Malines, Winkfield, etc.

One advantage of the pear over the apple is, that the ground about the former can be cultivated up to the trunk, as the roots descend deeply and spread very little near the surface so as to interfere with the plow or spade, and hence robbing the surface of very little of its richness. To the growth of vegetables, therefore, the pear-tree offers very little obstruction.

When blight appears upon the apple or pear-trees, it is a good practice to cut off the diseased branches at once and burn them. The advice to cut up and destroy all trees that show blighted branches is not commendable. The new shoots which follow this pruning are seldom attacked, and we have known trees which were so severely blighted as to reduce them to mere stumps to recover and soon make perfect trees. It seldom happens, however, that trees become so badly blighted as to involve the cutting away of all their branches; but all blighted twigs should be removed as soon as they are observed, and, where this is persistently followed, the blight will not be found so formidable as many persons would lead us to believe.

Still Water and its Purification.

—The purification of water by long repose is receiving the attention of European scientists. Prof. Hermann Fol, and Mr. Dunant, Professor of Hygiene in the University of Geneva, write that sufficient attention is not paid to the fact that water, surcharged with germs of every description, will purify itself if left in absolute repose for an adequate time. Air will as certainly purify itself of germs and dust if left in absolute rest in a closed chamber. The law of gravitation demands this. These gentlemen secured some water containing not less than one hundred and fifty thousand germs to the cubic centimeter. This water was placed in a cylindrical vessel, about

four inches in diameter and sixteen inches deep, and the mouth closed by cotton. Eight days after, a portion of water removed from the surface revealed but twelve thousand germs to the cubic centimeter. Twenty-three days later only seven thousand germs could be found in a cubic inch of the surface water. In the first eight days the water lost ninety-four per cent. of its germs. In the twenty-three days, 95.3 per cent. of germs were deposited. The water of Lake Geneva has long been known to be extraordinarily free from germ-life, and it may be attributed to the principle of gravitation, as it is estimated that the water of the Rhone remains in the lake more than one hundred years before leaving it at Geneva. From these statements a suggestion may be made in the construction and use of wells and cisterns. It is that arrangements should be made for drawing water from the surface instead of, as in most cases, from the bottom.

The Swiftmess of Thought Illustrated.

—The rapidity with which thoughts flash through the mind in dreams has always been a source of great wonder. The late Dr. Norman Macleod, chaplain to the Queen, has left on record the following instance of a long dream which could not have occupied more than a few seconds, the events of which were vividly impressed on his memory: "Very late one night," he says, "when, wearied in body and mind, I was dictating to a friend what required to be sent to press early next morning, I spoke a sentence and suddenly fell asleep. I dreamt a very long and complicated dream, and then I awoke, feeling quite refreshed, but for a moment utterly confused as to where I was, or what I had been doing. Recovering myself, I began to apologize to my friend for having so long detained him at that hour of night, expressing the hope that he had been able to employ himself profitably in preparing his college exercise, when at last turning round—for he had been writing with his back to me—he asked me, with an expression of wonder and alarm, if I felt unwell, or what did it mean? I wondered much more when I heard he had never lifted his pen, nor had ceased writing, and that I was roused by his repeating the last word of the sentence, so that I could not possibly have slept more than two or three seconds!"

The Effects of Germicides.

—Mr. R. B. Shuttleworth, a Canadian observer, says: "It has been shown that the germs of different diseases are not equally affected by the same solutions, nor by the same strengths. The resisting power of bacteria differs at various stages of growth or development. Thus it is often more difficult to destroy the vitality of the spores than that of the more advanced bacillus. The fresh virus of anthrax, containing anthrax bacillus, proved more sensitive than that which was dried, and this was remarked with regard to other organisms. Chlorine, bromine, iodine, corrosive sublimate, and potassium permanganate were

found to be effectual disinfectants. Carbolic acid, in one per cent. solution, had very little effect on the spores of anthrax bacillus, but was destructive to the living micro-organism. A two per cent. solution should always be used. Solutions of carbolic acid in oil or alcohol are without effect. Sulphurous acid does not disinfect dry objects, and, on objects previously moistened, its action is not by any means certain. Salicylic acid, sulphate of copper, nitrate of silver, and boric acid, possess more or less value. Of the germicides mentioned bromine and corrosive sublimate appear to have the preference. The former is dangerous to handle, but this has been overcome by Dr. Frank, of Strassfurt. By making a mixture of infusorial earth, crude tartar, or saccharate of calcium, and incinerating, a porous siliceous mass is thus obtained which is capable of taking up eight-tenths its bulk of liquid. It is then cut into cubes weighing about an ounce each, which will absorb over three ounces of bromine, and can be handled with safety. A sufficient number of these cubes are placed in the apartment to be disinfected, and gradually evolve gaseous bromine. About one volume of bromine vapor to 500 is stated to be the correct proportion for efficient disinfection, and the vapor of water should also be present. Corrosive sublimate may be used in the strength of 1 to 2,000. The poisonous character of the salt is its chief objection, but, in the case of infected clothing, the solution might, after twenty-four hours, be removed by washing. This solution, which has always deservedly held the first place as an insecticide, may be used in a similar manner to disinfect bedsteads, and walls in sick-rooms, but for this purpose the gaseous germicides, as chlorine, bromine, or sulphurous acid, are, for obvious reasons, preferable. A one per cent. solution of bleaching powder is, as a liquid disinfectant, highly recommended. Liquor sodæ chlor. B. P. is equally good, but, of course, more costly."

Properly Constituted Mortar.—

The *Building Times* remarks that for machinists and engineers who have occasion to use mortar, a good mortar may be formed from solid silicate of lime—that is, the lime unites with the silica or sand to form a silicate of lime. In ancient days those who had some conception of the way the two things united superintended their mixing; but nowadays anybody is supposed to know how to make mortar, while nobody knows much about it. Dry lime and dry sand laid together or mixed and kept dry for a thousand years would not unite to form silicate of lime any more than acetic acid and carbonate of soda dry in a bottle would effervesce. To make silicate of lime just as good as was made by the Romans, all that is necessary is to proceed intelligently: Procure good caustic—that is, fresh-burned lime, and use only clear lumps. Slake this (if possible in a covered vessel), using only enough water to cause the lime to form a powder. To this while hot add clean sand—

not dirt and loam called sand, but sand—and with the sand add enough water to form a paste. Then let it lie where it will not become dry by evaporation—if in a cellar so much the better; for as soon as you have mixed the sand and lime as above, they begin to react one on the other, and if not stopped by being deprived of moisture, will go on reacting until silicate of lime (as hard as any silicate of lime ever was) is formed.

But if you take this so-called mortar as soon as made, and lay bricks with it, unless the bricks are thoroughly wet you stop the formation of silicate of lime, and might as well lay your bricks in mud. Lime and sand, after being mixed, might lie two years with advantage, and for certain uses, such as boiler setting, or where the whole structure of brick and mortar is to be dried, the mortar ought to be mixed for one year before use, and two would be better; but for house building, if the bricks are so wetted as not to rob the mortar of its moisture as soon as used, mortar that has been mixed a month will form good solid silicate of lime among the bricks it is laid with in ten years, and will be still harder in a hundred years. The practice of mixing mortar in the streets and using it at once is as foolish as it is ignorant, and would be no improvement. Silicate of lime is made only by the slow action of caustic lime and sand, one on the other—under the influence of moisture. Dry they never will unite, and mixing mortar as now mixed and using it at once, so as to dry it out and stop the formation that the mixing induced, is wrong.

Ancient Astronomers.—The Chinese wrote about the rotundity of the earth centuries before the Christian era, and the ancients of all countries whose literature survives to us, appear to have known that the earth was a globe. Eratosthenes, a Greek geographer of B.C. 250, Strabo, about B.C. 20, and many other ancient authors, not only repeat the facts, but treat the subject very intelligently. By reference to Strabo, Book II., chap. 5, sec. 10, it will be seen that in his time the subject was thoroughly understood, even to the principles of maps on what we call "Mercator's projection." We can not go back in history beyond the time when civilized and educated men did not know that "the world is round and like a ball."

A Good Whitewash that will not rub off: Slake one-half bushel of unslaked lime with boiling water, keeping it covered during the process. Strain it and add a peck of salt, dissolved in warm water; three pounds of ground rice, put in boiling water and boiled to a thin paste; one-half pound powdered Spanish whiting, and a pound of clear glue, dissolved in warm water. Mix these well together, and let the mixture stand for several days. Keep the wash thus prepared in a kettle, and when used put it on as hot as possible with painters' or whitewashers' brushes.



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THE UTILITY OF PHRENOLOGY.—NO. 7.

SELF-KNOWLEDGE VS. SELF-IGNORANCE.

WHAT has been said with reference to the intellect and moral sense has its relation to every department of human activity, and therefore no special argument is required to show that a person will be effective as an agent of good according to the measure of his intellectual capability, and the harmony of his moral perceptions. Every man, normally endowed, or the average man, desires to do right in his dealings with his fellows; and he is wont to attribute his errors and mishaps, his vices and offences, to his environment or to circumstances; he rarely attributes them to mental incapacity. The materials were not at his hand; the time was not suitable; influences that he could not control were hostile; he was expected to act in a certain manner, although it was contrary to his best judgment. These are some of the pretexts offered for failure, and they pass current with the majority, although they may not be accepted as compensatory for what loss others may have sustained who trusted the unfortunate.

But let us suppose that one of these men, who have been unfortunate in busi-

ness, had at the outset made himself a subject of study; had considered the quality and extent of his faculties; ascertained what was weakest and what strongest, throwing the light of science upon his inner consciousness, and reviewing his past experience as far as it went for confirmation or elucidation of what seemed doubtful. Let us assume that he found himself lacking in firmness of purpose, disposed to change his mind too easily, and so fearful about giving offence, that he hesitated overmuch in pursuing a given course. He wanted to do right, but indecision and fear of treading on somebody's toes rendered his action slow and indefinite. Then, too, he found himself wanting in the trait of order, and this defect had its influence upon his character, so that he was not as prompt in meeting his obligations, or in doing his work, as he should have been. Further, let us assume that he had large Adhesiveness and strong sympathies that disposed him to devote too much time to the friendly intimacies of society, and occasionally embarrassed his financial affairs by imprudent generosity.

Brought to a stand by this revelation of himself, he would have asked for counsel to guide him toward a better mental condition; and the same scientific method that had disclosed his defects was ready with suggestions for their correction in a great degree. To command the respect of men, he would have been told, he must strengthen in purpose and decision; be true to his impressions of duty and obligation; brace up in courage; give less heed to the opinions and reflections of others; attend carefully to his duty at the desk or bench, or behind the counter; be punctual and scrupulous in meeting his engagements; use some of

his leisure for social enjoyments, but not all, and exercise economy in his charity.

Now is it not reasonable to claim that this man so invested with a clear apprehension of the requisites of success in his particular case, would have started in his course a hundred times better fortified against mistake, difficulty, and failure than he did? And in all probability would he not have risen from year to year in capability to meet and master the obstacles of business life?

Capt. J. H. Greene, a man who for many years was notorious in New York and other cities for dexterity as a gambler, says in an autobiographical sketch entitled "Secret History of over Sixty Years," that he was told by the late Samuel Riddle, in 1845, that one of his weakest points was a want of Caution; and to use his own language: "I felt satisfied that had I had the same scientific fact conveyed to me from so reliable a source when I was first taken to the house of Samuel Maythes, in Cincinnati, Ohio, on September 12th, 1828, it would have saved me all the trouble which has caused me so much sorrow, and thousands of others through me—through all my early life—and will cause me misery until death." Here is a man who needed but one clue to have been saved from a long career of vice, and after it was given him it proved an important factor in his final reformation.

"If I had known this twenty years ago it would have saved me a world of trouble," is a very common remark made by men and women in consultation with a phrenologist. When one in middle life reviews his career, he can point to events that stand up like broken columns in an ancient temple, and are significant of mistaken judgment or ignorance. Most

men learn through mistakes and misfortunes what their capabilities are, and pay a very high price for an education that is of little use to them after its acquisition, for they have passed the meridian of life, and failing strength no longer supplies the vigor and impulse required for success in the confused rivalry and strife of modern business.

Some comparatively small defect is often the "loose screw" that makes a man unfortunate. Men have gone with a dejected and weary face to the expert reader of character and complained of their want of success in whatever they undertake, and feeling that it was of no use to try to accomplish anything; fate seemed obstinately against them. But a half-hour's interview cheered them up, and they have departed with hints and suggestions that operated upon their minds like a beaker of cold spring water upon the spirits of a thirsty traveller. "You repel people by your cool manner," we told a man who said that he had concluded to change his business, after pursuing it for twenty years. "Cultivate suavity, kind, accommodating, good-natured ways. Don't be afraid of taking a little trouble. Meet your customers outside of the counter, and don't appear to be specially anxious to sell your goods. Resolve to conquer that gloomy reticence of bearing, and you will find yourself on far better terms with the world than ever before."

We remember one case. A gentleman, who had consulted us with reference to business, and whom we advised to be more attentive to matters of order and neatness in his dress and surroundings, and who did not receive our admonition in the best humor; but a few years later he came in, and after mentioning the fact

of the consultation, added with much warmth, "I must confess that your advice has been worth thousands of dollars to me."

Now and then there occur what might be termed negative provings of the value of Phrenology in every-day affairs. A young man, out of curiosity, visits a professional examiner, receives a chart, and goes away. He "tries his luck" in whatever may come in his way, and after years of struggling attempts in this or that trade or business turns to his chart, carefully reads it, and determines in a half-desperate mood to try its plan of action, and to his surprise finds that the ideas he had so long ago with youthful heedlessness or a flippant incredulity, thrown aside as so much talk for so much money, or "quite a mistake so far as he was concerned," have a practical application to his peculiar organization, and for the first time in his life he feels that he is not wasting his time. An incident of this sort from the note-book of Prof. Nelson Sizer will not be without interest, we think, to the reader.

In 1876 a gentleman brought his son to that phrenologist's office and requested him to prepare a chart of the boy's head. After this had been done, the gentleman said :

"Ten years ago I brought to you my older son, who was then fifteen years old, and you wrote out his character, and told him exactly and positively what he ought to do; but he was going to school, and the subject of pursuit was, for the time, dropped. After a while he was offered a place in a gentleman's furnishing store—he thought he would like it, and he stayed a year or two, and dropped it in disgust; he then found a place in a drug-store for a couple of years, and he thought the hours too long, the exercise too little, and the prospect not flattering, and he went

into something else; meanwhile he lived at home and used his wages for spending money. Thus he went on for eight years, getting no permanent foothold in business, and finding nothing in the work he had undertaken that seemed to suit him. At last, at 23, he found a pair of black eyes, whose presence he thought necessary to his happiness, and he came to me in anxious alarm, and said :

"'Father, I have wasted eight years in trying different pursuits, and can not now support myself, much less think of a home and household of my own. I have been reading over the description given me by the phrenologist, and he says my proper place is in *Architectural Drawing*, and if you will help me to get a place in that, I will go at it with a will.'

"I went out with him to one of the largest architectural iron works in New York, whose proprietor knew me, and he took him on and gave him a good chance, and now, inside of two years, he has made such wonderful progress in the business that he is working on the Centennial buildings in Philadelphia at a salary of fifty dollars a week. If he had not wasted eight years on pursuits to which he is utterly unadapted, he might, perhaps, have been master in the erection of those great structures."

VACATION TIME.

WITH the incoming of summer heat "society" goes out of town, and vacations are in order. Many a business man needs the short respite he may get from the close atmosphere and intense employments of his office or wareroom. Many in professional occupations need the change a few weeks' absence from their old routine will give them. Pursuing one line of activity constantly, keeps in exercise but a part of the mental faculties: they become weary, lose energy and resilience, and work mechanically. Change, by bringing into action other faculties that have been

lying almost passive for months, serves to relieve and refresh the jaded ones. The *workers* among us have, as a class, too much to do in a single channel, and they have special need of an occasional vacation. But it is the misfortune of the great majority to be debarred from the enjoyment of such a means of mental and physical recuperation. We do not wonder that Sunday is becoming so generally a day of amusement and recreation among the masses. Their tired minds and bodies clamor for the cheering effect of out-of-door exercise; pent within brick walls, breathing a stuffy atmosphere, and plying machines or tools for six days, we do not wonder that they obey the physical rather than the spiritual laws of their being, and rush in thousands to the seaside or the shady grove. Their action is a natural recoil, when the pressure of the iron rule of labor has been withdrawn for a day; and so long as society manages the factories and shops, the offices and the stores, on the present system, the working people will demand freedom to do as they please on Sunday. We feel for them, while we have no sympathy for the license that would fill any day with revelry and disorder. The Sunday rest is necessary to man by physiological law, and in its proper use he will find refreshment to his spirit as well as to his body. In fact, we believe that by obedience to the divine command in this matter, the moral education of the masses will be greatly promoted; the reasonable exercise of the religious faculties contributes to our highest enjoyment, and by equalizing or balancing the action of the brain-parts is recreative in the best sense.

But it was our purpose to speak chiefly of those who make it a custom to spend

their weeks or months at summer resorts for the most part in a round of pleasure. Who that has visited a much-patronized "mountain-house," or a hotel at the seashore, does not know the ceaseless movement of the place? Going, going, ever going, young and old appear to be under the influence of a powerful tonic, or excited by a choreic distemper. We had heard of a retreat in a beautiful wooded district of New Jersey, and near a charming lake. It was pronounced "perfectly lovely" by some of our lady acquaintances. We travelled thither one sultry day in September, expecting to find a place of idyllic repose; but our expectations were far from realized. A beautiful place it certainly is, but oh, how noisy when the large hotel is filled with guests.

There were croquet parties and lawn-tennis parties on the lawn; there were children jumping, romping, and screaming with all the energy of ecstatic delight in the parlors, on the verandas, on the lawn; everywhere enjoyment ruled the waking hours, and without much attempt at harmonious expression. At night there was promenading on the verandas, and music and dancing in the parlors, and through open doors and windows the confusion of noise and melody spread over the house. It was scarcely

"No sleep till morn,"

but very late before we could find unconscious repose. Two days were enough of that sort of thing for us.

All these people thought they were having "a good time"; with some perhaps it did not matter, their life was a perpetual holiday, but with others, we know, that if they remained there until the tale of days was run, and they returned to their desk or counter, it would not be with that recovery of strength and

spirit they had hoped to find in their vacation. On another page the reader has probably seen a cartoon containing a series of illustrations that describe well the kind of life some lead when on summer leave. The central figure is perhaps overdrawn; the young man is overcome with his varied efforts to amuse and recreate himself. And if the sketches surrounding him describe those efforts faithfully, he is but suffering the natural consequences of such dissipations. Many do return to home and business more worn out and fagged than when they departed, and wonder that they feel so. We have known people to return from their summering by lake or sea and take to sick-beds. The excitements of a numerous company, late hours, over-eating, had been exhausting their strength, while they were hugging the delusion that everything was delightful.

But a summer vacation at some quiet, healthful place, with a few friends, a temperate out-of-door life, reasonable care in diet, and abundant sleep, will be productive of great benefit to the mind and body of the person who is in earnest about making his leave of absence a period of restoration.

A LARGE AREA OF PROHIBITION.

WE sometimes hear of a stride in the cause of reform made by some far-off State or district that should bring a blush to the cheek of every conscientious resident of the older settled States of the Union. Massachusetts, New York, and other Atlantic States claim a much higher degree of culture in the arts and amenities of human life than Kansas, Indiana, Nebraska, and other far West States, but now and then we hear of a

measure passed by the legislature in one of them that shows a disposition toward popular reform that is exemplary for us of the East.

Lately a far-off land that within a score of years has been colonized and redeemed from savagery has illustrated the success that may attend zealous effort to promote the welfare of a community. In New Zealand three million acres of fertile land have been dedicated to Prohibition forever. We are informed that this measure is founded upon a provision in the Licensing Act of the Colony, that if the native owners of any land on which a license for the sale of intoxicating drink has not yet been granted make application to the Governor to have their lands exempt from the operations of the Licensing Act, the Governor in council shall make proclamation declaring that no license for the sale of drinks shall be granted within such areas.

The friends of the Maori race have done much toward bringing this about with "the cordial assent of the whole people from Tawhiao down, to have their lands protected from the demon of intemperance."

If the friends of our poor Indians had fifty years ago been as zealous in endeavoring to save them from the ravages of "fire-water," what suffering and loss they would have prevented, not only to the red men, but to the white settlers and their children!

BARTHOLDI'S "LIBERTY" HERE.

THE reception of the Bartholdi statue was an imposing affair, upward of one hundred steamers, small and large, participating in the bay parade, while the shipping in our two rivers and harbor was

generally decked with bunting, as on a great holiday occasion. The transport *Isère*, which brought the statue to this country, has been relieved of its burden, and has returned to France. The French people in this colossal gift have shown a noble spirit, and it is becoming that the American people should warmly reciprocate their substantial and costly testimonial of interest. An infant republic, yet a powerful state, France has a splendid future, and we hope that she will successfully meet every social or political crisis of her peculiarly trying relations. The gift of the statue came from the heart of a people who are anxiously emulating our success in Democratic government. When

this grand Pharos dominates in our bay, it will be a twin wonder with the great bridge, to command the world's admiration.

PRESCRIBING NOSTRUMS.—A writer in the *Physicians' and Surgeons' Investigator* arraigns practitioners for prescribing nostrums and patent medicines, or approving them for the benefit of the druggist. He says a certain manufacture is "prescribed, and its virtues advocated by hundreds of physicians and surgeons in our country who would no more dare to let it be known that they ever used it than they would cut off their right hands."



To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE contributions unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

DROPSY.—L. G.—There are many forms of dropsy, and as you do not specify the one for which you ask advice, we can merely note one, the more general, cellular dropsy. This is the result of functional debility, and therefore the main endeavor should be to restore the patient's strength. Whatever course of treatment will promote the vigor of the system generally, will have the effect of restoring the functions of the skin and tissues, and nature will in that event take care of the morbid condition, disposing of the effused fluid by absorption. Water applications, massage, a spare but nutritious diet, and nothing stimulating or irritating to the nerves, are indicated by dropsy. The patient can best be treated at an institution, where all the appliances are convenient.

BEAUTY AND SELF-ESTEEM.—W. S.—The regard paid by society to beauty has a tendency to increase the organ of self-esteem in the beautiful person, if that organ is active; but approbateness is more likely to be stimulated and become very influential. We think that homely people, as a class, possess the larger self-esteem. Society accords them little respect unless they claim it through independent action and merit.

LARGE EAR-LAP.—B. J. C.—We are of opinion that this physical expression signifies, if anything, an abundant lymphatic circulation, that

conduces to fulness in the soft tissues. Those whose temperament is bony and muscular, have hard tissues, a moderate lymphatic circulation, and as a rule their ears have but little droop at the tip. A refined, high-bred organization may have a large ear or a small one, but it is usually well proportioned, and not hard and gristly; the earlap is soft and velvety, and the whole rim bordered with delicate cuticle. In our collection of casts are several heads of idiots, most of which have ears of very irregular shape, and small, but two or three of the worst specimens have well-formed and large ears.

WARTS.—H. S. J.—Care in diet, cleanliness, frequent and regular bathing in cool water will usually dispose of these annoying growths. They belong, in our opinion, to the anomalies of circulation, and the improvement of that through hygienic agencies will be remedial. Where the growth appears inveterate, touching them with a camel's-hair pencil or a feather wet with nitro-muriatic acid, may remove them. This should be done carefully, and not so as to produce a painful sore, but gradually to destroy the morbid tissue. Carefully paring down the loose granulations first, the acid is then applied. Some favor rubbing warts with muriate of ammonia, which may be efficacious unless the growth has become dense and hard.

PROFESSIONAL ENDOWMENTS.—J. G. N.—You will find the subject of organization and endowment in their special relation to pursuits of the "professional" class treated of more or less in the text-book of Phrenology. Fowler, Sizer, Drayton, and others point out the essentials to success for the lawyer, minister, physician, etc. The Self-Instructor and Indications of Character are the smallest books on the list of the Fowler & Wells Co., that give hints and suggestions on the subject.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

ONE MORE.—Newark, N. J., March 27, 1885. *Gentlemen:* With the two books you sent me as premiums I am highly pleased, and feel obliged to return my warmest thanks for them. Though the treatise on tobacco is of no individual profit to me, as I never was addicted to the habit in any form, it is very interesting, as it shows the effects so explicitly on persons who use it, and strengthens me in my odium for it.

But the "Diet Question" I can not appreciate enough, as I have drawn from its pages the most valuable information as to the eating of fruits with meals. I always was accustomed to eat fruit after a meal, thinking it would facilitate digestion, but now I see that fruit ought rather to be taken before meals. I tried the experiment the next day after

reading this hint, and experienced a decided feeling of improvement.

The perusal of your JOURNAL led me to abandon the use of condiments, coffee, and tea, with good results; but I used to drink milk in quantities of two and three quarts a day, until the appearance of an article on diet in regard to milk in one Number last year, which convinced me so fully of its unhealthfulness that I stopped drinking it, and felt and feel now better. I have adopted the two-meal system and think it is a good plan for me. Thus by following the dictates of your JOURNAL, and eating according to hygienic rules, I think that I have a sound mind and sound body. May everybody be blessed as I am by being a subscriber of the JOURNAL, is the sincerest wish of

Yours very gratefully,

E. S.

THINKS HE MADE A MISTAKE.—The following from a letter recently received from a Virginia correspondent speaks for itself with sufficient emphasis:

My present straitened circumstances may be due to the fact that I did not follow your phrenological advice given Jan. 11, 1876, from photographs that I had sent. You advised me to become a physician, a merchant or a mechanic. I have been trying to farm and preach. My health is now rather feeble, caused by over-anxiety and indigestion. I know not what my acquaintances think, but I feel like a failure. I am thirty-six years old, with a good wife and a charming baby, but I am very despondent. I fear it is too late under present circumstances, to follow your advice in business. What do you think? . . .

Whether or not I shall ever be able to help spread the teachings of Phrenology, I wish for the time when people will see its benefits to society, church, and state, and make provision for having it taught in the schools as one of the useful sciences.

I wrote some time ago that Phrenology had proved beneficial to me, but not as much as it would have done, had I known its teachings sooner. I still repeat the same fact. With my limited knowledge of its teachings, it has enabled me to mould the will of others in what I conceive to be a good direction. It has made me more charitable toward those who oppose what is right, while it has added to my belief in the power of proper training. Coupled with the Bible, it strengthens my faith in the "unseen things above." May its advocates stand side by side with ministers of the Gospel in their efforts to elevate fallen humanity! May the ministers themselves not be ashamed to borrow from its teachings in their efforts to apply the truths of the Bible to the conduct and consciences of the people!

J. A. J.

DREAMS, VISIONS, ETC.—Noticing some time ago an article in the JOURNAL on the "Phenomena of Immortality," in which great stress was laid on dreams, visions, presentiments,

etc., as proof of our close connection with the future state, has inspired me to say a few words on the subject of dreams. I do not deny the fact of there being a future state, or that we are not far from its borders; but I think that if the only proof we had of there being a hereafter was dreams, hallucinations of the sick, and of overstrained imaginations, we might as well close our church doors and live only for our worldly gratifications.

In past ages people were so superstitious that spirits shapeless and invisible were considered the cause of everything that was a little complicated. But in our age of enlightenment we lay nothing at their door, but try to give a reasonable cause for everything. It is true there are still a great many things that are hard to comprehend, but does that signify they are inexplicable? Have there not been a great many things unravelled that in past ages were thought to be as mysterious as these? For instance, thunder and lightning were thought by whole peoples to be a bolt hurled at the earth by the invisible hand of an angry God. The insane were once thought to be the abiding-place of devils, and were cruelly treated by their ignorant brethren for entertaining such enemies of mankind. Two hundred years or so ago in our own country our forefathers tried, condemned, and executed innocent girls for being witches and communing with evil spirits. Were these poor girls any more witches because popular sentiment thought them to be so?

We know that the more a man's mind is impressed with a subject, the more likely is he to dream of that subject, or some other closely allied to it; in fact, never was a person known to dream of a thing that never had occurred either in his imagination or in reality. Why doesn't a blind man who has been blind from birth ever dream of seeing, or a deaf man of hearing? Simply because they have no conception of seeing or hearing; therefore their imagination can not picture out anything by sight or sound, only in so far as it has been explained to them; consequently, in all the blind man's dreams he feels only and never sees; and the deaf man only sees and never hears.

I have often seen people who claimed to have seen angels or heard the voice of God, but in all such cases I find that they were deeply impressed with their religious convictions and sinful careers, and had suffered their imaginations to dwell on this one subject for days at a time, until they were in a half-crazed state, and while in this condition the apparitions made their appearance.

Our Southern negroes, for instance, see more strange things, and hear more mysterious sounds than all the other people of the Union. They are nearly all struck senseless on their conversion to Christianity, and claim to see revelations equal to and in some instances far surpassing the visions of Paul while in the trance state, and these trances always happen while at church or during a revival,

which convinces them that the hand of God is in it. I have seen as many as a dozen negroes jumping and shouting, and some lying about as though they were lifeless. Still no one gets hurt, and no one seems uneasy, for it is the Lord's work, and He will take care of His children.

The dancing Dervishes furnish another illustration of religious mania, and they even seem to lose all feeling, step on burning coals with bare feet, and lacerate themselves. To lay all this to the account of religion would be the height of ignorance or folly, and a slander on the truth and wisdom of God.

A writer in the *JOURNAL* states a case of a lawyer rising from his bed at the hour of midnight, writing a speech, going back to bed, and knowing nothing of it until his wife told him of his strange manoeuvres the next morning. The strangest part of this procedure to me is that his wife lay in bed, saw him rise at this untimely hour of the night, go to his desk and write a long and luminous speech, and still did not have curiosity enough to ask him what he was doing. She must surely have been an uncommon woman.

This may be entirely true, but how little confidence can we place in most of the remarkable stories published at the present day. Even the most reliable news-gatherers are not to be depended upon. They have no way of getting the particulars only as they are told to them.

About two years ago there appeared in a village paper not far from where I live, a statement that a certain lady of high standing had dreamed during the night that her son, who lived some two hundred miles away, was dead. It made such an impression on her mind that she awoke her husband and told him to go to the telegraph office, and find out if her son was well. The paper further stated that he went, telegraphed, and found that the young man had died at exactly the time his mother had the dream. This statement was published in the very town in which the gentleman lived, and was not denied, although it created much excitement.

Knowing the gentleman to be a man of high character, I felt constrained to make some inquiries, and learned these facts in the case: The gentleman and his wife both thought the paper made a true statement of the case with the exception that he met the messenger boy at his door instead of going to the telegraph office, which he thought of so little importance that it was not worth correcting. But on this minor item hinged the whole mystery. On finding the messenger-boy, he told me that he had not only knocked at the door for several minutes before any one awoke, but had called to the gentleman several times to open the door, as he had a telegram saying that Bob was dead. Finally he heard some stir in the room, and soon the lady began to call her husband, and the boy, thinking that they had heard him, said no

more until the gentleman opened the door, when he gave him the telegram and hurried away.

Now, what mystery is connected with this affair? The lady, like all others who are awakened out of sound sleep, had begun to dream before she was fully conscious, and in her dream she heard the boy call out that Bob was dead, which startled her, and, becoming awake and hearing nothing more, she decided it was a dream; still, it seemed so real that she awoke her husband, and told him, with the aforesaid result.

Had we half the intelligence that some of us think we have, we should find that there is nothing new or strange in most stories of presentiments, but that everything that we in our ignorance consider new, is nothing but a different combination of the same old elements that have existed from the foundation of the earth.

J. C. CALDWELL, M.D.

PERSONAL.

THE FUNERAL OF VICTOR HUGO was the occasion of a great concourse of people, all classes being represented. The poet bequeathed \$10,000 to the poor, and requested that his body should be conveyed to the grave in a pauper hearse, without any religious rites; but in the document containing this request Hugo asserts his belief in God.

MRS. HARRIET SMITH, of Tuckertown, Florida, has proved that a woman can run a saw-mill successfully. She did not enter upon the business from choice, but had lent money to others to start the mill. They failed, and the mill came into her hands. She removed the mill a distance of twenty miles, fording the Hillsborough River, and placed it near her own house. In a few days she had everything in good running order. She has her own teams and carts, takes timber from her own lands, employs only the best hands, and is making money.

DR. ALEX. M. ROSS, the naturalist and hygienic reformer, of Montreal, is agitating the vaccination question with great earnestness. In a letter to the *Daily Star* of his city he says: "I am in favor of thorough, incessant, and enforced sanitation. If our city authorities will give one-half the time and energy they now devote to calf lymph (?), politics and contracts, to thoroughly cleaning every lane, alley, street, and premises in the city, we may defy small-pox and other filth diseases. But there must be no half-way, spasmodic effort—it must be thorough. I am in favor of instructing the uninstructed in simple hygiene by the circulation of printed information of a simple, practical nature. Get the people interested, and self-preservation, if nothing else, will incline them to help the authorities in sanitary efforts. Wholesome food, pure air, plenty of water (free to the poor), personal cleanliness, are the scientific because natural safeguards against small-pox and other filth epidemics."

LIEUT.-COMMANDER H. H. GORRINGE, late of the United States Navy, died July 6, last, in New York, from an injury to his spine received accidentally last winter. Commander Gorringe was but forty-five, yet had seen a variety of service. Born in the island of Tobago, West Indies, of English parentage, he was destined for the English navy, but during the late war his sympathy led him to enlist as a sailor in the cause of the Union. He proved a gallant sailor, and was rapidly promoted. It will be remembered that he brought the famous obelisk, now in Central Park, from Egypt, having himself raised the fund necessary to pay the cost of its transportation to America.

LEOPOLD V. RANKE, the Nestor of German historians, has just entered upon his ninetieth year. Ranke ceased to deliver lectures in the Berlin University in 1872, and since then is devoting his whole time to historical investigations. Notwithstanding his age, he works with the energy of a beaver and the system of an expert scholar. Like Mr. George Bancroft he employs a number of amanuenses, who consult authorities for him, write down dictations, correct proof, and the like.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

A STRAIGHT line is the shortest in morals as in geometry.—*Rabel*.

IT takes a live man to pull up-stream, although a dead one can drift down.

A MAN's real treasures in this world are so few and small that he can carry them in his heart.

NARROWNESS of mind is one chief cause of obstinacy. We do not easily believe what is beyond our understanding.

HALF the sorrows of people would be averted if they could repress the speech they know to be useless—nay, the speech they have resolved not to utter.

If you fall into any great misfortune, disengage yourself as well as you can. Creep through those bushes which have the fewest briars, but don't be mean about it.

ROBES and fur gowns hide all. Place sin with gold and the strong lance of justice hurtless breaks; arm it in rags, a pigmy's straw doth pierce it.
—*Shakespeare*.

"I thought I knew I knew it all,
But now I must confess,
The more I know I know I know,
I know I know the less."

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

A CHICAGO firm advertised for a boy. On a postal card came this appeal:

"Mister: i want the job. mi fokes aint ritch an I got to rassle. it betes — how hard times is. im fourteen i can do chors an look well in store cloes. i want a good job in your ofis let me in!"

He got the job, and his employers say he can "rassle" well.

MRS. BLINKER asked Matilda, the house servant, a few nights ago: "What dreadful scratching is that out in the kitchen? It must be the dog trying

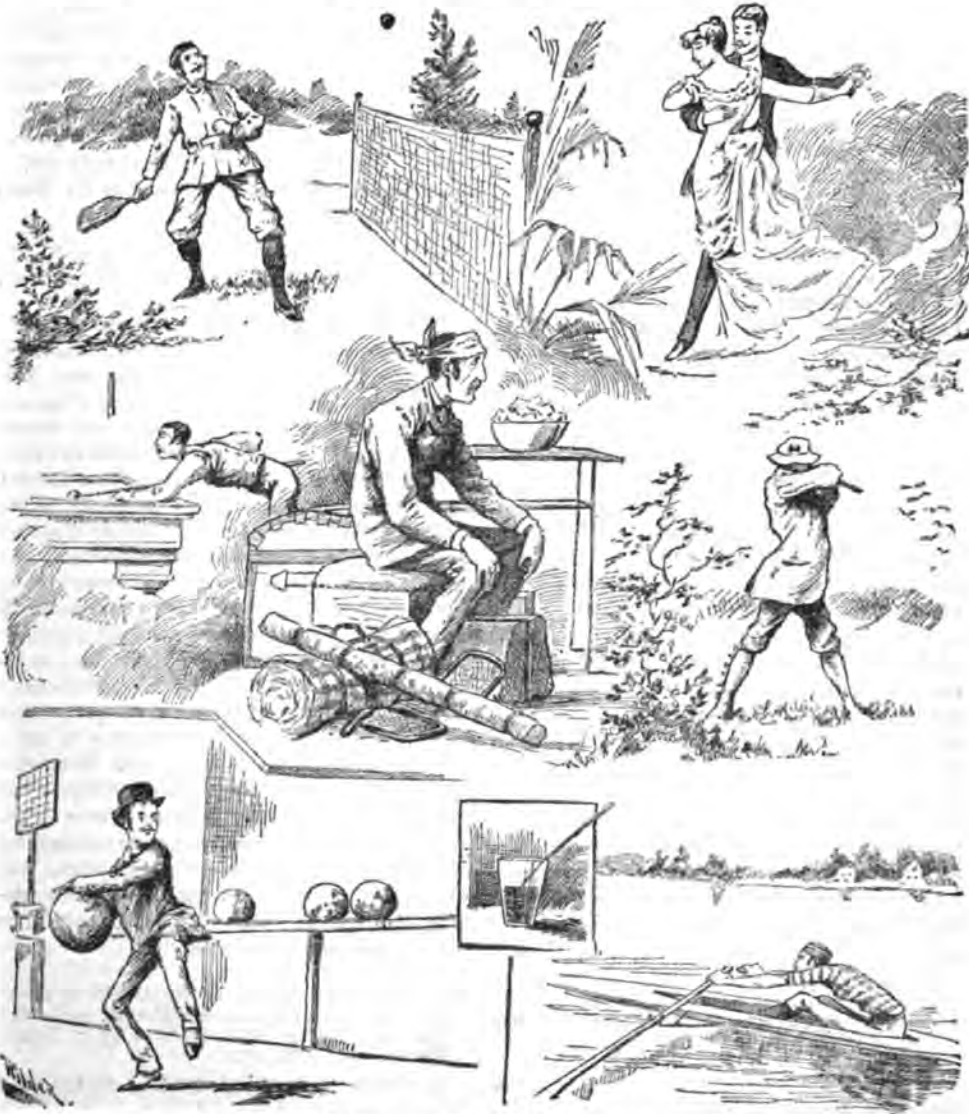
to get in. I never heard anything like it in my life." "Dat's no dog scratching de door; dat's de cook writin' a lub letter to her honeysuckle who works ober in Chatham."

MRS. DE POULTICE—"Oh! I am a firm believer in homœopathy and never think of employing old school physicians any more."

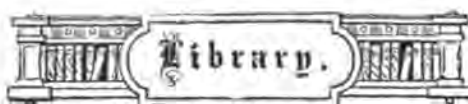
MRS. DE PINKS—"Well, I can't say that I entirely agree with you."

"But I thought you believed in it, because you told me you had a homœopathic physician for the children."

"Yes; it seems to work well with children, but still I don't place much confidence in it. When poor Fido was sick I sent for an allopath."



HOW CLARENCE ADOLPHUS SPENT HIS VACATION, AND THE RESULT.



In this department we give short reviews of such New Books as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

THE GERMAN PRONOUNCER. A new method of learning the German Language. The Correct Pronunciation of the German Language given in English Phonetic Characters. By M. A. and E. A. Henderson. Salem, Iowa.

When we hear of grammars or text-books of French or German for the instruction of English students that supply the pronunciation, we are usually disposed to regard the statement as a preposterous joke, or a plot to entrap the inexperienced, and forthwith proceed to inveigh against the impertinent malice of an author who dares thus to bid for patronage. Every one but a little acquainted with French knows the exasperating subtleties of the French *u* and *eu*; and they who have studied German know the difficulties of the termination *chen* and of diphthongal changes. In the title of the present manual we find a bold claim, "the correct pronunciation of the German language given." As our eyes dropped upon this a derisive smile curved our lips in the irregular lines peculiar to the effect of scornful incredulity upon the muscular apparatus of the mouth, but a further glance disclosed the connection "given in English phonetic characters," when the hard judgment of the lips relaxed, and the admission promptly followed—this may be; in phonetic characters judiciously selected we can approximate to the exact expression. An examination of the book shows that the authors have sought to carry into practical use this happy idea, and they should be credited with two effects of value to a student, imparting a definite knowledge of the vocal elements of the common alphabet—a matter that is much overlooked by teachers—and capability of pronouncing accurately one's own language as well as grasping with confidence the proper expression of foreign words. This book is for Germans to learn English. It is a good model for authors who prepare text-books for those who would learn German or other foreign tongues.

SHAKER SERMONS. Scripto-rational. Containing the Substance of Shaker Theology. Together with Replies and Criticisms. By H. L. Eads, Bishop of South Union, Ky. 8vo, pp. 271. Published at the office of the Shaker Manifesto, Shakers, N. Y.

Of that singular society, the Shakers, singular especially in pureness of character and sincerity of purpose, how little is really known, and yet how important an influence it exerts upon moral

thought! Very few realize what the Shakers are doing to exemplify the life of sacrifice and charity that is truly Christian. In this book we have a body of Shaker ethics from one who has spent his life from infancy with the people it represents. Certainly an experience of nearly seventy-eight years, during a considerable part of which Mr. Eads has been recognized as a leader, should invest him with capability to instruct the "world's people" in things pertaining to Shaker belief and practice. A harmonious temperament, superior endowments of mind, to which have been added excellent culture, render the author of these sermons worthy of our respect and confidence. But one has only to open and read a little in this book to be impressed by the earnestness and purity of the sentiment that pervades each sermon. Among the topics that receive consideration are "Harmony of Truth," "God Immutible," "Cause of True Happiness," "Perverted Amativeness," "Christ," "The Devil," "Analysis of Shakerism," "The Judgment of Sin." Mr. Eads is clear, logical, and forceful in his argumentation, and brings to bear much scientific skill in the analysis of religious dogma, and in the discussion of man's moral constitution.

JANS VEDDER'S WIFE. By Amelia E. Barr. Cloth. Price, \$1.25. New York: Dodd, Mead & Company.

A spirited story of life in the Shetland islands, the principal characters being Jans Vedder, his bosom friend Snorro, and his wife Margaret. Jans is an adventurous young sailor, between whom and Margaret arise feelings of bitterness and distrust that are strengthened by the selfishness and pride of the young wife's father. Separation follows, and then misfortune occurs to the young sailor's attempt to win independence on the sea; discarded by his wife, he plunges into dissipation, and in a brawl receives a severe wound. The timely coming of the physician of the town saves him from death, and then a romantic episode, in which a wealthy English nobleman figures, occurs, that leads to the rescue of Jans from the evil course he had desperately followed, and his later transfer to the quarter-deck of a British cruiser, with a commission to watch the slave trade on the African coast. Meanwhile Margaret is unfortunate in her home relations, and discovers that her absent husband is dear to her. At length he returns, and once more reunited, the husband and wife live happy in each other. The influence of Snorro's quiet, patient, religious character is graphically depicted, and, indeed, forms the central feature of the book.

THE MISSING LINK IN MODERN SPIRITUALISM. By a lady, Leah Underhill, of the Fox Family. Revised and arranged by a literary friend. 12mo, pp. 477.

In this volume we have a sketch of the history of Spiritualism in this country, in so far as its relation to table-tipping, rapping, and other phenomena are concerned especially. The Fox family, that became

so widely known because of its relation to these phenomena in the beginning, is fully described. In fact, the story of the Fox girls, who exercised peculiar powers in the exhibition of spiritualistic phenomena, is the chief element of the book. Fine steel portraits of them and their co-operators are supplied. One is struck by the close resemblance of the girls to their father, John D. Fox.

The author has endeavored to perform her work conscientiously. The editor in his note testifies to her honesty and sincerity in relating the various occurrences that are described. Those who are interested in the subject of Spiritualism, and would look into its early history in this country, will find this book an important aid. Many of the stories told by Mrs. Underhill of the doings of the spirits at Hydesville, Wayne Co., N. Y., are striking and often humorous. Not only were sounds heard at all times of the day and night, but on one occasion a member of the family while at the table arose from his chair and reached across for a heavy pitcher of water, when the chair was instantly removed and he sat down on the floor, spilling the water all over himself. They had stored apples and potatoes and turnips as usual in their cellar, but from the cellar these vegetable provisions came up "flying across the room and striking all in precisely the same place every time. These missiles had to come from the rear of the cellar through the door into the kitchen, through the kitchen up the stairs into the pantry on the second floor, through the pantry into the dining-room, up the second flight of stairs into the large room out where we slept, and there hit us as we lay in our beds near the front window. Often, to our utter amazement, pickets from the discarded lots in the cemetery came flying through the room over our heads on our beds like debris in a tornado. They came from a long distance of about four hundred feet." It is not wonderful that the whole country where the Fox family resided should have become greatly excited over such doings, and the days of Salem witchcraft had well-nigh been repeated with serious consequences to the Foxes.

THE HERCULES BRAND. By Arthur M. Cummings. 16mo, pp. 447. Price \$1.50. New York: National Temperance Society and Publication House.

The story is one that describes with vigorous touches some of the phases of intemperance, and that too without attempt at exaggeration. It is intended for young people, and well adapted to their entertainment and instruction. The title of the book is founded upon the trade-mark of a noted distiller of liquors; he was a good business man, and at first a moderate drinker, but as time wore on, temptation and habit overpowered his better nature, and in himself he experienced some of the troubles and sorrows of the drinking man. At length he was compelled to see the evils resulting from strong drink, and awakened conscience led him to abandon his very profitable business.

IMMORTALITY INHERENT IN NATURE.

By Warren Sumner Barlow, author of "The Voices," etc. 12mo, pp. 38. Fowler & Wells Company.

This poem deals with a great subject, and if not remarkable for genius, it is characterized by earnestness and feeling, here and there a quartet rising to the degree of grandeur. The key of the poem is printed on the title-page:

"One chain of causes and effects
Encircles nature's vast domain:
One universal voice proclaims,
All is and ever will remain."

One in reading the verses is impressed by a similarity of the vein of reasoning to Pope's Essay; if anything, Mr. Barlow's efforts indicate more fervency of veneration, and subordination to the ruling of the Divine One. The poem is distributed into five cantos: 1. The source of thought is eternal; 2. All effects are eternal; 3. Foreordination in harmony with Free Agency; 4. Design versus Chance; 5. Hope of the Soul.

RECORDS OF LIVING OFFICERS OF THE U. S. ARMY. Published by L. R. Hamersly & Co., Philadelphia.

This appears to be a very complete biographical encyclopædia of Army officers who are living. It embraces all the graduates of the Military Academy, or appointees from the ranks, or from civil life. The sketches appear to be very full for such a work.

PUBLICATIONS RECEIVED.

LABOR IN EUROPE. Letter from the Secretary of State showing reports from the consuls of the United States in relation to the state of labor in Europe. An interesting sketch of the condition of industrial affairs in Germany, France, Great Britain, Italy, Switzerland, Russia, etc., as regards the prices paid for labor, and the cost of different products of necessity. Several of the consuls' returns are detailed with much care, and are valuable in their bearing upon the important questions of social reform that now engage public attention. Mr. Frelinghuysen does not discuss contrasts, but the statistics as given by his correspondents are for the most part complimentary by way of comparison to the state of labor in the United States.

REPORTS from the consuls of the United States on the commerce, manufactures, etc., of their consular districts, No. 49, Jan. 1885; No. 50, Feb. 1885; No. 51, March 1885. Each of these is a considerable octavo volume, compiled from the investigations of our consuls in all parts of the world, as specially made under instructions from the State Department. They form a body of statistics on which legislation may be safely conducted, affecting the trade relations of the United States with foreign countries. However well informed one may deem himself with geography and the nations, a current reading of these reports will afford here and

there a surprise. The reader will learn of ports whose name may never have occurred to him before, and he will be astonished by the volume of foreign business transacted at some far-off or out-of-the-way place that he had deemed hitherto unworthy of notice.

REPORTS FROM THE CONSULS OF THE UNITED STATES, on agricultural machinery in their several districts, in answer to a circular from the Department of State, Dec., 1884. In many parts of the world primitive methods of agriculture are still in vogue. Even on the borders of our own country, in some parts of Mexico and Central America, there has been little improvement in the tools and implements employed by the natives. Many facts of this kind are noted in this compilation. The report of the consul at Osaka and Hioga, Japan, is accompanied with many illustrations showing how the Japanese plow, plant, irrigate, harvest, etc. The reports as a whole are worthy the attention of our farmers as well as farm-tool makers.

RELATIONS OF THE EDUCATED PHARMACIST TO THE PHYSICIAN. By George G. Needham, Ph.G., M.D. Read at the meeting of New York College of Pharmacy Alumni Association. Published by the Weekly Drug News, New York.

SECTARIANISM IN NATIONAL EDUCATION. From a speech delivered at the annual meeting of the British and Foreign Unitarian Association. With additions by Henry W. Crosskey, LL.D. London.

AN OUTLINE OF A MONEY SYSTEM. Based upon the commercial value of the precious metals. Comprising an analysis of the two laws which govern, first the amount of gold and silver available for use as money. Second, the amount of money required for business purposes. By Augustus F. Nagle. Fergus Printing Co., Chicago.

JOURNAL OF THE AMERICAN AKADEMÉ. A new solicitant for the notice of those whose minds are occupied with the deep things of being. Its main object is "to promote the knowledge of philosophic truth, and the dissemination of such knowledge with a view to the elevation of the mind from the sphere of the sensuous life into that of virtue and justice, and into communion with diviner ideas and natures." The editorial mantle is worn by Dr. Alexander Wilder, a fitting appointment which he can bear worthily. Published at Newark, N. J. Monthly. \$1 a year.

FIFTY SALADS. By Thomas J. Murry, author of "Fifty Soups." A little handbook for the convenience of our kitchen angels, that comes from what is deemed high gustatory authority. Mr. Murry having served an exceptional course of cookship at leading hotels in Philadelphia and New York, may be justly considered capable of administering by recipe to epicurean appetites. White, Stokes & Allen, New York.

THE JUVENILE TEMPERANCE WRITER, NO. 2. A collection of recitations and declamations in prose and verse, for use in Sunday-schools, Bands of Hope, etc. Edited by Miss F. Penney. Published by the National Temperance Society, New York, at 10 cents.

"MIND YOUR OWN BUSINESS." The National Temperance Society has just published a dialogue for six characters entitled "Mind Your Own Business," by Edward Carswell. It is bright, illustrating the fact that business men are affected indirectly by the liquor traffic, although they may not be drinking men. 3 cents each, 36 cents per dozen.

TEMPERANCE LESSON LEAF NO. 25 is a new and excellent little tract for use in Sunday-schools, by Dr. C. R. Blackall. It contains questions, notes, illustrations, and music. Price, 50 cents per hundred. Address J. N. Stearns, publishing agent, New York.

PRINCE SARONI'S WIFE, AND THE PEARL-SHELL NECKLACE, by Julian Hawthorne. Two stories that illustrate Mr. Hawthorne's literary power. Each is of a tragical cast, and the latter especially has at times a strong dramatic intensity. Mr. Hawthorne imitates his father in clothing his most tragical conceptions in simple and direct language, and by this means obtains an effect that reminds of the old spell of the "Scarlet Letter." "Prince Saroni's Wife" is the tale of an Italian prince, and "The Pearl-Shell Necklace" is a story of American life. Funk & Wagnalls' Standard Library, New York. Paper, 15 cents.

THE TWENTY-THIRD ANNUAL ANNOUNCEMENT of the New York Medical College and Hospital for Women, 1885-'86. This well-known and highly esteemed institution now offers the advantages of a three years' graded course to women who wish thorough instruction in the theory and practice of medicine. Evidently it is the aim of the management to graduate students who will be useful to society, and not merely what thousands who sport the annex of M.D. are—nominal physicians. Mrs. C. F. Wells, Vice-President, controls a few scholarships which she would dispose of at a reduction from the regular terms to young women of merit who are desirous of entering the medical profession. Address office of the PHRENOLOGICAL JOURNAL.

FROM the publisher of the NEW ENGLAND JOURNAL OF EDUCATION we have received several fine lithograph portraits, for which our acknowledgments are due; the names of the gentlemen represented are A. D. Mayo, William T. Harris, John Eaton, John Philbrick, and Francis W. Parker; the last is the staunch advocate or leader of what is known as the Quincy method, or the "new education." Of this we have had occasion to speak. The portraits all represent men of high mental calibre. Mr. Parker evidently is in earnest; he has a positive, energetic, aggressive organization.

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THE MARQUIS OF SALISBURY.

TWO MEMBERS OF THE NEW ENGLISH MINISTRY.

WHAT has been expected for more than a year past in political circles, but has come to pass apparently through the sufferance of the dominant party itself, is the retirement of the Gladstone or Liberal ministry from the head of

British affairs; and never before in the history of a European power has the transfer of government from one to another of the two leading and opposed political parties, at a time when questions of very great national and international

concern were under discussion, and popular feeling wrought up to a high degree of excitement, been attended with less disorder. The situation of affairs in Egypt, the Afghanistan difficulty, the complex problem of Ireland, rendered a change of the ministry a dangerous experiment, in the view of all public men whose experience was wide; but Mr. Gladstone and his associates gently stepped out of their places, and the Tories, with prudent hesitation, stepped into them. The most prominent man of this side, the Marquis of Salisbury, assumed the Premiership and organized a new ministry.

It can scarcely be expected that more than a mere comment will be expressed here with regard to the character and work of the Gladstone government during the years of its existence. This topic has been discussed at much length in the newspapers of the day. It suffices to say that, as the reader knows, the career of the Liberals, from the retirement of Mr. Disraeli, has been attended with great difficulties and obstacles, many of them a heritage of the Disraeli management—so brilliant in its procedures, so empty and inconclusive in its results. But, notwithstanding the embarrassments that crowded upon him, Mr. Gladstone's administration succeeded in accomplishing results that will stand in history as great triumphs in civil progress. The Land Act, for instance, was one of the boldest experiments ever made in any country to relieve an urgent popular need; and the Franchise bill, striking as it does at the old assumptions and privileges of the nobility, is a signal mark of the progress of the English people toward liberty and equality. To mention these is to point at accomplishments that involve reforms of a far-reaching and permanent character, and they much overshadow the mistakes and failures that have been made in its foreign relations, and which we are more than half inclined to excuse when we think of the "overmastering burdens" that the tremendous and unwieldy empire of England lays upon its chief officers.

THE MARQUIS OF SALISBURY.

In this fine face and head our readers will perceive the indications of strength, massiveness, harmony, and smoothness; the temperament, therefore, is eminently fitted to minister to health, a quiet force of character, continuity of laborious effort, and the ability to win success and command respect among men of eminent ability.

We do not see in that organization angularity, or specific positiveness, but rather general massiveness and momentum. The diamond cuts glass because of some sharp corner, and though the jewel be but as large as a mustard-seed, if it can be held in position it will plow a furrow through hard glass and serve the glazier's purpose; and there are some men who can do certain things with specific intensity, and make themselves known for that specialty, just as a corkscrew, or a saw, or a plane, or an auger, or a razor seems adapted to one special work; but not like the pocket-knife, adapted to forty functions.

The reader will observe a certain smoothness and mellowness in this face and head, that belongs to woman; and we have no doubt his talent, especially his ability in language, and intuitive perception, and knowledge of character, and power to soothe, mould, and lead the minds of others, come from the mother's side of the house.

We judge the brain to be large, and we notice that it is broad through, above and about the ears, indicating not only force, but policy, economy, financial ability, and wonderful constructive talent. The widening of the temples backward from the external corner of the eye, the rounded fullness as well as massiveness of that part of the head, shows that he not only could comprehend machinery, but other complications.

His Ideality and Cautiousness are large, rendering the upper side-head, from where the hair joins the forehead, and thence backward, full and broad. He will be conservative and yet brave; if he had

been called to the leading of armies, and educated for it, he would have made the world's history significant in that field.

The fullness of the forehead shows a good memory, great criticism; the massive prominence of the upper forehead, on a line running directly upward from each eye, shows comprehensiveness of thought, power of grappling with great subjects, and making his mark in fields where most men are failures. England

weak; he will be absolutely as well as nominally premier, and such an organization, with such opportunities as his, enables him to occupy a place not often second anywhere, and if he fail to make a successful administration, it will not be from the lack of talent, or power to carry knowledge that is useful and applicable to the case, but in consequence of circumstances which, perhaps, no man at present can fully control.



SIR STAFFORD NORTHCOTE.

has more than one grand man, though it has but one Gladstone.

Look at the fullness of that eye; how it is pushed outward and forward and downward, indicating masterly skill and talent in speech; if he is not able to negotiate diplomatically and use language that will be smooth and non-committal, yet clear and strong, then where were the use of pre-eminent language?

His head has good height, especially at Firmness and Self-esteem; he will believe himself to be master of the situation. He is not weak, nor does he feel

Robert Arthur Talbot Gascoigne Cecil, K.G., otherwise known as Marquis of Salisbury, Prime Minister, and Secretary of State for the Foreign Department of England, is fifty-five years of age. He is the eldest surviving son of the second Marquis of Salisbury, and was educated at Eton and Christ-church, Oxford, and was elected a Fellow of All-souls College in 1853. In the same year he was elected, as a Conservative, to represent Stamford, for which he sat until his succession to the marquissate in 1868. In 1866, in Lord Derby's third administration, he was Sec-

retary of State for India, which he resigned in the following year. He was appointed to the same post on the formation of the Disraeli administration of 1874, and four years later he succeeded the Earl of Derby, resigned, as Secretary of State for Foreign Affairs, and went out of office with the retirement of his party in 1880.

In 1881 he was elected to lead the Conservatives in the House of Lords. Until the death of his elder brother, in 1865, he was known as Lord Robert Cecil; then he assumed the courtesy title of Viscount Cranborne, and on the death of his father, which occurred in 1868, he became Marquis of Salisbury, and succeeded to the family estate of Hatfield. In 1871, with Lord Cairns, he acted as arbitrator in a long investigation of the London, Chatham, and Dover Railway Company. He performed important diplomatic service as Special Ambassador to the Sublime Porte, along with Sir Henry Elliott, in 1876-7; and soon afterward, with the Earl of Beaconsfield, he was sent as a representative of Great Britain at the Congress of Berlin. On their return from that mission they were tendered a grand reception at Charing Cross, and the Queen invested him with the Order of the Garter. Along with the Earl of Beaconsfield he was presented also with the freedom of the city of London.

The Marquis of Salisbury has not only taken an active part in all public measures of importance, especially such as affect the Church of England and its institutions, but he has also distinguished himself somewhat as a contributor to the press, especially to the *Quarterly Review*. In 1869 he was elected Chancellor of the University of Oxford, and he is a member of the council of King's College, London. An interesting and forcible speaker, he is considered one of the most versatile of living Englishmen in breadth of accomplishment. He finds relaxation in scientific studies, especially chemistry, as Mr. Gladstone finds agreeable diversion in his study of the classics. Hatfield, the

country-seat of the Marquis of Salisbury, is one of the most famous of the old country houses in England.

SIR STAFFORD NORTHCOTE.

Next, if not equal to the Marquis of Salisbury in popular reputation, among the Conservatives, is this gentleman, and his portrait indicates a strong vitality, great natural positiveness, and excellent health. He should be a man of definite opinions, with a disposition to stand on his own centre and push his cause in straight lines.

We fancy it would be exceedingly difficult for him to make a circuitous or serpentine course; when a mill-saw is set to cut through a log, it travels straight from the beginning to the end of the log, and if Sir Stafford does not pursue a similar course, not often stopping to conciliate the grain or the curving of public sentiment, then we misjudge him.

There can be no doubt of his honesty, of his stubbornness in the direction of Firmness, of his pride and dignity through Self-esteem, and of his strong desire to triumph through Approbateness, Self-esteem, Firmness, and Combativeness. It does him good to win a victory, and to do it in a straightforward way; there is nothing surreptitious, insinuating, bland, indirect, but much that has the right onwardness, of frank earnestness and determination, a consciousness that he is right and that most other people are wrong.

We doubt if he is a very comfortable man to work with, unless he can lead, and have those with him who naturally look at subjects through a medium similar to his own. If he were a cavalry officer, and could lead the charge, those trained to act with him, and fired by a similar ambition, would follow their leader, and he would do terrible execution where he concentrated his force; we suppose he would inspire his followers in any cause, with an idea that he was capable of battering down the opposition, that where his battering ram was

used the walls would be most likely to yield; hence he must have a great deal of personal popularity where straightforward force is required to be employed.

He has large Benevolence, and wonderful talent to judge of character; is quite intuitive in his judgments, quick and decisive, rarely takes the persuasive, but generally the potential method, and people who want to win him to their side, or control his action, will generally begin by suggestive persuasion; few persons undertake to say what must be till they find out what Sir Stafford would be likely to accept as the appropriate thing to do. People who have the right to command him frequently say, "Well, Sir Stafford, how does the thing look to you? What would you propose?" and he generally has a proposition, and inclines to bear some such relation to other men that the coulter of the plow bears to the plowshare, going ahead to mark the way, and cut the obstructions, while the other follows to complete the work which has been outlined.

He has an excellent memory, great criticism, strength of thought and sincerity of purpose, but so dominant a will and so definite a type of thought, that it is difficult for him to wait for the working of other minds, and to modify his own purposes so as to glide into their line of thought without suffering from being obliged to yield; or, on the other hand, chafing his associates because he can't yield to their views.

He is a natural leader, but he leads by directness, by individualism, more than by smoothness or policy or persuasion.

Sir Stafford Henry Northcote, First Lord of the Treasury in the new English Cabinet, is the eldest son of the late Henry Stafford Northcote, Esq., and was born in London in 1818, succeeding his grandfather, the seventh baronet, in 1851. He was educated at Eton and Oxford, and after graduating with credit, took up the study of the law. In 1847 he was called to the Bar of the Inner Temple and appointed Legal Secretary to the

Board of Trade, presided over at that time by Mr. Gladstone, to whom he had previously acted as private secretary.

In 1851 he was one of the secretaries for the Great Exhibition, and in recognition of his services in that capacity he was created a (Civil) Companion of the Bath. From January to June, 1859, he was Financial Secretary to the Treasury, and was appointed President of the Board of Trade under Lord Derby's third administration in 1866, when he was made a Privy Councillor. From March, 1867, to December, 1868, he served as Secretary of State for India, and became Chancellor of the Exchequer when the Conservative Government came into office in February, 1874.

Sir Stafford was one of the Special Commissioners to the United States in 1871 to arrange the *Alabama* Treaty, also Deputy Lieutenant and Justice of the Peace for Devonshire, and has been Captain of the 1st Devon Yeomanry Cavalry. He commenced his Parliamentary career in 1855, when he was returned for Dudley in the Conservative interest. Two years later he unsuccessfully contested the Northern division of the County of Devon, but in 1858 was returned to the House as member for Stafford, which he continued to represent until May, 1866, when he was elected for North Devon, the constituency which he still represents. He has always taken a deep interest in art and education, and is the author of "Twenty Years of Financial Policy," 1842-61, published in 1862, and his qualifications for the post he now occupies are such as render him one of the best men in the Conservative ranks.

To men with but very rare exceptions right-doing is first hard, then easy, then delightful. Such is the history of the development of each virtue in the race and in the individual. Its beauty may be hidden in the root of self denial and effort, but it comes into full bloom when at length the effort has grown into a pleasure that we would not willingly forego.

ON INDICATIONS OF CHARACTER IN HANDWRITING.

CHAPTER II.

OBJECTIONS AND CAUTIONS.

THAT many objections are raised against the science of graphology I am well aware, and it will be my pleasant task in the present chapter to answer all those I have hitherto met with, and deemed worthy of reply.

1. Changes of writing. An objection that has been considered a serious one is thus presented: "We know that the boy writes a very different hand from that of

fellow as "one of his most beautiful works," was finished. Fig. 1 is part of a letter written at school, and Fig. 2 is an original song written for some private theatricals which were given in his own family, when he resided at Alphington, near Exeter, in 1842. Now, while to the careless observer there may be but little likeness existing between Figs. 1 and 3, yet a careful study of all the specimens can not fail to discover the great similarity in their general features. Fig. 3, however, written in those dark days of sick-

Tom
I am quite ashamed I have not returned your leg but you shall have it by Harry tomorrow if you would like to purchase my Clara you shall have it

at a very reduced price
cheaper in comparison than a Leg.
Yours &c
C. Dickey.

a wooden leg. I have weighed your every Saturday Night

pp I suppose all this time you have had

(No date, but was written in latter part of 1825.)

Fig. 1.—DICKENS' HANDWRITING WHEN A BOY.

the man, and all through life a modification at least—if not a marked change—is taking place in the general contour of the writing."

This is perfectly true, but in reply the reader will permit me to call his attention to the three accompanying specimens of the writing of Charles Dickens:

Fig. 1, was written when a boy of 13 years; Fig. 2, when 21; and Fig. 3 is a cramped-up specimen found within the pages of one of his other manuscripts, shortly before his death. This latter is a scene for Edwin Drood, but never introduced, for the hand of death seized the writer ere that book, described by Long-

ness and weariness, when the brain was over-taxed and the body enfeebled by that exhausting course of readings which undoubtedly hastened the great novelist's end, bears evidence of languor and mental depression, in the downward tendency of the lines, and the greater number of stops occurring in the formation of the words. Compare the word "Comparison" in Fig. 1, with any of the words in Fig. 3 and it will be seen that where "comparison" is written with but two removals of the pen, almost each word in Fig. 3 has several. In Fig. 1, the upward tendency of the lines—in marked contrast to Fig. 3—denotes that ambition

which though boyish was the precursor of Dickens' fame and power. This boyish writing also possesses the same graceful curls in the capitals,—the same original method of writing the letter "s," and the same nervous energy, that are revealed in Figs. 2 and 3. The indications, therefore, clearly are—that while Dickens' character developed, it remained in its main features the same. And the graphologist wishes no greater proof of the truth of his science than that displayed in these three specimens. In Figs. 1 and 2 the dominant ambition is as clearly shown, as it is known to have existed. In Fig. 3, the same general characteristics remain, but the force—the ambition—are quenched, and in their places are languor and depression.

So that the reader is prepared to be informed that in order to gain a complete and intelligent knowledge of character from handwriting, specimens should be given, written at different periods in the life of the person whose character he wishes to ascertain. For, in the words of Miss Baughan, "As a man is advancing in his career, as he takes up a new position, or is led away by some dominant passion, the handwriting takes, in some degree, the forms typical, according to our theory of these changes." The graphologist has but to consider carefully these different specimens, to be able almost invariably to point out the time at which the character developed into the typical form of success or the reverse.

Dickens' is an unusual writing, inasmuch as the later specimens reveal little, if anything, that is not contained in the earlier specimens. They simply denote development; and from a careful study of his character as presented by the most able writers, his life was the exact "fact"

of which his writing is an evident counterpart.

2. Objection two arises from the supposition that the sentiment expressed in a letter will oftentimes lead insensibly to an erroneous judgment formed upon those sentiments, which may be assumed and false. But such is not the case. A

"Sole - Cashio
 "When in death I shall calm recline"
 "When in death I shall calm recline;
 When in death I shall calm recline;
 Of! take me home to my friends dear;
 Tell her I've taken a little more wine;
 When I could carry, or very well bear;
 "

FIG. 2.

graphologist no more forms his opinion from the expressed sentiment of a letter than a judge does from the bare word of a prisoner. As soon expect a phrenologist to delineate character from a few spoken words, without reference to the cranial structure, the temperaments, etc., as to suppose the graphologist would attempt to do the same thing from the

will servilely copy, without any personal characteristics whatever. Such copying is *prima facie* evidence that ambition, self-will, and assertion are wanting in the character, and therefore no proof against the science. But the fact remains that seldom will you find the handwriting of two children under the same master exactly alike. In order to again test the matter, I have left my study to go to the public school of the town in which I am now residing. In the grammar room there are some 25 pupils—ages ranging from 12 to 20. The principal is an old and experienced teacher, with more than usual influence over his scholars. I had the whole school write name, age, and the two lines given. Here are fair specimens of the generality of the work: One (Fig. 4) is that of a girl of 16, and the other (Fig. 5) that of a girl of 17. Fig. 6 is a good sample of the general handwriting of the teacher. None others of the papers handed in are so near that of the principal's as these two, and yet these are markedly different in general features to his.

I am well and personally acquainted with both teacher and scholars, and from a careful study of them in school, at home, and abroad, can estimate their characters with some degree of accuracy. And these are clearly shown in the handwritings. Fig. 4 denotes the possession of a careful, though bold and determined mind when fixed upon any object. Slow she is, yet sure and certain in judgment if time is given for full consideration. And still there is gentleness and tenderness, combined with a retiring, unassuming spirit that would render her almost unapproachable to any but those who have gained her entire confidence. Fig. 5 reveals an indecisive, rather careless, indifferent character, who feels and realizes her want of self-reliance. Some tenderness is displayed, even more than in the preceding character, but it is not to be relied upon. There would be vacillation and indecision manifested when the moment for decisive and prompt action came. Now if these writings (Figs.

4 and 5) are compared with that of the teacher (Fig. 6), it will clearly be seen that his writing has influenced theirs in but the slightest degree, for there is scarcely one mark of similarity. And so with the handwritings of all these boys and girls. No two are alike,—all are distinctively peculiar; hence in this instance, at least, objection three falls to the ground. And,—as I shall endeavor to prove in answering the next objection, which is similar to the one we are now considering,—there can be no question that if originality of character exists, it will assert itself in spite of all the cramping and dwarfing influences of our present methods of teaching writing.

4. The fourth objection stands upon the same ground as the former one. Men are naturally imitators, and it is impossible to prevent this universal faculty asserting itself in the matter of handwriting. This to a certain extent is true, but not so much so as to destroy the evidences of great mental differences existing between "imitated" and "imitator." On the other hand, should a handwriting be so perfectly imitated as to show no trace of difference, then the character as applied to the writing of the "imitator" must be assumed not to belong to him, but to the "imitated." I may, however, venture to assert with safety, that in the autographs of all men and women of character,—our original thinkers, novelists, statesmen, warriors, etc.,—no person can find the slightest trace of any copying of the handwriting of others. Each one has a "style" peculiarly his own, and the styles are as varied as their respective facial features. Yet, as the features,—widely different though they be,—are capable of a general system of interpretation, so likewise are the general and varied styles of handwriting.

5. The fifth objection arises from the fact that our handwriting is always influenced to a greater or less degree by peculiar conditions of the body existing at the time of writing. For instance, when one is suffering from cold, the writing will be entirely different from

that of the same writer when he is excessively heated. The one is cramped and stiff—the other languid and indolent.

True; but this is no real objection to the science, for is it not apparent that

given from writing bearing traces of such conditions. A reference to the remarks made upon Fig. 3 will fully explain my present meaning.

Objections answered, a few CAUTIONS

*Sink or swim, live or die, survive or perish.
I give my hand and my heart to this note.*

FIG. 4.

these are abnormal conditions, which it is fair the graphologist should know if called upon to exercise his art? The physiognomist is not supposed to give an accurate delineation of character from a face all twisted up and distorted with pain, nor the phrenologist from a head which has been subjected to a "bruising" process in a free fight. The head and the face must be in an approximately normal condition before either physiognomist or phrenologist can delineate character, and exactly this and nothing more does the graphologist require in order to do the same thing from handwriting. To diagnose accurately a disease the physician will be materially helped at all times to know the various mental, physical, and even spiritual conditions of the afflicted person; and in many cases it is absolutely necessary that he should know. And it is to a clear perception of the effect of these conditions upon the body that he owes his skill in finding out the disease and in knowing what remedies to apply. So with the graphol-

must be given, and then to the expression and illustration of our theories.

Caution I. Seldom do we know the true and inward character of even our most intimate friends, hence it often happens that the writing being more frank and open than the perceptions of the friends are keen, the latter are inclined to dispute sometimes even an accurate judgment. Yet the individual judged will often acknowledge the existence of mental characteristics which the most intimate friends will deny. Here is an exact case in point. An eminent graphologist in concluding her estimate of character from a specimen of handwriting said, "The affections are warm and faithful, *but somewhat jealous.*" A most intimate friend of the person whose affections were thus described—a woman of deep sympathies and keen intelligence; possessed of an intuition that gave her control over the minds of hundreds of most cultivated men and women of England—in commenting upon the italicised words, thus expressed herself: "I can't believe that

*Sink or swim, live or die, survive or
perish.
I give my hand and heart to this
note."*

FIG. 5.

ogist. A person of little perception can never be a true delineator of character from handwriting. Peculiar conditions must be known and their effects understood ere correct delineations can be

this is true of you." My friend, however, acknowledged that the delineation was accurate, and explained the matter as follows: Knowing the evils of a jealous disposition, he had always retired to his

own and now, when affected by it, in active sympathy the feeling, and furthering in man or others from discerning domestic animals it was so "disgraceful to his had a troop

The who callation No. 1 is: "Do not harshly _____ the decisions of the graphologist, given upon certain writing, until due care has been exercised to discover the truth as to the inward character of the writer."

Caution II. Do not always expect a perfect delineation from a bare autographic signature, or the presentation of a few lines alone. These may not always give scope enough for a proper exercise of the graphologist's skill. The predominance of one letter showing certain characteristics, may lead to a conclusion which would have been modified had the writing contained other letters bearing indications of entirely opposite traits of character. For, in determining with any degree of accuracy all the formations must be noted, and a balance struck if two or more contrary indications are in the ascendancy.

Caution III. Do not present any writing for examination which has been executed under abnormal conditions—such as hurry, weariness, undue excitement, etc.—and expect to receive a perfect delineation. The proper conditions are ordinary health, no excitement, the body in repose, and the mind in its normal condition. These are essential to a true and complete description of the general character. And yet graphology will clearly reveal even these abnormal conditions when they exist, and point out the most fugitive feelings and sensations. But the error consists in taking these delineations given from an abnormal writing; and condemning the science that discovers these peculiar conditions, and bases its judgment upon them, because the character given is *not* the general and habitual character of the writer.

Caution IV. In submitting writing to the graphologist, it should be free from any stiffness or formality. That is, no person should write a letter expressly for

the purpose of sending to the graphologist for delineation. The best specimens are those found in crude MSS., or some part of a letter written to a friend in the general state of feeling in which the writer lives. For, although our conditions in life are not always the same, when character is at all established, the main body of our writing is likewise established. So much so, that whilst revealing transient emotions, etc., the background of the character stands out clearly and boldly in all that is written.

Caution V. The writing with different pens, on different papers, will make a wide difference in indications in the handwriting of many persons. For instance, one used to writing with a broad-pointed J pen, on coarse paper, would not write naturally with a fine pen on a smooth-surfaced paper. Although there would be much in common in both writings, there would still be enough variation to lead the graphologist in many cases to change slightly the delineation, and attribute a stiffness and constraint that did not really exist except at the moment of writing. This fact should be remembered in submitting handwriting to the graphologist for delineation.

Thus have I gone over the objections and cautions somewhat prolixly, that no

*Think or write, live or die, become
or become, & give my heart and my
heart as this one.*

FIG. 6

person may deem me rash and enthusiastic upon a subject to which I have given little thought. I would far rather see an objection, even though I could not explain it, than unreasoningly assume any position to be true without proper investigation and thought.

"But," says the critic, "if all these cautions are to be borne in mind, it will be an impossibility for me to determine character from the handwriting of a person who is an utter stranger to me, of whose physical and mental condition I know nothing!" This may be quite true; study is required ere facility is gained in grasping the requirements and applying them. And I would further point out the great difference between an accurate delineation of character given with all the cautions observed, and the approximately correct delineation given under the circumstances named by the critic. It would be manifestly unjust to accuse a physician of want of knowledge

and skill if he were to ~~sign~~ ^{sign} ~~his~~ ^{his} ~~own~~ ^{own} ~~name~~ ^{name} ~~on~~ ^{on} ~~the~~ ^{the} ~~letter~~ ^{letter} ~~written~~ ^{written} ~~by~~ ^{by} ~~the~~ ^{the} ~~author~~ ^{author} ~~of~~ ^{of} ~~these~~ ^{these} ~~sketches~~ ^{sketches} ~~although~~ ^{although} ~~an~~ ^{an} ~~expert~~ ^{expert} ~~in~~ ⁱⁿ ~~handwriting~~ ^{handwriting} ~~does~~ ^{does} ~~not~~ ^{not} ~~publish~~ ^{publish} ~~them~~ ^{them} ~~for~~ ^{for} ~~the~~ ^{the} ~~purpose~~ ^{purpose} ~~of~~ ^{of} ~~inviting~~ ^{inviting} ~~people~~ ^{people} ~~to~~ ^{to} ~~send~~ ^{send} ~~him~~ ^{him} ~~specimens~~ ^{specimens} ~~of~~ ^{of} ~~their~~ ^{their} ~~penwork~~ ^{penwork} ~~on~~ ^{on} ~~the~~ ^{the} ~~contrary~~ ^{contrary} ~~he~~ ^{he} ~~would~~ ^{would} ~~expressly~~ ^{expressly} ~~have~~ ^{have} ~~it~~ ^{it} ~~understood~~ ^{understood} ~~that~~ ^{that} ~~he~~ ^{he} ~~does~~ ^{does} ~~not~~ ^{not} ~~wish~~ ^{wish} ~~to~~ ^{to} ~~receive~~ ^{receive} ~~any~~ ^{any} ~~applications~~ ^{applications} ~~of~~ ^{of} ~~the~~ ^{the} ~~kind~~ ^{kind}.—EDITOR P. J.

and skill if he were to ~~sign~~ ^{sign} ~~his~~ ^{his} ~~own~~ ^{own} ~~name~~ ^{name} ~~on~~ ^{on} ~~the~~ ^{the} ~~letter~~ ^{letter} ~~written~~ ^{written} ~~by~~ ^{by} ~~the~~ ^{the} ~~author~~ ^{author} ~~of~~ ^{of} ~~these~~ ^{these} ~~sketches~~ ^{sketches} ~~although~~ ^{although} ~~an~~ ^{an} ~~expert~~ ^{expert} ~~in~~ ⁱⁿ ~~handwriting~~ ^{handwriting} ~~does~~ ^{does} ~~not~~ ^{not} ~~publish~~ ^{publish} ~~them~~ ^{them} ~~for~~ ^{for} ~~the~~ ^{the} ~~purpose~~ ^{purpose} ~~of~~ ^{of} ~~inviting~~ ^{inviting} ~~people~~ ^{people} ~~to~~ ^{to} ~~send~~ ^{send} ~~him~~ ^{him} ~~specimens~~ ^{specimens} ~~of~~ ^{of} ~~their~~ ^{their} ~~penwork~~ ^{penwork} ~~on~~ ^{on} ~~the~~ ^{the} ~~contrary~~ ^{contrary} ~~he~~ ^{he} ~~would~~ ^{would} ~~expressly~~ ^{expressly} ~~have~~ ^{have} ~~it~~ ^{it} ~~understood~~ ^{understood} ~~that~~ ^{that} ~~he~~ ^{he} ~~does~~ ^{does} ~~not~~ ^{not} ~~wish~~ ^{wish} ~~to~~ ^{to} ~~receive~~ ^{receive} ~~any~~ ^{any} ~~applications~~ ^{applications} ~~of~~ ^{of} ~~the~~ ^{the} ~~kind~~ ^{kind}.—EDITOR P. J.

opinion, based, however, to the remarks letter written by the ~~fully~~ ^{fully} ~~explain~~ ^{explain} ~~my~~ ^{my} ~~disease~~ ^{disease}, and no ~~pl~~ ^{pl} ~~ould~~ ^{ould} venture to assert that, a few CAUS of a character would be per ~~ere~~ ^{ere} ~~were~~ ^{were} ~~allowed~~ ^{allowed} a photograph of ~~en~~ ^{en} ~~which~~ ^{which} ~~to~~ ^{to} gauge his judgment. ~~Se~~ ^{Se} ~~with~~ ^{with} ~~the~~ ^{the} ~~graph~~ ^{graph} ~~ologist~~ ^{ologist}. All things being equal, he can delineate character from the handwriting as accurately and as perfectly as the physiognomist or phrenologist, or as surely as the physician can diagnose a disease. But, under restricting conditions, his opinions and conclusions must be considered as being thus restricted, and criticisms made accordingly.*

REV. GEO. W. JAMES, F.R.A.S., ETC.

* NOTE.—The reader need not be informed, we presume, that the author of these sketches, although an expert in handwriting, does not publish them for the purpose of inviting people to send him specimens of their penwork; on the contrary, he would expressly have it understood that he does not wish to receive any applications of the kind.—EDITOR P. J.

MRS. DR. J. C. LORD.

MARY ELIZABETH JOHNSON LORD, better known to the world as Mrs. Dr. John C. Lord, was born in Buffalo, N. Y., Jan. 6, 1812, and died in her native city May 26, 1885. She was a daughter of the late Dr. Ebenezer Johnson, who was closely identified with the founding and early history of Buffalo. Dr. Johnson was an army surgeon in active service when the village was burned by the French and Indians, and his wife with her child escaped to Williamsville until the safety of Buffalo was secured. Later Mrs. Johnson did noble work in caring for the wounded officers left in Buffalo. "Baby Mary" was frequently taken in charge by Winfield Scott while her mother prepared food for the suffering soldiers.

Mary was educated at Miss Willard's school, Troy, N. Y. As an incident of her school life, she pleasantly recalled in after-years a reception given by Miss Willard to La Fayette, at which she was gal-

lantly kissed by the venerable marquis because she was the smallest of the girls.

In 1828 Mary E. Johnson married John C. Lord, a young lawyer of high promise. Two years thereafter Mr. Lord, to the surprise of his friends, gave up an excellent law practice and studied for the ministry. Completing his Scriptural studies, he accepted a call to the Central Presbyterian church, where he was pastor for forty years. Dr. Lord was a man of marked talent and broad charity. Mrs. Lord often said merrily that she "married a lawyer and could not be held to the responsibilities of a pastor's wife." Nevertheless she did most acceptable work in that capacity. Loving and beloved, her opinions were canons of authority with her husband.

Mrs. Lord possessed strong individuality. Generous, just, and loyal, she made no effort to obey regulation methods, but was strikingly original. The wit, humor and freedom which characterized her

speech and movements were always in active sympathy with every form of suffering in man or beast. Her interest in domestic animals was intense. She always had a troop of pets about her. A friend who called at Oakwood with a

you have brought into the library!' 'Dr. Lord,' she replied with a ready smile, 'you know there are only fourteen dogs on the place, and that is not to be complained of.' It is needless to add the dogs remained in company."



gentleman from abroad who wished to pay his respects to Dr. and Mrs. Lord a few years ago, relates: "When Mrs. Lord entered the room she had four pets in attendance. Dr. Lord, more than willing to excuse the dogs in waiting, remarked to their mistress: 'Dear, what a troop

Mrs. Lord was a woman of positive convictions, indomitable energy, vigorous intellect, and sound judgment. A close adherent to her own opinions, she accomplished broad, individual work. She gave freely substantial aid and expressions of loving sympathy to all God's

creatures. Her house was a charity station for man and beast. Blessed with ample means, she was enabled to carry out great charitable designs. She aided in the organization of orphan asylums, established on her own grounds in Buffalo a tent for religious Sabbath service which was kept up several summers for the benefit of the poor and infirm of the neighborhood. She gave the little street arabs of two generations delightful rides beside her in the carriage or on Shetland ponies, of which she had a number, but she will perhaps be remembered longest for her distinctive care of dumb animals.

Years before Mr. Bergh organized his humane society, Mrs. Lord had assumed the watchful care of domestic animals. She never saw an instance of cruelty without rebuking it, and has sometimes sat by the roadside for hours to prevent a rough teamster from beating his overladen horses, or to persuade him to lessen their burden. She organized a branch of the American Society for the Prevention of Cruelty to Animals in 1867. Of this Buffalo branch ex-President Fillmore was elected chief officer, and at his death Mrs. Lord became president of the society. For twenty years she was its active head, laboring untiringly and faithfully in the cause. At the time of her death she was honorary president of the society, having refused on account of her advanced age to be longer the responsible administrator of its affairs. She was also vice-president of the American Humane Association, an honorary member of other anti-cruelty societies, and in 1882 received a "diploma of honor" from the Humane Society of Turin, Italy.

Horses and dogs were Mrs. Lord's es-

pecial pets. With her Shetland ponies we have had long acquaintance through the press. Her beautiful home, Oakwood, was shared freely with all wanderers. Friendless dogs were given luxurious comforts, receiving at her will ponderous or quaint names. Beside her in the plate accompanying this article is "Grandfather Smallweed." His companions, to whom we have been introduced, are "Julius Cæsar Augustus Baum," "Beelzebub," "Napoleon Bonaparte," "Peggoty Muggins," "Cricket," "Periwinkle," and others. The ponies are among the finest in the land. We recall with pleasure "Charley Wood," "Agnes Ethel," "Dame Cecelia," "Florence Jarves," and "Myra Shung." A number of the animals were kept at "Bay View," her stock farm on the lake.

In the valuable library at Oakwood, the oldest work of which was a vellum manuscript of 1320, Mrs. Lord had gathered carefully everything that has been printed in our language relating to the fidelity and higher training of animals, seeming to have had greatest delight in noting and studying the instincts of the brute creation.

Dr. Lord died in 1877. Their only child became Mrs. Sherwood many years ago. Mrs. Lord's illness was painful. But with faith in futurity, and feeling her days of active labor were over, she turned willingly from earthly interests to higher rewards. She was unselfishly thoughtful of others until the last. All who knew the loving, noble, broad-souled woman can not but mourn that such a life, even in its rounded fulness, must go out. The world is richer that she lived, and poorer that she died.

MRS. S. L. OBERHOLTZER.

DECISION OF CHARACTER.

WITHOUT it, no man or woman was ever worth a button, nor ever can be. Without it, a man becomes at once a good-natured nobody; the poverty-stricken possessor of but one solitary principle, that of obliging everybody un-

der the sun, merely for the asking. He is like the judge who uniformly decided according to the views of the closing speech. Having no mind of his own, such a man is a mere cipher in society, without weight of character, and utterly

destitute of influence. Such an one can never command the respect or even the esteem of men around him. All that he can command is a kind of patronizing pity. The man to be admired, respected, feared, and who will carry multitudes with him, whether right or wrong, is he who plants his foot upon a spot, and it remains there, in spite of storm, or tempest, or tornado: the very rage of an infuriated mob but gives new inspiration to his stability of purpose, and makes him see that he is so much the more of a man.

Then again, what a labor-saving machine is this "*decision of character*," this close-pressed lip, in all the departments of life; the infant of a year knows its meaning well: children see it with intuition. Servants, the dullest of the dull, the veriest flaxen waddler, a week only, from "Fader Land" learns it at a glance. Why! this *decision of character*, this firmness of purpose, pays itself in any walk down Broadway. The little *match-*

girl doesn't repeat, *Matches, please?* The ragged crossing-sweeper doesn't take the pains to run half across the street after you; he knows better. Your own child does not repeat its request, however anxious to have it granted, and wifey herself soon learns "it's no use knocking at the door any more," if the first tap does not gain admission.

Then again, what a happy deliverance it is from that state of betweenity, which is among the most wearing of all feelings. Why, half the people don't know the luxury of having made up one's mind irrevocably. What an amazing saving of time it is, of words, of painful listening to distressing appeals. Why, it is a positive benefit to the persons refused, for it enables them to decide without an effort that further importunity is useless. But, my brother, see to it that your decisions be always right, first; and to guarantee that, you must have a sound head and a good heart.

UP FOR THE RIGHT.

THE world, like men, should wiser grow,
For it is growing gray with age;
And age should wisdom bring, you know,
Since stern experience is a sage.

By each mistake the world has made,
By all the knowledge men have gained,
A firmer basis should be laid,
For right 'gainst wrong to be maintained.

That wisdom has for years retained
Increasing sway we must admit;
Shall aught be lost of all obtained?
Shall hoary error, truth outwit?

The learning of the past earth owns;
It may command the law divine.
Why shall it not in clearer tones
The proper course for man define?

By every error men commit,
By all the failures they recount,
By each misfortune time has writ,
The earth may add to its account.

In proper channels truth may flow
To rinse the dust of prejudice
From thoughts and actions here below,
And waft us to the age of bliss.

The many heroes in our ken,
As Luther, Fulton, Goodyear, Morse,
Columbus, Wesley, Lincoln, Penn,
The lessons I would teach, enforce.

Brave Washington, and those who clung
Fast to the banner then unfurled,
Most precious truths from ages wrung,
And set them forth to bless the world.

The God of Wisdom is our trust,
His shield will be our might;
We'll strike all error to the dust,
And hoist our banner in the light.

The Truth shall win the fairest day,
And Error crouch away abashed;
While men shall learn a better way,
And follow light from heaven flashed.

REV. JOHN V. POTTS.

HEBREW ADVANCEMENT IN AMERICAN BUSINESS.

THE growing importance of the Hebrew race in the business relations of America is manifest to the intelligent observer in every large city. In some of the Western towns the bulk of the wholesale trade in dry-goods and clothing is in their hands. In Boston, New York, and Philadelphia the increase of signs with manifestly Hebrew names and of bustling groups of well-dressed men of the Hebrew temperament in trade centres is notable. A New York newspaper correspondent says:

"I started from Union Square the other morning and walked down Broadway to Wall Street, following the interesting occupation of some of my fellow-beings from the country, namely, of reading signs. I counted no less than 650 upon which Jewish names were painted. These names represented almost every kind of wholesale and jobbing trade located on that great artery. The millinery, clothing, hat, cap, and fur trades predominated. I also found many retailers of Jewish nationality. In one block I found only one Christian firm.

"Turning Wall Street, I found the same evidences of Jewish prosperity, only in a lesser degree, among bankers and brokers. Two of the largest banking houses in the country are distinctively Jewish. In the Stock Exchange are many, all of whom stand high, and wield an influence among their fellow-members, and carry large accounts for their customers. In Maiden Lane and John Street, the centre of the wholesale and retail jobbing jewelry trade of the country, the name of the Hebrew is found right and left, above and below. A round five million dollars of capital is employed by the Jews in this trade alone, and with it they transact fully thirty-three per cent. of the business done in it.

"West of Broadway, in Broome, Mercer, White, Leonard, Green, Grand, and other streets, comprising the great dry-goods and clothing districts, is a modern Jerusalem. Seventy per cent. of the entire wholesale clothing trade is done by Jews,

who employ a capital of twenty-five million dollars. In clothiers' trimmings the Jews have ten million dollars invested.

"Ninety-five per cent. of the ladies' cloaks and suits sold throughout the country come from New York Hebrew houses, who annually turn and return fifty million dollars of capital. In the fur trade fifty per cent. of the firms are Jewish, and the capital invested is fifteen million dollars. The Hebrew controls exclusively the manufacture of caps, and on about forty per cent. of the hats made he figures his profits. In the manufacture of silks and ribbons the Jew is at home. His capital here amounts to twenty-five million dollars, and of the business of feminine apparel he transacts sixty per cent. He is active in the tobacco, sugar, and wholesale liquor traffic, holding large interests in each. Strange to say, the Jew is never found in the retail liquor business. 'Gin-mills and gin-slitting' he gives the grand go-by, and allows our statesmen of Hibernian and German extraction to run the saloon without his interference or competition. There is not a bar, I am told, in Gotham, presided over by a Hebrew."

With such a demonstration of wisdom as this last statement carries, who wonders that our Israelite neighbors prosper.

"E PLURIBUS UNUM."—It is a curious fact that the words "E Pluribus Unum," on different United States coins, were never authorized by law. They were first used on coins in 1786. There was no United States Mint then, but there was a private one at Newburgh, and the motto was first placed on a copper coin struck at that mint. In 1787 a goldsmith named Brasher coined a piece which was known as the \$16 gold piece, and the motto, in this form, "Unum E Pluribus," was stamped upon it. The coin is worth to-day \$2,000, and only four are known to be in existence.

THE CHARACTER-RACE, OR ANGLO-SAXON.

FROM the beginning the Anglo-Saxon was a great robber of other people's lands. He was, however, the very reverse of a vagrant thief. There was nothing of the Arab or the Gipsy about him, and nothing of the Italian bandit. He came on one of the waves of that great Teutonic flood that poured into Europe in the second and third centuries. He was so much a barbarian that he only knew one divine command, "Be fruitful; multiply and replenish the earth." And this he read as a law from the book of Genesis in his own nature, and not from the books of any Moses. That law constituted his theology in the beginning as it does very much to this day. It is still the most intelligible part of the Anglo-Saxon's religion to migrate to new countries to find room, and to build new cities and settlements. He takes up land by "right divine," and steals territory from inferior races, and justifies himself substantially with the excuse that God has ordained him to do so for the good of the world. The inferior race must give place to him for the great ends of humanity and civilization; and what he can not absorb by intermixing with his race he will exterminate, unless he can use it as labor to his capital. As an illustration of this, take the American, the aborigines of this continent, and the negro. But when he first came into Europe he made no excuse that God had sent him to fill a want long felt in that part of creation, and that he was a necessity for the purposes of civilization. He filled the "want long felt in that part of creation" called Europe, as he has since done in that part called America; but he was originally too much the barbarian to philosophize upon it, or to know that the destiny of the great world was pushing him on to possess the West; all he understood was that he wanted the West.

The Saxons, as every school-boy knows, were called into England by the ancient Britons to help them resist the periodical incursions of the Picts and Scots. They drove out the invaders and settled down

on the land of their British friends. The Saxon had found too good an opportunity not to manifest his natural instinct to settle and his constitutional inclination to break that part of the Mosaic economy which forbids coveting one's neighbor's houses and lands. But he was not a lawless invader. The Britons asked the Saxons to come; they liked it, and they kept coming. The Saxon is a great hypocritical lover of the law, and with him originated the pseudo-axiom that Possession is nine points of the law. You never knew an honest Saxon man in England or America to steal an estate unless he had law on his side.

After the Saxon settled in Britain, with an infinite good nature to relieve its ancient possessors of their land, he being the most fitting man to cultivate it, he married his daughters to the British men and took unto his sons wives of their sisters. There was a much larger mixture of these two primitive races from the very first than one is led to suppose in reading the early history of England. The general impression left is that the Britons disappeared before the resistless Saxon, much as the American Indian has done in America. But this is not so. Many thousands fled to the mountains of Wales and other parts to unite with kindred tribes; but the Saxon absorbed more than he drove before him. The Britons were a warlike and high-spirited people. The Cæsars even respected them, and it was long before the Roman armies could subdue their heroic courage. It was not possible then that the Saxon tribes that poured in could sweep them away from all their native counties. We can imagine much how it was by supposing that the German people should overrun France and make it Germany. If fifteen millions of her people were to fly to America and other places, and fifteen million Germans took their places and became masters of the country, it would seem even to us in this knowing age that France was entirely blotted out, and that

scarcely a Frenchman remained. The fact, however, would be that about twenty millions of the French race would be left in their native country, who would intermarry with the Germans and become absorbed.

We can read the record of the early times much more completely and in detail in the ethnological volume of living England to-day than we can from the few historical notes sent down by the old chroniclers. The English who represent the Saxon are by no means like the Germans, a fair people; but, like the American, as often dark as fair. Their mixtures of color vary from the dark-skinned, black-eyed man to the red-haired, buxom damsel whose very presence would lighten up and warm a house on a cold, dark day.

The simple fact is, the Saxons married with more of the British people than they slew. They conquered the land by absorbing the natives. Those natives having been educated by the Romans and brought very much into an organic and civilized state during the four hundred years' rule of the Cæsars over them, were the superiors of the Saxons in point of sensibility and refinement, but not in hard sense and acquisitiveness. The passionate, sensitive race, during the periods when the Saxons were friends and allies of the Britons, most certainly fell in love with the beautiful golden-haired maidens. Doubtless the old folks fought, but it is certain that the young folks married one with the other. The dark, inspirational Celt worshipped the maiden angels who had come to his land, and, as all angels are fond of worship, it is most likely that he thrived in wooing the Saxon maid more than did one of her tribe, and so with the other side of the sexes. We see the same to-day, and can read in the present times many an unwritten episode and many a romance of the days when the fair and the dark races met and loved as well as fought. This "marrying and giving in marriage" made England Saxon rather than British.

The Saxon, from his intense love of

self and great common sense, was certain to make the best of the bargain. In his self-love and strong desire for property he absorbed the land, and in his mass of substance and vitality he absorbed the people. Thus mixed the Briton and the Saxon, and the national developments of the next three or four centuries brought forth the England of Alfred the Great, who was himself a fine specimen of the balance of the two races of the country in one person. He possessed enough of the Celtic vivacity to give him his taste for poetry and every branch of learning, with all the substance of the Saxon nature which endowed him with his great character as a lawgiver and ruler.

The history of the conversion of the Saxons from paganism to Christianity will afford a striking illustration of the character-type of the race. Condensed into a paragraph without the detail, it is substantially this: The Christian missionaries preached their gospel to the Saxons, and in the name of the "true God" charged them to destroy their idols, who were powerless to save or bless them; their pagan priests warned them that if they dared to attempt the image-smashing they should be destroyed themselves, and dreadful judgment should fall upon the land. The Saxon was not enough of a philosopher to undertake a scientific demonstration, but his hard sense was appealed to and his *pluck* challenged. He would have a fight with the gods, for a bigger God had come to back him, and it is in the very nature of the Saxon to serve the god who can do the most for him. If his old gods, whom he had so long served, possessed power neither to bless nor hurt him, he would get rid of them. If they had the power they could pick their pieces up and put them together again; so to end the dispute between the rival priests, and to find out the truth, he smashed a few images, and finding that the heavens fell not on his head in wrath, he turned away from his idols in contempt and thought of them no more. There was no emotion or sorrow in leaving the gods of his fathers.

He could not, like the Jews, mourn for a thousand years over a fallen temple and a ruined Jerusalem, ever sighing to "re-build the waste places of Zion."

This, in substance, is much as it stood with the Saxons in the circumstance of their conversion from paganism to Christianity, and it illustrates his entire religious progress and transformations down to the present time. As soon as he finds that his systems are worn out and useless, and that it would be *profitable* for him to change them, down he pulls the old fabric and builds up the new. He does not, however, rush even into progress and reform, for which God and nature designed him as the chief apostle; he is slow and sure, builds strongly and of granite, never pulls down that which is strong and good, but when that is in ruins which once was a monument of strength, he stops not to weep over it. Instead of mourning over the fall of empires, as all the Asiatic-typed peoples are inclined to do, he actually exults in their fall. His practical understanding has long since found out that better governments and forms of society succeed the defunct States, and he feels his youth as a race, his strength and his destiny. He is eminently not an ancient, but a modern. He is the strong man of character who is chosen with his brother German to carry on the world, while through that wonderful fusion of races which has been going on in Great Britain for a thousand years, and is now continued in America, the inspirational soul of the ancient world, which the Hebrew and the Egyptian typed, seems transmigrated in him, and the philosophy and the culture of the Greek and the Roman have become embodied in the civilization which he represents.

The Norman's conquest of England, his connection with the Saxon and his dominance over him, as illustrated in the history of the five centuries succeeding the landing of William, must be treated in the Norman subject. He leads the action in the great drama of empire and civilization for five hundred years, when the Saxon came uppermost again. In the

sixteenth and seventeenth centuries the revolutions of Church and State in England gave a new course to the world, a new genius to religion, new forms to civilization. It was the upheaving of the basic races of the united Briton and the Saxon. The work of the Saxon was renewed. His method of change was the same as at the beginning. He was an iconoclast, not a volcano. He beat down the grand old Roman Church with no more antique sentiments in him than a blacksmith out in a Western territory would were he forging the iron crown of the Charlemagne into a horse-shoe. He turned away in a rage of common sense from the gorgeous old Church, and expressed his disapprobation in one of his strong English idioms—Bah! But this bah was for her scarlet robes, her jeweled ceremonies, her mitered priesthood, and her transubstantiation. In his practical way of arguing theology, he discharged in a day all the Roman Catholic cardinals, archbishops, bishops, and minor priesthood, seized their cathedrals, abbeys, and churches, and set up in the religious business for himself. He had taken it into his head that he could "run the concern."

But the impulses and strength of the Reformation came from the united Saxon and British peoples, represented in the yeomanry, the shopkeepers, and the artisans. These brought forth the independent and dissenting churches. They went direct for radical issues and the extremes of simplicity. They would have no priesthood; every man must be his own priest and do his own praying. It was a new problem for the world; churches built up without a priesthood! Until the subject got fairly into the Saxon brain by the pounding of ages, priesthood was the radical idea of churches. To the Asiatic and Roman mind the new problem was like a bound from one end of an eternity to the other, or the construction of a theology without a Deity. It was only the Saxon who could solve the problem. He did not get the conception from himself, but from the Celt which was in him

He was the strong, capacious brain; the Briton was the inspiration—the idea—in that brain.

Having gotten his religion and himself pretty nearly on one common plane, the Saxon dressed both in broad-brimmed hats, Quaker bonnets, drab shawls, and Methodist coats. They were the outward signs of the "good work" which had been wrought out in himself: these the signs of the simplicity of his religion, of his own earnestness, of his innovative resolves, of his intention to consummate what he had begun. He hung out his colors: they were drab and white,—the Protestantism of colors against the imperialism of the scarlet. His hat grew nearly as big as a small, round table, as though it was instinctive with defiance of the bishop's mitre, and assertive of the fact that its Saxon master's head was as large as that of any Roman priest. He had his coat and vest cut in the Methodist style, and there was something of Saxon irony in this.

In music the Saxon manifested the same character-methods of mind. Cromwell and the Puritans broke into cathedral-music much as they did into the cathedrals and castles. They gave rise to the conception of psalm-smiting. It is the true conception of the Saxon, find him in what and where you will, from his Alpha to his Omega. He is always smiting out his mission, as before observed.

The secular manifestations of the character-race are equally as marked as his idiosyncrasies in religion. It is astonishing how little the Saxon saint and Saxon sinner differ one from the other. They are two thoroughly worldly men, with more sterling qualities in them than any other class of saints and sinners from the beginning of the world. They both love truth and right, are merciful and generous, will be just if it doesn't cost too much, have about the same vices and virtues, are nearly as bad as one another, only in different directions. The Saxon is a splendid commercial man, and he has built up two nations of shopkeepers.

But he commenced commerce very low down, rather than like the Jew, dealing in money and precious merchandise from the beginning. About the first thing that one can fancy the Saxon made for the market is a tallow candle. We all know that the tallow-chandler is an ancient English "institution," not so honorable as the baron, but more useful. Indeed the one is very suggestive of the Saxon, the other altogether of the Norman. He is also a great statesman and a builder of commonwealths.

Phrenologically and physiologically considered, the Saxon still stands pre-eminently marked as the Character-Race. He is of the type Tact not Talent; but when the Englishman and the American, who represent the Anglo-Saxon, blend the qualities of the two races in one person, they surpass all other men in universality of mind and capabilities. Of himself the Saxon is not inventive, nor is he a delicate worker; but with the Celt in him, he is the best and most useful artisan in the world. He is not so fertile in his inventions as the French, nor as fastidious in his taste, nor as delicate in his execution, but he is more solid and fundamental in his work. He is the railway-builder, not the balloon-maker. His strength and solidity of body and mind are seen at once. His head is large, his body like the oak in structure and quality. His reasoning powers are of the best, soundness of judgment being his distinguishing mark. He has large Mirthfulness and abundance of Agreeableness, but not of the quality of French politeness. There is much of *business* in the Anglo-Saxon's politeness; he can't afford to throw away even his good nature. He has a very large endowment of the organ of Human Nature. This has made him superior to all others in organizing labor and capital. He knows how to "use men," and with Acquisitiveness large, assisting Human Nature as it generally does in the English and American brain, he accumulates means rapidly by the employment of men in large manufactories, or in vast commercial affairs. Above all

other men, he represents "Labor and Capital" combined, and they are written together in the volume of his brain. He is benevolent, for the organ of Benevolence is almost invariably large in his head, but Acquisitiveness is generally equally so. Together they have made him heap up his millions, and then build free libraries and endow public institutions. He has been, however, all his lifetime as a merchant very careful of his pence.

He has just enough Veneration to make him religious, but no more. He is as conscientious as other people, and is fond of "wife, children, and friends." His physiognomy is strong rather than classical. He has often the lion's face. The two best specimens of the Saxon man of modern times stamped upon the public mind for greatness of character are Sir Robert Peel and Daniel Webster.

E. T.

AN AFTERNOON WITH THE DIGGER-WASP.

SUMMER has come again, and brought with it warm, sultry days that stimulate life in some classes of being, if they conduce to a disposition for lethargy in man. For instance, there is a wonderful amount of work going on in our garden. Through the air and over the flower-beds hasten hundreds of little people. Some live in the trees and bushes, others in the ground, and they are all hard at work.

One morning there seemed to be something unusual going on; the buzzing and humming were almost deafening. Whirr-r-r! whirr-r-r-r! so it went on, and little creatures darted through the air. Big brown-and-yellow wasps, these strangers proved to be, and they were all in a desperate hurry. Some of them were found to be hard at work digging away into the hard sand of the path; and they did not care who watched them, so I sat down in the shade and determined to get some information as to their mode of work.

In a few minutes one approached. She seemed to be searching for something, for she flew back and forth, now alighting for a moment, and then darting away again; at last she dropped upon the ground again close to me and began to bite the ground with her strong jaws. Soon a little heap lay before her which she pushed to one side with her hind feet, and then returned to her digging. In five minutes she had dug a hole big enough to admit her body, and continued to work away in it head downwards, pushing out now and then a load of sand as big as her-

self, behind her. Soon all around the hole was a bank of earth, and she found it necessary to cut a path across it and push her loads over that. Two hours' hard work, and the house was finished. It was very simply planned, and had only one room down at the end of a long, but narrow passage. But simple as it was, this little creature had done more work proportionally in the two hours than a man



Fig. 1.—THE WASP AT WORK.

could do in a day. She did not then stop to rest, but with one last look into the house, to make sure that all was left as it should be, she flew away out of sight; but it was not long before she reappeared. Back and forth she hastened, and at one moment flying through the grape-arbor, at the next wheeling above the cabbage-bed. All this time the object of her search, a fat young locust, was quietly sitting on a gate-post, quite forgetting, as even locusts sometimes will, that he had an enemy in the world. A moment later and the wasp's sharp eyes

had found him out; and then, quick as lightning, she darted down upon him and pierced him with her sting. So when



Fig. 2.—BRINGING THE FOOD SUPPLY.

the locust lay perfectly still, the wasp seized him and flew off.

Arrived at her hole, she tumbled him headforemost in at the door as if expecting that he would fall quite to the bottom. But her calculations had been at fault; the locust was too fat to go in, and there he stuck with his head and shoulders in the hole and his body in the air. Here was a dilemma! But my wasp friend was evidently not one to be overcome by difficulties of this sort. She flew off again, and this time returned with two other wasps; these crowded around the hole and began digging away the earth. In a short time they seemed satisfied, for they stood up and pushed at the object of their toils. Slowly he slid down out of sight, and she who had brought him hurried after.

She laid an egg close to him in her house; then, hurrying up, began to carry back the earth she had before taken out, and in a short time the door was securely closed; then she scraped away the loose earth, and patted down the hole till she made it seemingly quite impossible for any evil-minded creature to find any traces of her late effort.

The wasp must know very well that her egg would soon hatch out; that the little white grub, her chick, would at once begin to feed upon the locust, which would supply food enough until the young one was full-grown.

On the following morning I again visited the garden, just to see how the

home-making progressed. Soon a handsome wasp came running near a newly-made hole. She stopped short to look at me, and at first I thought it was my former acquaintance; at any rate she was not afraid. She deployed her long and delicate antennæ, as if on the lookout for danger. She came a step or two nearer, and, at last quite reassured, hurried down into her hole. What a long time she stayed! but at last, on watching the opening intently, I saw something coming upward. It was a great ball of earth, quite filling the hole, that the wasp was forcing up by her hind legs. With one mighty heave the ball rolled out, scattering itself in all directions as it broke apart. I now noticed at this time and afterward, that as the depth of the holes increased and longer journeys were necessary to reach the surface, the wasps always pressed the surface and the earth they wished to get rid of into these compact balls, and so managed to bring up a much greater quantity at once than would otherwise be possible.

The wasp now walked around the hole, pushing carefully back the loose sand which seemed likely to fall in again. This done, she was up and away. She was now in search of some insect with which to deposit her egg; but although she came in sight of several, she could not get near enough to pounce on them.

The inhabitants of our garden were learning how dangerous these new set-



Fig. 3.—AFTER THE STORM.

ters might be, and kept well out of her way; but suddenly she spied far beneath her a small grasshopper. It was the

work of only a second to pounce upon him and to lay him out on his back insensible. But now a difficulty arose. How could she with this heavy weight manage to rise into the air? The locust of the day before had been caught upon a high post, and in order to carry him the wasp had only to fly down. This was a wholly different case. At last an idea seemed to occur to her: she jumped astride of the grasshopper, seized its head with her fore-feet, and ran along the ground. This was famous, but hard work nevertheless, and she had often to let go and rest. She entered the broad path in which her house was, but somehow she had become bewildered and mistook a neighbor's hole for her own. As she dismounted before it and looked in, the owner angrily darted out, buzzing in a frightful manner. Our poor friend, much abashed, proceeded to the next house, and the next, everywhere meeting with the same reception.

How stupid of her not to know her own home! but just then she saw the entrance, ran toward it, made sure it was hers, and in another minute she and her burden were both safely indoors.

Presently she came out and again flew off; she had laid her grasshopper down and also her egg, but the amount of provision was not enough, so she had to go in search of another insect with which to fill her larder.

As soon as she was out of sight, a tiny creature flew down into the hole. She, too, had her egg to lay, and here was just the opportunity. Inside of the digger-wasp's egg the little ichneumon, for this new-comer was an ichneumon-fly, would work and eat the wasp-grub until the young wasp died, and then out from his body a little fly would emerge. After resting a minute, it would push its way through the soft earth till it reached daylight.

The digger-wasps had been living for some weeks in our garden, when, one afternoon, there came up a fearful thunder-storm. The rain poured down in torrents; where had been shortly before

neatly kept paths about the house, we saw now rapid little rivers tearing up sand and gravel as they raced down-hill, and doing all the damage their short career would allow. But all of a sudden the sun burst out from the clouds, the rain stopped, and the water which had fallen sank into the ground. I did not waste many minutes in reaching the garden. Oh, what a sight met my eyes! The broad path stretched itself out before me smooth and wet; not a single hole remained—all were buried deep under the sand. Instead of the air being, as was usual, fairly alive with busy, happy creatures, there was now, here and there, a miserable mud-covered insect clinging to a leaf, and wearily trying to clean its heavy wings. What a sad ending to the gay, bright summer! Next day, however, I found a few survivors hard at work digging again; but this time every hole was sloping instead of perpendicular. After much thought, I came to the conclusion that these clever little mechanics had found the way to prevent such another calamity as had overtaken them the day before. Formerly the first drops of an unusually hard shower filled the holes instantly, and drowned the inmates; now this could not happen, especially if the openings were placed, as most of them were, under the shelter of the big leaves of the grape-vine which at many points rested on the edge of the path. H. B. K.

TWO WORSHIPPERS.

THE rich man hath his pew of pride,
And velvet stool of prayer;
The poor man's church is very wide,
He kneeleth anywhere.

The rich man says, "Thy Kingdom Come,"
While loth from this to part;
The poor man, though his lips are dumb,
Desires it in his heart.

The rich man, while with plenty fed,
Still asketh larger store;
The poor man prays for "daily bread,"
And scarcely meaneth more.

The rich man maketh many prayers,
The poor man needs but one;
His broken heart to Thee repairs,
And prays—"Thy Will be done."

AN UNRECOGNIZED WOMAN'S RIGHT.

"YOU never have anything to say about woman's rights, Cousin Carl, and I wish you would," said little Miss Glendower, with a pretty pout. "Now I say, and I don't care who hears me, that 'taxation without representation is tyranny.'"

"So I have heard," said the gentleman, with a deepening smile. "You have a desire to be represented by the ballot, then?" he added, with an earnest scrutiny of his companion's face.

"Certainly I have," was the prompt reply. "And why not?"

"You will have at your majority quite a fortune, I believe?" the gentleman resumed, evidently determined to get at the pros and cons of this case.

"Yes, I shall have a good many thousand dollars."

"And you think if the ballot is yours that you can administer this property to better advantage?"

"Certainly. I can manage it as men manage theirs."

"And you feel that the ballot is all that is necessary to success in that line?"

"Perhaps not all, but it will do for me precisely what it does for you."

"What is that?"

This was certainly a poser.

Miss Glendower had listened, but had not thought or read very deeply, and though an exceedingly bright and intellectual girl, was not prepared with reasons for the faith that was in her. She flushed rosy red, looked away for a moment over the green sloping lawn, toyed nervously with her feather fan, and then with a somewhat discomfited laugh replied:

"Why, Cousin Carl, I can't specify, of course, but I should make the same use of my advantages that you make."

"Let us suppose that to-morrow the franchise is extended to woman, and you deposit your vote for a Presidential or Gubernatorial candidate, and the day after you come into possession of your property. What influence will your vote

be likely to exert upon your estate? The question is, Anna," as the girl looked dubious again, "will you know any more about business principles than you did before going to the polls?"

"I don't suppose the mere fact of my voting will add to my knowledge, but it will give to me the same protection and the same power that it gives to men."

"Granted the power, Anna, wouldn't it be the part of wisdom to acquire the knowledge first? With no knowledge of political or domestic economy, no education in business matters, I can not see what particular protection there will be in the franchise. When it comes to the question of the right to vote, I am free to state that I do not see why you have not just as valid a right as I have. But I am looking at it now in the light of expediency and common sense. I mean to say that there is no education in the ballot *per se*. It is simply what you bring to it."

"I was under the impression, Cousin Carl, that you didn't believe in 'Women's Rights,'" Miss Glendower remarked, after a pause, in which she had done considerable thinking. "But I'm not sure that I *know* any more about it than I did before."

"I have no doubt that my views on this subject would be even too radical for you," the gentleman replied. "You intend to be married one of these days, I suppose, Anna?"

"Naturally."

"What will be the basis of that marriage?"

"Love, I hope."

"Well, now, I believe in one right that I don't think you have ever thought of. It seems to me just as much a woman's right to take care of her husband, if sickness, trouble, or accident overtake him, as it is his to support her under ordinary circumstances. And so I say that you have no business to marry unless you know yourself competent to do this."

"A woman shouldn't marry unless she

is able to support her husband?" Miss Glendower exclaimed scornfully. "I should say that was radical and outrageous, too."

"If you have money enough," Cousin Carl began again, calmly, "and the business education that shall teach you to properly invest and carefully administer it, then that will do instead of a trade or a profession. Oh, I knew how you would receive this," the speaker went smilingly on, as his companion seemed about to interrupt him, "but hear me out, please. You brought it all on yourself, you know. Take a glance at the examples in our immediate neighborhood. Look at that smart young architect, full of courage and ability, whose life-work was ended by one cruel blow, yet whose life must go on in intolerable suffering. God knows how long. That accident happened six months ago, and to-day they are in the most abject poverty, and there is no child to complicate matters, either. That girl was educated to be supported. She could sew a little, cook a little, play a few sonatas upon the piano, and look very pretty indeed. Under these circumstances of inanity and helplessness, do you think the ballot would be of any use, and if so, what?"

Another conundrum which Miss Glendower was not equal to.

"The fact that men are liable to sickness, and more so to accidents than women, never seems to be taken into consideration in these unions for life," the gentleman proceeded, as no answer was forthcoming. "Take a brighter example in our neighborhood, Anna, that of Mr. Cole, the real estate dealer. Three months of typhoid fever, and three years getting over it. His wife had a practical experience in book-keeping before she married, and so was prepared in an emergency to take her seat at her husband's desk and administer their mutual affairs. That education was worth more than a fortune, in my way of thinking. Now you talk about love as the foundation of marriage. If this is so, then according to the law of affection, the husband should

be just as much an object of practical consideration as the wife, and no woman can afford to leave that plank out of her platform."

"Why, Cousin Carl, such ideas take every bit of romance out of marriage."

"But they put something else in that's worth more than romance. Did romance ever fill a cup with milk, or provide a loaf of bread? Will romance stand guard by typhoid fever, and give a man a chance to get well by carrying on his business and saving his money?"

"Well, it's awful not to have some sentiment in such matters," Miss Glendower pouted.

"Will you say that my argument lacks logic, Anna?"

"I don't know anything about logic." This with considerable show of irritation.

"I read Whately," said Cousin Carl, with a curious smile. "But I believe there are other simpler authorities now. A woman without logic may be very pretty and very amusing, but she can hardly expect to be successful in business, or a good steward of her own or her husband's affairs." And then Cousin Carl picked up the fishing-rod he had been cleaning, and his companion walked slowly away, a frown on her pretty brow, dimly aware that there was something else to be considered beside "taxation" and "tyranny."

"ELEANOR KIRK."

SHOWING OFF AND USING.—The head of a well-known young ladies' school lately gave the following incident from his experience:

"Two young girls, sisters, came to me at the same time. Neither had exceptional talent, nor a marked taste for any line of study, but both were industrious and faithful students.

"When the day of graduation came, the elder girl, Hetty, could play three or four pieces with brilliant effect, that was all; the other, Jane, played for her companions to dance or supplied their accompaniments with precision and taste. She had, too, I found, taken pains to

learn the old songs which her father liked, and sang them sweetly, though in a feeble voice.

"Hetty had painted two striking landscapes (touched up by the master); but after she left the school she never lifted a brush. Jane had no landscapes to show, but she had mastered the technical rules of drawing well enough to teach them to her brothers; she could also sketch any little scene or house which she saw while travelling and wished to remember. Hetty wrote a historical essay, by 'cramming' for weeks before the examination. Jane never attempted to write, but she had an accurate knowledge of history, as far as it went. She did not attempt more than

she could master. The same parallel ran through all their studies.

"The secret of their education lay in a word. One sister studied to make a display of what she knew, the other to use it. All the girls I have taught could be divided into these two classes.

"The difference between boys and girls as students is for the most part referable to these two motives. The girl looks forward to 'showing off' her accomplishments; the boy expects to use his. Hence he is usually more thorough.

"Let each of the girl readers of the *Companion* ask herself to which of these classes she belongs."—*Youth's Companion*.

"TO BE A POET!"

WHAT measure of a commoner ~~We~~
 Could compensate for one brief hour,
 Within a poet's day? 'Mid strife
 We pass unheeding each flow'r,
 And all in vain the sapphire deeps
 O'erhead are flecked with ivory;
 What cares for them a soul which sleeps,—
 Dull eyes, which, careless, will not see
 Aught but the golden bait that shines,
 To lure them on to base designs.

"To be a poet," and to see
 The world thro' wondrous charm-touched eyes,—
 To think his thoughts from grossness free,
 And find the loveliness which lies
 In all the glorious earth around,
 And beauties ever held on high
 For plant-life bursting from the ground
 Looks upward to the sunlit sky,
 While we bend down and blindly grope,
 Scorning the rainbow's gleam of hope.

There's not an object seen but holds
 Its story, if we wish to hear,
 For Nature willingly unfolds
 Her secrets to a list'ning ear,
 Save such as mortal may not know,
 His soul clogged with a weight of clay,
 But hid no longer where shall grow
 Our day of earth in Heaven's day;
 Yet many a tale of marvellous lore
 For us is held in careful store.

And if with tender love we scan
 The visible, we can but find
 A thousand joys revealed to man,—
 A constant presence in the mind
 Of beauty which shall make life grand;
 And tho' we lack the poet's dower,
 By seeing much, we understand
 More of the great Creator's pow'r;
 For us He formed this bounteous earth,
 And wishes us to know its worth.

And you, who think that beauty serves
 For no real good to humankind,—
 Who view unmoved the graceful curves
 And colors of the flow'rs designed
 By God, go wander thro' the field,
 And find the daisies blooming there
 With clover sweet, for Nature yields
 As much to make the earth more fair,
 As to subserve to other aims,
 And beauty has its own fair claims.

In common sights there often lies
 Much which we should have learned before.
 Mark the rich-colored butterflies,
 Fed from the sweet-lipp'd blossom's store,
 As well as is the honey-bee.
 Is not the daisy's yellow heart
 Gold in its virgin purity?
 Altho' unvalued in the mart,
 Yet truly useful in its place,—
 Blooming for all in artless grace.

FRANCIS HALE BARNARD.

CALLED BACK.

"I WAS living in the West, then," said my friend Mrs. Huntingdon; "it was before I was married. I had many friends there, but there were none dearer to me than Laura Leslie. I remember the first time I saw her. She was sitting by the window in the old farm-house. The sun beamed in on her beautiful brown hair, and the soft shining curls seemed a lovely frame for the noble, intellectual forehead. Her cheeks had a peachy glow, and her eyes were a deep blue. Her form was graceful, her manners were very gentle and winning, and her voice was clear and musical. She looked, as I saw her then, the picture of health. She had been a wife about a year, and she was very devoted to her husband, who almost idolized her. To him she was an incarnation of loveliness. Everybody seemed happier for being near to her. My happiest hours were spent in her cheerful home. The ripest of her fruits, the fairest of her flowers, were saved for me. I saw her very often. Her husband's old father and mother and younger brother lived at the farm-house, and they all tenderly loved and tried to make Laura happy; and when one cold January day a little blue-eyed, brown-haired girl was given to Laura, the baby was gladly welcomed by all the family. It was baptized and named after the mother and myself, Laura Lenora.

"The happy mother lay in the north room, as they called it, for days, but as she seemed not to be gaining strength, she was moved out from there into the large, cheerful sitting-room, where a bright wood-fire blazed on the hearth. I remember the stripes in the carpet on the floor. The old mother had spent many days in sewing the strips together. She had gathered from friends and cousins all the red and blue pieces she could find, and the carpet really was very pretty.

"The old brass andirons shone on the hearth-stone, the candlesticks shone on the mantel. The old bureau was highly polished, and in one of its great drawers

were many gifts to the new baby and its mother. Everything in the room shone, and I thought the father's face shone as he took his new baby in his arms. He praised its fine-shaped head, and the bright eyes so like its mother's. 'It has the father's mouth and chin,' said the mother, 'and the father's forehead.' The father was a minister; a warm-hearted, energetic, and really eloquent man, greatly beloved by all his people.

"His was a country parish, and many of the church lived several miles from the parsonage; but every day some choice delicacy was sent to the young mother. The child seemed to belong to the whole congregation, as it was the minister's child. There were blue, pink, and white socks enough for a dozen babies sent to it.

"Circumstances had prevented me from seeing Laura for some days, when I received the message one day to come to her. She had been failing for two weeks, and the family had been very anxious about her, and that day she grew so much worse, the doctor had told them she might not live but a few hours, would I come and be with her, it would be a comfort to all of them. I could not get there until half-past eight that evening. As I entered the room, the family were gathered near the bed. Laura called the old gentleman to her bedside, and said in a low, trembling, husky voice: 'You have been as kind to me since I came into the family, as if I were your own daughter. You could have done nothing more for my comfort than you have done. I would like to live to show you my gratitude, but I must thank you and bid you a last good-bye. It will not be long; you will come to meet me soon,' and then she kissed him and called the old mother, saying, 'You have been a mother to me since I came into the family. You have done everything to make me happy. I leave my child unto you; love her and take care of her as your own.' Then, bidding her and the brother who stood

weeping by the side of her bed an affectionate farewell, she put her arms around her husband's neck as he bent over and clasped her close to his heart, as she said, 'Farewell,' in a low, trembling whisper. Her lips closed—her hands seemed to fall powerless at her side—one faint gasp, she was gone. 'Only twenty-four,' I thought. 'So much to love on earth, so much to leave.' They closed her eyes; folded her hands on her breast.

"All were sobbing around her. 'You are all worn out, William,' said the mother to the husband, 'go and lie down.' 'Yes,' said Edward the brother, 'James can take the wagon and go for Mrs. Brown and Mrs. Wright, everything will be attended to.' I stood by the bedside, and looked at the white, calm, beautiful face. I said, 'I will stay to-night; you all go to bed. James (the hired man) will do what I need to have done; you all must rest.'

"After all had left the room but the brother, I said, 'Mr. Leslie, Laura is not dead. I do not wish yet to have her removed into a cold room; let me stay with her; James will do all I wish.' At that time, in the country villages, it was customary to leave the care of the dead to some sympathetic, neighborly women, and Mr. Leslie thought they should be immediately sent for. 'Laura *not dead!*' he said, 'not dead!' and he looked at me with such a startled, astonished face as if he thought I was laboring under a strange delusion, or even had lost my senses. 'I can not tell you why,' I said, 'but I feel that she is not really dead. I wish to spend this night by her side. James can do whatever I need, and we will send for outside help when it is time. You all go to bed.' 'But we have all seen her die, and she lies there perfectly lifeless,' he said; 'she has gone just as the doctor has told us she might; she is forever at rest now, nothing can ever wake the dead.' But he gratified my wish, I was so earnest about it.

"James and I were left alone. The fire was kept up, hot bricks were put by the feet, bottles of hot water around her, warm flannels laid over her under the

sheet, and I rubbed one side down gently and for a long time, while James rubbed the arm; then I rubbed the other side, and James the other arm. James raised her up, and I rubbed the back. I rubbed the forehead gently, taking care that the water in the bottles and the flannel and the bricks were kept warm. As about midnight I was rubbing gently over the breast, I thought I felt the least possible tremor there, the faintest motion. I made James put the back of his hand there, but he felt nothing; but I said, 'James, go for the doctor.' The doctor came. He placed a glass over the face, brandy in the mouth, turpentine in the nostrils—tried all the tests he knew, but there was no sign of life. He turned to me, and said in a loud, angry tone, 'Damn you, Miss Howard, for sending for me this cold night to prove that a dead woman is not dead—to bring a dead woman to life again,' and he went out and banged the door after him. Still, James and I rubbed for four long hours. We never rested a moment. How I watched the clock, and how I watched that still, white face. About four in the morning, Laura breathed just once a faint gasp, a half sigh, but it was a breath, that was all. Another hour we worked over her. At five o'clock she spoke. 'Where am I—I was dying. Am I here?' she said. When the family arose, one by one they passed weeping into the parlor to look at the cold form of Laura shrouded for the grave; but no dead form was there. They came into the cheerful sitting-room, where the fire burned bright, and Laura was lying still and calm with a happy smile, looking at the little child she had kissed good-bye the night before. As her own dear self greeted them—father, mother, brother, and husband—it was the most joyful good-morning I have ever heard on earth. There may be more blissful good-mornings in heaven, but I think never on earth have I seen a happier family meeting. Laura remembered only that she had died; and now, with no memories between, she was alive.

"As I rode home that morning, I was a very tired, but a very happy woman. It was *only one night*, but what a night! Weeping had endured for the night, but joy had come in the morning. As I was riding home with my brother, we met the doctor. He was on horseback. He said to me in a sneering tone, 'Well, are you satisfied now—are you satisfied now, Miss Howard?' 'Yes,' I said, emphasizing the words very slowly and distinctly, '*I am satisfied*, but they want you at Mr. Leslie's—Laura needs you.' He put spurs to his horse; he rode like lightning.

"About two hours after, I was lying in my room asleep after my great exhaustion. There was a quick, impatient rap at the door. It was the doctor. 'I must

see Miss Howard,' he said; 'I must see her.' 'She is asleep, you can not see her,' said my brother, 'let her rest, she needs it.' 'But I must see her,' said the doctor, 'or I can not rest. I have treated her like a brute, and I must tell her so.'

"Spring came again, and the flowers and the birds and the blue-eyed mother sat by the window once more, singing to the child. The sun shone on her hair, and there was sunshine in her heart. Years passed on, and she has lived to sing her sweet cradle-songs to three more happy children, and to enjoy the luxury of perfect health.

"How often have I thanked the Great All-Father that I spent that one, long, lonely night by Laura's side."

LYDIA M. MILLARD.

MY FRIEND'S OBJECT-

ONCE, while visiting an eccentric friend of mine who believed in the principles of Phrenology when I did not, the subject came up in conversation, and I disclaimed having faith "in such apparent nonsense." I brought forward some time-worn arguments that I considered of sufficient force to annihilate the whole science; but the replies of my friend were keen, clear, and almost convincing. Finally I said, "Mere observation has been with me the most powerful argument. I see men every day with large heads and of a commanding appearance, who amount to nothing, while some insignificant little fellow steps out into the arena of public affairs and bears away the laurels."

"I fear you have mistaken ideas of the true teachings of this science," replied he with an amused smile, "and begging pardon for a change of subject, if observing some of our farming country will be more congenial to your tastes, I shall be happy this afternoon to drive you out to what a few years ago was conceded by all to be the largest, finest, and by far the best farm in this region. I understand that there is

now a heavy mortgage on the place, and that in a few days it will be put up for sale."

It was my purpose to invest a little surplus capital in some fertile land, and willingly I let drop our argumentative discourse, and entered upon a talk in which we could better agree.

That afternoon we enjoyed a delightful ride over a beautiful country. It was about harvest time, and vast fields of golden grain swayed with the breeze; the heavy cars seemed ready to break with their weight from the parent stalk, and orchards with their fruit-laden trees met the gaze. It was truly a thrifty-looking country.

Finally we rode beyond these and came to an old place of tumbled-down buildings that was a most woe-begone, shabby blot upon this charming territory. At the front was a time-blackened, broken-down, gateless fence. Here my friend halted, and soon was out on the ground tying his horse to one of the old fence-posts.

"Why in all this wide world are you stopping here?" I inquired.

"This is the place I spoke of; come, get out of the buggy, quick; it will give me the blues to tarry here long."

As we waded through the tall grass in the front yard, some grunting pigs stared in wonder at our trespassing upon their pre-empted rights. As we drew near the great, hulky house, I began to wonder at the number of its former occupants who had furnished the broken window-panes with so large a variety of rimless hats, worn-out caps, and old clothes.

"My friend," I said, solemnly, "I understood that you were to take me to see some of the richest land in this vicinity. Are you trying one of your practical jokes on me?"

"Nothing of the kind," he answered. "This has been called the richest and best farm in the country."

My friend was known among his acquaintances as "Eccentric Ben"; but what he meant by this freak I was puzzled to know.

A rap at the door, and a woman in slip-shod shoes, with soiled dress and unkempt hair, invited us in; my friend entered, and I followed, nearly stumbling over two squalid children playing near the doorway.

"Ah! Ben, how are you, old fellow?" sounded in a cracked voice from an adjoining room, where on a couch lay a man with bloodshot eyes and cadaverous face. Ben went forward and took in his kindly grasp the outstretched hand of the poor man.

"He has just got over a spell of the 'tremens,'" his wife informed me, in a low tone. I was glad to hear that he had "got over" them.

"We want to take a look at the farm," said Ben.

"Wa'l," replied the woman, "do jes as yer like, taint much ter see, nohow; 'bout all run ter weeds, with nobody ter tend ter nothin'; 'fiction 'pears ter be our lot on 'arth anyhow." And the poor soul heaved a sigh of resignation.

"'Bout all run ter weeds," sure enough; the old farm was fairly covered with a kind of bur. Some scattered rows of

corn had vainly attempted to hold their own against them, but gave up in despair, and now looked forlorn and dejected.

"A magnificent harvest this," I said, ironically. "The crop has grown and flourished without any trouble of cultivation."

"Let us go," hastily uttered friend Ben; "such neglect and ruin depresses, sickens me."

When again in the carriage I listened to a long, sad story about this old farm; how its former owner had died when the present occupant was but a little boy, leaving him sole heir to the mansion, with all its surrounding, richly-producing acres; a portion of it being a well-watered and excellent stock farm. Both it and the boy fell into poor hands. The boy had naturally a brilliant intellect, but unfortunate winds sowed bad seed in the child's mind and over the farm; both were fertile and productive and had yielded a fearful harvest.

"To-day you have witnessed what foul neglect and ignorance have accomplished for one of the best farms and intellects that could have blessed this earth! Tomorrow I should like the privilege of showing you what can be done by careful cultivation and proper training."

On the following morning we made an early start for a ride into the country, for my friend explained that we had a hilly road before us, and would have to travel slow.

During the night a refreshing shower had laid the dust, and now the sun shone clear and bright, and along the wayside among hedges and trees the birds sang for us their sweet notes. It was nearly a forenoon's ride over a picturesque country, and the drive was so enjoyable that when our horse reined up before a low picket fence, I was almost sorry that we had arrived at the end of our journey.

Snugly nestling in the shade of some large trees, there appeared to our view a very pretty cottage surrounded by a velvety carpet of green, on which a lawnmower had done good service to keep in

such perfect order. At one side a bed of luxuriant flowers was filling the air with fragrance.

As we went up the gravelled walk we stopped to listen a moment, as soft strains of music came floating through an open window. Upon ringing the door-bell a lady of neat and genial appearance rose from the piano and bade us welcome.

"I hadn't noticed the arrival of any one until the bell rang," she said, "I was so engaged in practicing a new piece of music; I had a few spare moments and thought I would just go over the song once."

Everything inside this cottage exhibited the same refinement of taste and beauty as was shown outside. By a window stood a little girl with sunny curls and a happy face. Glancing up she exclaimed, "Papa is coming," and ran out to meet a tall, elderly gentleman who was approaching. The lady soon after excused herself and went into the kitchen.

I knew our dinner would be a good one, with well-cooked, wholesome food upon the table, for it must correspond with other appearances in this household.

Our host was a well-educated person of much intelligence, and a thorough gentleman. In the afternoon he invited us to take a ramble over his fruit farm. This at one time had been considered such poor, rocky soil that nobody seemed willing to undertake its cultivation, until the present owner, fancying there might be value in it, purchased the bare-looking place at a low price, then went to work, improving and enriching every available bit, and planting different varieties of fruit in suitable places, and he now was owner of the finest fruit farm in that region. His choice apples, grapes, and berries commanded the highest prices in the city market.

When on our homeward way Ben said: "Now I have given you an object-lesson on the subject we were discussing yesterday morning. What do you think of it?"

"I must confess that I fail to understand your meaning," was my perplexed reply.

"Well," he resumed, "yesterday we visited that great, tumble-down mansion on the neglected farm, with its dissipated occupant. The man, the house, and the land were once possessed of superior capabilities, and the prospects were all most promising.

"Of course everything does not depend upon size; a pumpkin is larger than a five-dollar gold piece, but only a cow would choose the pumpkin. You see, as much depends upon the quality as upon the size of anything, together with the use or abuse that is made of it. Cultivation of the right kind is what has given to the smaller farm its supreme excellence; its stony ground was once supposed to be of very inferior quality, and its present owner when a boy did not appear to possess anything like the brilliant intellect of him who is now a miserable drunkard. Whatever the natural endowments may be, one thing is certain, Providence never does for us what we can do for ourselves. Cultivation and improvement are matters we have very much in our own hands. One may be endowed with a fine mind, but if its careful training be neglected, no better result need be expected than from the fertile, well-watered land where good seed is not sown or proper care given. Of course, with the same persevering toil expended on both, the greater yield must be expected from the former. Yet it is frequently true that the little things in life prove to be the larger just because the one is uncared for and abused, while the other has the best possible good made of it. As much depends upon the finish and furnishing of a mind as of a house to make it what it should be."

"I yield the point," I answered, smiling at my friend's earnestness; "and thank you for the object-lesson as well as for the very pleasant ride you have given me. I acknowledge the correctness of your views, and I shall want the benefit of your judgment about selecting some land." It would undoubtedly be better to look further before purchasing the mortgaged farm with all its luxuriant crop of

nettles; in fact, I would much prefer the fruit farm, but it is not for sale. Yes, I would always choose the well-cared-for farm, and the well-trained and cultivated mind to the badly neglected, no matter how superior in the beginning may have been its natural endowments and capabilities. I promise to give the subject more careful and candid study; but I en-

joy your object method of teaching immensely, and would be a dull pupil indeed if I failed to profit by the lesson taught."

The stars were brightly shining when we reached home, tired with our day's travel, but a more enjoyable day I thought I had not ever spent.

LISSA B.

WAVES OF LIFE.

O, WAVES of Life! O, waves of Life!
Tumultuously ye roll!
And bear upon your throbbing breasts
Your freight of human soul!

O panting, swelling waves of Life!
Forever in unrest;
Some lie within your hollow sides,
Some ride your foaming crest!

Still circling onward, evermore;
Who can your orbit find,
Or tell your cause, or what force moves,
Or what creative mind?

And some are raised from out your vales;
Some toppled from your crest,

With pallid lips we try to say:
"Whatever is, is best!"

The hurricanes rush over you,
The simoons scorch your breath.
Wild cyclones toss you to and fro;
But neither brings you death.

And when, unruffled, calm you seem,
All placid and serene;
Your currents pulse, unbrokenly,
Strong currents,—deep, unseen!

O, waves of Life! ye onward roll
Like some impetuous river,
Which springs from an eternal source,
And shall roll on, forever!

GRACE H. HARR.

BAD TEMPER.

THERE are so many who call themselves *respectable*, and would be very much surprised that any one should think otherwise of them, who are in the habit of giving way to their tempers. They do not seem to think of its blighting effect on the young who look to them for example, and think if father and mother *get mad* often, and are considered respectable, there is no harm in a similar indulgence; and soon the home is anything but a happy, peaceful place. Still its inmates are called *respectable*.

Is a man or woman respectable who thus loses control of themselves? How long a step is it from such a home to the jail or prison, where God's beautiful sunshine and pure air are memories of the past to the poor unfortunates, or possibly enjoyed a little behind the bars? How

little provocation would cause people to do, while in high temper, that which would make them exchange *home* for a place of wretchedness and despair!

The *respectable* man or woman of ungoverned temper would shrink with *horror* at the thought of coming in contact with a criminal. A great deal of crime may be traced to this curse as its cause.

It is time that good society should demand more real manhood and womanhood of its members. The pulpit should denounce this monster; the press should handle the subject "without gloves," knowing it to be a great source of crime.

The cure for this evil must begin in our homes. We get so used to each other that we feel free to show our failings at home. Some husbands and wives also seem to think *home* is the place for

disagreements and discord, and forget to keep its influence kind and pure. Any talk is good enough before "*our folks*," and they keep their bright, happy thoughts and deeds for company. It is all wrong! We should give our choicest thoughts and aspirations to our dear home circle, which should be too sacred for evil in any of its forms to enter.

Let every one of the family try to live in this charming way, and how soon there would be a beautiful exchange of thought. There would be no room for temper and unhappiness. If we do not indulge in bad temper at home, we shall be ashamed to do so elsewhere, and soon the demon

will be conquered and we be fit members of society.

We must *help* each other to live wisely. In the "bye and bye," when we sit in the shady corner of life and look back, we shall long for sweet recollections of some victories won, and shall feel sadly enough at the memory of the times when we were "tried and found wanting," and when we stumbled and fell in the battle of life.

We must feel the responsibility of our every word, where it shall fall, how it shall spring up, what blossoms it shall bear, and whether the fruit shall bless or curse humanity. MRS. KATE WESTON.

A CITY IN THE AIR.

THE Pueblo of Acoma, situated ninety miles west of Albuquerque, is one of the most remarkable communities in New Mexico or the United States. In the middle of a valley six miles in width stands a butte, and on the top of this is Acoma. Eight hundred people are living there, and they and their ancestors have gathered there the sum of their possessions for nearly three centuries. This butte is one of the many that are remnants of a mesa that has been worn away by the erosion of the ages, and survives only in flat-topped mountains here and there. The valleys between are fertile, and untold generations of men have seen them covered with grain and flocks of sheep. Sometime in the seventeenth century the Laguna or valley Indians made war upon the Acomas for the possession of the country, and the latter, being the weaker, occupied this butte as a defensive position believed to be impregnable. Their judgment has been abundantly vindicated. It has proved a Gibraltar of strength and safety. The comparison is not inappropriate, and in approaching it from the north I was struck with the resemblance to the pictures I have seen of that grim old fortress that frowns over the strait of the Mediterranean. The height above the valley is nearly four hundred feet, and the walls in several places are nearly perpendicu-

lar. There are two means of ascent, one by a flight of steps cut in the face of the wall and rising at an angle of forty-five degrees, and the other by a fissure in the rocks leading up into the heart of the mountain. Both ways have been trodden by human feet until the steps are hollowed out like shallow troughs. Either is exceedingly difficult. This stairway is a precarious footing along the sides of a gash in a rugged mountain. With all the dangers and fatigue, it is a laughable sight to see a visitor make the ascent. One has to stride over the fissure, one foot on the right-hand side and one on the left, and at the same time press the hands alternately on the rocks for support. An Indian will throw a live sheep around his neck and go up quite rapidly without touching either hand to the rocks. An accident occurred on the stairway a few generations ago. Several men started up, each with a sheep on his back. When nearly to the top, the sheep carried by the foremost man became restless, and the shepherd in trying to hold it fast lost his footing, and in falling swept his companions over the precipice, and they all fell on the rocks at the foot in a lifeless heap. The Indians have carved a representation of the accident on a rock near where it occurred, which scarcely serves to steady the nerves of those who go by that route.



SUNLIGHT AND HEALTH.

SUNLIGHT is almost as indispensable to the health of living beings as to plants. The effect of deprivation of light upon plants is well seen in the pale, long potato sprouts which grow in dark cellars where potatoes have been left during the summer. The sunlight is requisite to develop the coloring matter of plants and to develop sound and healthy growth. Children and young girls reared in darkened rooms are pale, flabby, and unhealthy, somewhat resembling the potato sprouts which grow in the dark. The more sunlight a plant has, the more vigorous, healthy, and strong it becomes. Plants which are partly shut out from the sunlight, or beneath the deep shade of trees, or within the shade of buildings, make but a feeble and sickly growth. Even fruit which is shut out from the direct rays of the sun is pale in color, and is not so fine in flavor as that which is exposed to the rays of the sun. The reddest apples are those grown in the full blaze of the sunlight, and the children which have the reddest cheeks and the healthiest bodies are those reared outdoors in the sunshine.

SUNLIGHT APPRECIATED BY THE ANCIENTS.

The ancients highly esteemed the sunlight as conducive to health. It is related by Plutarch that when the youthful Alexander visited Diogenes at Corinth he found the famous philosopher lying

tranquilly in the sun. The warrior kindly saluted him and asked if he could do anything for him. "Only stand a little out of my sunshine," replied Diogenes. Diogenes was then threescore and ten, and age made the sunshine doubly dear to him. According to Pliny, it was a common practice in Greece for old men to recruit their energies, both mental and physical, by exposing themselves naked in the sun. Hippocrates recognized the reviving effects of warmth and sunlight on the aged by saying, "Old men are double their age in winter and younger in summer." The old Romans esteemed the sunshine. Pliny the elder employed his leisure after dinner in summer lying in the sun. Pliny the younger, at both his country-seats, had gardens thickly bordered with hedges, where he could walk completely nude, thus exposing his whole body to the blaze of the sun. Love of sunshine was a marked trait of the old Romans. Nearly all the dwellings were provided on the roofs or southern walls with balconies or terraces, where the occupants, sitting or reclining, could sun themselves all they wished. Such use of the sunshine is conducive to the preservation of the health.

SUNLIGHT AS A REMEDIAL AGENT AMONG THE ANCIENTS.

Sunlight as a remedial agent for restoring the sick to health is not availed of to the extent that it deserves. The ancients

were not unacquainted with the usefulness of sunlight for the cure of diseases. According to Main's "Expository Lexicon," published in London in 1860, Gorræus says that exposure to the rays of the sun was a remedy among the ancient physicians for many affections of the body, and he mentions particularly dropsy, inflammation of the kidneys, and paralysis. Hippocrates directed that a patient suffering from fever with chills should warm himself in the sun. Celsus recommended for those having weak digestion, a house "well lighted and having the winter sun," and exercise in the sunshine.

PHYSIOLOGICAL EFFECTS OF SUNLIGHT.

The physiological effects of sunlight have been more fully demonstrated by investigators of the present age. Of the influence of light on the system in general, Prof. James F. W. Johnston, of the University of Durham, says: "How our feelings and even our appearance change with every change of the sky! When the sun shines the blood flows freely, and the spirits are light and buoyant. When clouds overspread the heavens, dulness and sober thoughts possess the mind. The energy is greater, the body is actually stronger, in the bright light of day; while the health is manifestly promoted, digestion hastened, and the colors made to play on the cheek, when the rays of sunshine are allowed freely to sport around us." Prof. Youmans says: "Light is a stimulus to the nervous system and through that exerts an influence in awakening and quickening the mind. The nerves of sense, the brain and intellect, have their periods of repose and action. The withdrawal of light from the theatre of effort is the most favorable condition as well as the general signal for rest, while its reappearance stirs us again to activity. There is something in darkness, something depressing, quieting; while light, on the contrary, excites and arouses." From the effect which the sunlight has upon the mind and emotions, we may infer somewhat as to its effects upon the bodily functions. As a

stimulant to the nervous system it would promote the activity of the circulation, and all the functions of digestion, assimilation, and nutrition. It also promotes those interchanges between the tissues and the blood which are requisite to the healthful conduct of all the important processes of the system.

POTENCY OF SUNLIGHT.

The sunlight is an agent of great potency. It has power to vivify and quicken all animate beings, as well as plants. It may brown the cheek, or it may strike down in death, as in case of sunstroke. An agency of such power needs to be used with care and judiciously. It is not a simple agent, but one of a complex nature. There are light, heat, and a subtle energy known as actinism in the sunlight, all of which are to be regarded in considering its therapeutic effects. The light is resolvable into rays of various colors. The subtle power called actinism promotes chemical changes and is probably more potent in its therapeutic effects than either the heat or light. Under its influence many of the wondrous chemical transformations in plants and animals take place. Light, heat, and actinism united as in sunlight form a powerful agent.

SUNLIGHT ESSENTIAL TO FULL DEVELOPMENT.

The effects of deprivation of sunlight are plainly manifested in case of plants in the paleness of color and general unthriftiness which they present, while the plants which are exposed to abundance of sunlight present the most perfect development and the greatest vigor. Something of the same is seen in case of races of men who are exposed daily to the beneficent sunlight. Alexander von Humboldt says: "Deformities and deviations from healthy physical development are exceedingly rare in certain races of men, especially those who wander about naked under the brilliant light of the tropical regions. Those have muscular, fleshy bodies, rounded contours, and present none of the deformities so frequently observed among the inhabitants of other

climates." The value of light in the development of animal organisms was shown by experiments of Dr. W. F. Edwards, made many years ago in France. He found that frogs' eggs placed in the dark were prevented from developing, and that a tadpole kept in a dark place, although it attained a large size, did not change its form. Dr. Hammond confirmed this result, as he found that while kept in darkness the transformation of the tadpole was indefinitely postponed, but when brought to the light it became a frog in a few days. Something of the same effect is produced upon the human race when deprived of sunlight. Dr. Forbes Winslow says: "The total exclusion of the sun's beams induces an impoverished state of the blood, muscular debility, dropsical effusion, softening of the bones, nervous excitability, irritability of the heart, loss of appetite, consumption, physical deformity, stunted growth, mental impairment, premature old age. The offspring of those so unhappily trained are often deformed, weak, and puny, and are disposed to scrofulous affections." Thus it will be seen that a full supply of sunlight is needed to secure full development of our physical organizations. Another writer says: "Care should be taken both in health and disease to insure sufficient amount of light, and it is impossible to rear well-formed, strong, and robust children unless attention is paid to this requirement. Sunbaths, or apartments in which the solar rays can fall upon the naked body, are highly advantageous to health, and rooms for this purpose could easily be constructed in most of our city houses. Let us then, to use the dying words of Goethe, have "more light."

SUNLIGHT CURES DISEASE.

Sunlight is very useful in the cure of almost all kinds of disease, and some cases of chronic disease can not be cured without its aid. Florence Nightingale, who had much experience in caring for the sick, said: "Direct sunlight, not only daylight, is necessary for speedy recovery, except, perhaps, in certain ophthalmic and

a small number of other cases. Instances could be given, almost endless, where, in dark wards, or in wards with northern aspects, even when thoroughly warmed, or in wards with borrowed light, even when thoroughly ventilated, the sick could not by any means be made speedily to recover." A recent English writer says: "The direct rays of the sun are great remedial and preventative agents in certain diseases, such as scrofula, phthisis, rickets, etc." Dr. Warren, in *Public Opinion* of August 8, 1863, says: "Seclusion from sunshine is one of the misfortunes of our civilized life. The same causes which make the potato vines white and sickly when grown in dark cellars, operate to produce the pale, sickly girls that are reared in our parlors. Expose either to the direct rays of the sun and they begin to show color, health, and strength. One of the ablest lawyers in our country, a victim of long and hard brain labor, came to me a year ago, suffering with partial paralysis. The right leg and hip were reduced in size, with constant pain in the loins. He was obliged, in coming up-stairs, to raise the left foot first on every stair, dragging the right one after it. Pale, feeble, miserable, he told me he had been failing several years, and closed with, 'My work is done. At sixty I find myself worn out.' I directed him to lie down under a large window, and to allow the sun to fall upon every part of his body, at first ten minutes a day, increasing the time until he could expose himself to the direct rays of the sun a full hour. His habits were not essentially altered in any other particular. In six months he came running up-stairs like a vigorous man of forty, and declared, with sparkling eyes, 'I have twenty years more of work in me.' I have assisted many dyspeptics, neuralgic, rheumatic, and hypochondriacal people into health by the sun cure." Numerous other instances of cures of diseases by exposure to the sunlight might be given, but enough has been cited to show the importance of sunlight both in restoring to health and in maintaining good health.

H. REYNOLDS, M.D.

THE DANGERS OF NARCOTICS.

THE London *Lancet* has delivered certain admonitions with regard to the prevalent use of narcotic poisons for excitability and sleeplessness, in such energetic and fitting terms as these :

"The death of a medical man—Dr. John Middleton, late Surgeon-Major in the 2d Life Guards, but at the time of his decease a practitioner at Stockton—will again draw attention to the mischievous and, as we believe, wholly indefensible practice of giving and taking such depressing narcotics as chloral and bromide of potassium as a remedy for sleeplessness. Sleeplessness is always wakefulness in one or more of its multitudinous forms, and the recourse to narcotic poisons for its relief is utterly unscientific and deplorable from a therapeutical point of view. It is as clumsy in theory—in so far as it can be said to have a theory—as knocking a man down because he needs rest. What is it that prevents the natural and physiological rest of the body at rhythmical periods? The brain is as truly a part of the body as the stomach, and it is as much a fault of the organs of the mind to prevent sleep by mental worry or wakefulness as it is a fault of the stomach to render sleep impossible by bad digestion. No intelligent practitioner dreams of narcotizing the nerves of the gastric organs to promote sleep. Why in the name of common sense should any medical man for an instant think it legitimate to narcotize the brain because it exhibits some disturbing irregularity in its functions?

"Sleep is not a special prerogative of the brain. Every organ sleeps, and general sleep is the aggregate of many sleeps. It is time to protest against this clumsy procedure. If we do so warmly, it is because we feel that the mistake is of common making. It is so much easier to write a prescription or make up a bottle of medicine or a box of pills with one of the rank poisons that mimic sleep, and as they do so deprave cerebral and nerve tissue, than it would be to search out the

real and active cause of wakefulness. When will the progress of professional enlightenment reach that point at which all those cloaks for ignorance that depend so much for their significance on the negative *in* are ostracized from our nomenclature? Dr. Clifford Allbutt has just pleaded forcibly and eloquently for the discarding of that wondrously silly word 'indigestion.' Will no spirited scientist help to exorcise the haunting folly that clings to the term 'insomnia'? All terms with *in*, negative, imply ignorance on the part of those who frame and use them, and, which is worse, are content with the state of knowledge arrived at, or are too indolent to extend and improve it. Who shall sound the depths or measure the range of the stupendous unknown over which the audacity of a specialty and the apathy of a profession conspire to cast the veil of 'insanity'? There are more than a score and a half of *known* causes or forms of sleeplessness, each one requiring direct and specific treatment, and yet, as by common consent, the profession sanctions the abuse of such drugs as chloral and bromide as 'poisoned sleep' producers. No medical man is justified in undertaking the treatment of his own maladies. It is impossible that he should so far step out of himself as to be able to form reasonable judgment of his case *objectively*; and no practitioner has the justification of science for the recourse to narcotics as remedies for sleeplessness except when an exceptional pain is the accidental disturber of a sleep function, or a habit of wakefulness may be broken by an occasional dose of the stupefier."

We have known several cases of young men, who by medical advice have taken doses of quinine or chloral, or of a bromide compound, and in the course of a year have broken down with shattered nerves and a mental state bordering on insanity. A rational observance of simple hygienic rule would have saved them the loss and worry incident to such a condition.

FAT IN FOOD.

ONE of the strange things in our animal economy is that fat does not altogether produce fat; nor does the amount of what we eat produce it. Fat is a negative quality, and is rather the effect of non-consumption by the body than of food taken. At a certain period in life let two persons start "even" in mind and body, and both poor in flesh and purse. Let them day by day eat the same kind and quantity of food. Let circumstances favor one so that he does well in life, *i. e.*, relatively so; let him meet success in business, where in a few years he becomes comfortably well-off—satisfied with his daily life and surroundings. Let his neighbor start on a different road, where it will be struggle, struggle all the while—no friends to give him a helping hand—having opposition rather than encouragement. The former will become fat, while the latter will remain lean.

Emerson once remarked that all the prominent business men of Boston were of heavy weight. So far as I know he did not carry the idea further and analyze the forces at work to produce this effect in these men. Had he done so he would have seen them all successful, and men not worried or troubled with such ideas as he struggled with all his life. He would have found them comfortable and easy-going men; their business running with little friction. Could he have traced their lives back twenty or thirty years, he would have discovered in them quite another condition; that is, if they laid their own foundation. He would have found in them the "lean and hungry look,"—more activity, and more disturbed o' nights, with more uncertainty whereby flesh is kept reduced. But at the time he saw them they had passed through, if they ever had to pass through, the period of struggle and want. With the period of prosperity came heavy weight. A philosopher once remarked that when men become satisfied they become fat; and we have the same idea in Shake-

speare. The Falstaffs not only become fat, but far too much so, while those of the nature of Cassius are of the other stripe. Of the two, the chances are that the Cassius-like men of the world eat more than the Falstaffs. The Falstaffs, though, undoubtedly *drink* more; and, by the way, more people get themselves out of good proportion by drink, and I do not refer to intoxicating drink, but simply to fluids in the general form, than by what they eat. We often hear it said that water (and sometimes beer) is fattening. I do not think that water or beer has any power directly to produce fat; but rather the power, when taken in large quantities, to swell or bloat the abdomen, and thereby greatly increase the capacity of the digestive organs, which in turn excite an unnatural appetite, and cause the individual to eat far more than is necessary, or even comfortable to take care of. Then people who are addicted to drinking liquids acquire unnatural habits of eating as well as drinking, and to their own discomfort and disadvantage acquire such physical shapes as are unsightly and of great detriment. There is no satisfaction in much drinking—the more we drink the more we want, while there is much harm produced even in drinking large quantities of the purest water.

To come back to our original thought, fat is, as a rule, a negative quality, and so are the fat people—over-fat people. A negative element to a great extent produces this quality in them. It seems rather a queer statement to make, but it is even so. The good, easy person, who is satisfied to lead an easy, lazy life, who has no cares, borrows none, and cares not whether human oppression or crime exists, who would not raise a hand to advance mankind,—such get fat and stay so. There is no rule but what has its exceptions, or perhaps better, apparent exceptions. We see fat people in high places, and where they have much upon their mind; but where we see such persons we also see, if we take the pains,

that they are fat by nature—that it is their inheritance, and that they are financially prosperous; that they are the while gaining, or at least think they are, which is all the same. Let a hurricane strike one of these persons, and put him on his “beam-ends,” and cause him to scud under bare poles, and you will find that it will take the fat off, just as it did off the fat men who were confined during the war in any of the military prisons where they received an insufficient supply of food and raiment and were exposed to other hardships. Adversity will reduce fat, and it is probably the best anti-fat receipt the world can discover.

It is often remarked that large people are small eaters, and as often of people poor in flesh, that they eat so much that “it makes them poor to carry it.” Nine times out of ten people are bulky because they digest what they eat, and there is little or no waste. It is like one getting rich, not by the large amount earned, but by what is regularly saved. Little consumption of the material taken into the body produces, or perhaps better, permits fat; while great consumption prevents it. Not much fuel is consumed by simply keeping a steam-engine in motion; as, say, during a blockade, when for hours, and perhaps days, it is simply required to keep up steam and to be ready for an emergency. But let the emergency come, and it be necessary to put on a full head of steam, and to drive the vessel to the utmost, tons of coal will be used when pounds were sufficient before. Some years ago one of the fast boats on Long Island Sound was making the run from New York to Stonington in seven hours. The company wanted to see if she could not beat that time. So they drove her to the utmost speed. She gained an hour in time, but consumed twice the usual amount of coal. This, in a narrow sense, may not have much to do with FAT; yet it will illustrate the idea of saving and expending material, and that fat, like wealth, is secured more through what is saved than through what is taken in.

The well-proportioned person is neither

fat nor lean. In this respect I think Americans are well balanced, yet of late, within the past twenty years, there has appeared on the scene some of the Old World's types—the grossly fat and the painfully lean—types that belong to the past. On the one hand they represent rapacious and gross ideas of life, and on the other oppression and want. The one over-fat by the exercise of low grovelling desires, the other lean and formidable through the exercise of base thoughts, compelled by the oppression of the gross fatness of the one—the hog and the wolf. Neither of these elements are conducive to happiness or lofty conceptions. The hog may be happy, but its happiness will not be of a very elevated character, while the wolf is never happy, unless we accept the gloating triumphs of the fiend as an embodiment of this idea. To induce real happiness in these two elements, the hog and the wolf should share each other's joys and sorrows, prosperity and adversity. With this exchange both would be far happier, and far more able to cope with the surroundings in life whereby advancement is made toward perfection, and the mind fitted to ascend the “Jacob's ladder,” and associate with the great and noble of the universe.

Easy prosperity in the lower nature produces the hog-like form. All fat people, however, do not come under this head, and oftentimes we see fat people holding high positions; but when this is the case, we shall see an active and well-balanced brain. And this illustrates another peculiar feature in life.

The people of the world are oddly balanced. We see them having combinations as peculiar as that of the hound and bulldog combined. We see many fat people with most active brains and well-developed occiputs whereby they are enabled to do active mental work.

These people through their jolly good-nature get along well in life; their prosperity continues—they are *satisfied*. They lose no flesh, indeed they gain, but this gain in flesh is detrimental, and sooner or later we see them consulting their

physician as to how to get rid of it. They have liked the prosperity and ease coming thereby, but after a while they find the burden more than they had bargained for. How to lay some of it down is one of the problems they find difficult to solve, and oftentimes they resort to the various "anti-fat" medicines of the day. But such treatment is not very successful, and generally the physician will advise them to discontinue it and let nature take its course.

If these people could, like Nebuchadnezzar, only be "put out to grass for seven years," it would be the best thing for them; or to be served as pet dogs are said to be in London. When one is sick, through too much good care and attention, the owner sends him to a "dog-doctor," who takes the over-fed beast and ties it up in his back-yard—gives it little or nothing to eat, and a good thrashing once in a while—"breaks the poor dog's heart"—reduces its flesh by making it live, in good part, on itself. In about a month the dog is cured and taken home, and ready to resume its life of indulgence.

Beyond question many people eat too much, while some do not eat enough; especially so when they are all the while continually eating such things as are very injurious, creating unnecessary friction and heat. The coarser people who consume the most fat are rather coarse in organization, while the great majority of the anti-fat people are they who are very fine in organization. Fat is repulsive to them, and their habits of life are often so unnatural that they add to the disagreement of fat with their system.

There is a notion that boils are the result of too much fat; and this is one of the points the anti-fat writers make against it. Notwithstanding the strong opinion in this line, I will venture to make the statement that it is not fat that causes boils, but a disordered system that will not allow impurities their natural channel of exit. Impurities must pass off. They are much like the waters of the Mississippi in times of freshet; if the

natural channels are not sufficient then the water will seek by-paths and make new channels for itself. Hence comes the old idea that "boils are healthy" and purify the system. It is well to get that which is harmful out of the system, but it is far better to obviate the evil, and to so order our system as to have no cause for boils. If fat were the sole cause of boils then it would seem that fat people should have them most, but from personal experience the leaner class have them the most, and even the very lean frequently have them.

The human body is a machine and must have its lubricating agents. Fat is one of the chief of these, and if there is not sufficient in the food that is taken it must in some way be added. But one of the great secrets of life is to learn *what not to eat*, as well as *what to eat*. The more we partake of one positive element the more necessity there is to take another to counteract it. Those people only are well whose system is in good order, and who are well balanced in fat and lean.

Who shall be the judge as to ourselves? The better way for us to do is to try and learn what our systems need. We should consult the best authorities on diet—we should learn the necessities of the body.

All doctors are not adapted to all patients, and their work does not consist wholly in a regular medical treatment. Much depends upon the doctor understanding the mental make-up of the patient. But after all there are many little points the patient must decide for himself, and the subject of *fat* comes particularly under this head. The doctor can see the necessity or the need for abstinence, yet there is much he can not see, and that no man can see for another.

Fat is an essential element in our system, but we must avoid it when it is not needed, and take special pains to ascertain when it is needed. In due parts and proportions it is a health agent, and it is only when the system is disarranged that it becomes injurious, forming boils, carbuncles, etc.

I. P. NOYES.

HOW THE BABY-CARRIAGE MAY DO HARM.

THE physiological or hygienic effect of the baby-carriage on young children was considered by Dr. Henry H. Smith in a paper read before the Philadelphia County Medical Society. Inquiry among physicians tends to fully sustain many of Dr. Smith's conclusions. The results of investigations are to the effect that important muscular functions are impaired, particularly those of the spine and abdomen, and that the growth and proper development of the child are greatly retarded by the constant or injudicious use of baby-carriages. Other evils, such as impeded respiration, brain congestion, spinal concussion, and inadequate digestion or nutrition are likely to be caused.

When a child lies down, as it usually does, in a baby-carriage, the muscles of the spine remain nearly at rest. When, however, it sits on its nurse's arms, its head and upper extremities are balanced on its pelvis, thus calling into play the spinal erector muscles and those of the abdomen, together with those which control the lateral motions of the body. "Hence," Dr. Smith concludes, "its exercise in preserving its balance prepares its muscles for the more steady action demanded of them subsequently in creeping, or more especially in walking."

To carry an infant is in fact to train it in balancing its head and shoulders, while the abdominal muscles, acting as flexors of the spine, compress the liver and other viscera, and aid in both respiration and the action of the bowels. Such infants are sooner able to sit alone, creep, and walk than the supine product of the baby-carriage. Their improved respiration assists the oxygenation of the blood; the waste of tissue ensuing on muscular action increases the necessity for repair, and we find increased appetite, with improved nutrition.

It has been contended that the carriages are beneficial by enabling the nurse to keep children longer in the air; but Dr. Smith considers that a nurse unable to carry the child is unfit for her duty. He

says, moreover, that the infant is often neglected, and allowed to hang its head over the side of the carriage (a thing we have often seen) in a way to induce a certain degree of brain congestion, or is frequently found in some position which in time may result in curvature or caries of the spine. Another evil likely to ensue from the constant use of the baby-carriage is concussion of the delicate brain or spinal cord of the infant, caused by carelessly bouncing the vehicle over curb-stones, a matter as severe upon the nervous system of the child as railroad travel has been shown to be upon the more matured organization of the man.

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AN OLD PHYSICIAN ON CANCER.—

While attending medical lectures (I was three full terms at college), I saw many cancers removed by excision; but our professor told us that ninety cases out of a hundred received no benefit; and related a case of a celebrated physician at Keene, N. H., who went to Philadelphia three times, and twice had a cancer cut out. On the third visit he was advised not to have it incised, it being located in a favorable place. He then snapped his fingers, and said, "I will return to my business, and strangle and starve it to death." He went home, continued in his profession, but changed his diet to bread and milk mostly, weighing his bread and measuring the milk (of the latter half a pint at a meal), but never ate heartily. In six months the ugly growth was dried up. This incident was related to the class three years in succession. Cancer was then taught as a form of aggravated scrofula. With close observation and an experience of fifty years; I am satisfied that not only cancer, but kidney troubles, piles, fistula in ano, diabetes, bronchitis, gastritis, and nearly all diseases, if not cured, can be greatly relieved through a proper diet.

We are murdering ourselves by our

luxurious and gluttonous ways of living. We eat too often. Two meals a day, and six hours apart, are enough. We should masticate our food thoroughly, and mix it with the juices of the mouth, swallow no hard lumps, and use but little drink while eating. We should allow no late suppers, no tobacco in any form. Very

little pain and suffering come in sickness if the stomach is not loaded. The lower animals do not eat when ailing. With a life of seventy-six years, and in good health now, free from all pain and colds, I ascribe it to hygienic, farinaceous, and vegetable food.

N. RANDALL, M.D.

South Woodstock, Vt.

WHAT LIQUOR-DRINKING DOES FOR SOCIETY.

LET us pursue this further by means of a couple of supposed instances, such as occur every day. John Smith has been, during the week, a capable and industrious workman, earning full wages every day. Saturday night he gets his pay and goes to the stores, where he falls in with boon companions and spends his week's wages at the grog-shop, standing treat and drinking himself until his money is gone. Late at night he is put out into the street drunk, the liquor-seller having got his money and being ready to close the shop. Result the first: The liquor-seller has received, say, twelve dollars, of which at least three-quarters, or nine dollars, is profit. Result the second: Smith is arrested and put into the lock-up for the remainder of the night; in the morning he is brought before a magistrate and fined one dollar and costs amounting to at least five dollars, and usually more, for want of which he goes to jail for ten days. Result the third: Smith's family applies to the overseers of the poor for assistance, and they, being unable to refuse, are likely to expend five or six dollars. Total results, leaving out the moral deterioration of Smith and his family, nine dollars profit to the liquor-seller, costs of prosecution paid by the county, Smith and his family supported at the expense of the town and county for ten days, and Smith's productive labor for ten days lost to the community.

At the least calculation, in order that the liquor-seller may make his profit, the community has lost much more than an equal amount. In this instance I have

supposed the liquor-buyer to spend a full week's wages; but the contrast is still greater if we suppose, as is more frequently the case, that the buyer has only money sufficient to buy liquor enough to cause his intoxication; that he is arrested and committed to jail for non-payment of fine and costs. The county then has the costs to pay, and the liquor-seller's profit is only a very small percentage of the expense he has caused the community. Let us attack his profit, wherever his trade is injurious to the public, and we shall be in a fair way to drive him out of the business altogether, or to oblige him to exercise such care in his management as to deprive it of its harm.

HOT WATER IN SYNOVITIS.—This disease is an inflammation of the fringe-like membrane in the large joints; its use being to supply a lubricating fluid to those much-used parts. Dr. J. D. Thomas reports to the *Medical Brief* good results from the following procedure: He procures two large flat sponges sufficiently large to envelop the joint; these are washed clean in order to remove any sand or calcareous matter contained in them, then squeezed dry and applied to the swollen joint; and over this a roller bandage is applied as firmly as possible, the bandages covering the sponges perfectly, and then hot water applied until the sponges are saturated. This hot water application should be practiced every two hours. He cites several cases as evidence of the value of this treatment.

NOTES IN SCIENCE AND AGRICULTURE.

Electricity for Transmission of Power in Switzerland.—There are two turbines, one working at high-pressure and the other at low-pressure, placed at the village of Boujeon, at the falls of the river Suze. The high-pressure turbine has been in use for rather more than a year, to work a dynamo machine for the electrical transmission of power to two factories at Bienne. The total height of the fall is 177 feet, and the quantity of water 330 gallons per second. The turbine, however, only utilizes actually 157½ feet of the fall, and can take, when the guide-blades are wide open, 88 gallons per second. The turbine is one of Girard's, with an horizontal axle, driving the accumulator shaft by spur gearing. The generator is a Thury dynamo machine of the type H₂, compound wound, and is driven by a belt from the countershaft; it runs at a speed of 500 revolutions a minute, and gives an E.M.F. of 350 volts. The conductors consist of two copper wires 7 mm. in diameter (about 2 B.W.G.), carried on telegraph posts and insulators. The motor is also a Thury machine of the H₂ type, compound wound. It runs at a speed of 400 revolutions per minute, with a difference of potential of about 300 volts at the terminals. The distance from the generator to the motor is about 1,367 yards, and the motor gives out from 6 to 18 horse-power, according to the exigencies of the work done in the factories. Both ends of the line are protected by lightning conductors, a very necessary precaution in a district where thunderstorms are very prevalent. When starting the motor, a resistance is at first switched into the circuit, but this is cut out by step as the machine starts. It is stated that a commercial efficiency of 70 per cent. has been obtained.

Berlin's Sewerage System.—We made an interesting excursion to investigate the sewerage system of Berlin. In every street of large size there are mains built of solid masonry with interior diameters of four and six feet, which are well flushed with fresh water. These conduct their contents by the natural flow of the pipe to five short canals, which end in large reservoirs, and by means of strong pumps in iron pipes the material is forced six miles to various sterile tracts of land which surround Berlin. We also visited the main city office and one of the pumping establishments. We then went by rail to Lütchenfeld, where we were met by the director with a carriage, and drove for five hours over a farm of 4,000 acres which, by a system of irrigation, produces fine crops. Both free and convict labor is used here, and thus 250,000 cubic metres a day of the waters of the reservoirs is disposed of, and 20,000 acres of sandy desert land is made to blossom like the rose. These improvements have been com-

pleted about five years, and were four years in process of construction and cost about two millions sterling.

L. H. SWETT.

Employers and Workmen.—The relations between employers and employés are the subject of a good deal of comment in these days of discontent and depression in manufacturing circles, and the following extract from a report made by the U. S. Consul at Brussels, Belgium, will be of interest to many. Mr. Rey, a Belgium manufacturer, who employs some three thousand people, has established a system from which the German government probably secured the model of its late legislation. Mr. Rey retains 3 per cent. of the wages of all the people employed by him, which entitles every worker in his service to the attendance of a physician, free of charge, when he is ill. While sick, the workingman gets half pay, and meat and wine when ordered by the physician. Women during confinement receive medical attention free of charge, and when a married workman dies his widow receives a pension at the rate of one-third of his wages, if he had been in the employ of Rey ten years, and one-half his wages if he had been in his service over ten years. This pension is generally continued until the children are able to earn their own living. A pension for life is given all workmen who have been in the employ of Rey over fifteen years and who have become invalided. Goods are bought by the establishment at wholesale prices and sold to the working people at an advance of from 3 to 5 per cent., and if there is any profit on the transaction it is used for the benefit of the employés.

In addition to this, Mr. Rey encourages saving by paying a substantial interest on all sums deposited with him; and he has a large number of houses which he rents to his people at rates considerably below the prevailing price.

This system is so entirely unlike that which generally regulates the relations of employers and employés that it deserves special mention. It must be at once apparent that Mr. Rey is not actuated in this scheme by purely philanthropic motives, but by a conviction that he can be at once philanthropic and a gainer by the movement. It is obvious that in an establishment conducted on this system there will be no such thing as strikes, and hence he is not subject to the frequent losses which come from this class of interruption. It is also apparent that a workman who can look forward to a pension in case of permanent disability, and of partial support when sick, will be a more conscientious worker than one who is employed under the usual system. He will identify himself with the interests of his employer, and will turn out more and better work than he would had he no future of substantial promise. In short,

there is no doubt that the shrewd manager has succeeded by this combination of employment and philanthropy in producing results which swell his profits considerably beyond those of the average employer, and at the same time increase very materially the comfort and efficiency of his working people.

The example here given should find imitators. Once established throughout manufacturing communities, it would extinguish communism in its least desirable form, and go far toward relieving the pauperism characteristic of manufacturing centres, particularly in the old world. Of course to many people the philanthropic aspects of the Rey system are the most conspicuous; but to the matter-of-fact business man it commends itself for the reason that it will afford larger profits.

Color-Blindness is still engaging much attention, and the tendency of opinion among the scientific is to regard it as a constitutional defect in the nerve centres. Says the *Journal of Science*:

"Among the more highly educated of all nationalities the average number of color-blind is 4 per cent., an average in excess of that of all other classes. A man may have a good eye for form and outline, and yet be partially or wholly color-blind. To select an instance from among many is difficult, but one impresses me more than the rest—that of Wyatt, the sculptor, who at the outset of his career was known as a remarkably good draughtsman. He naturally took to painting, but, as his pictures were observed to present curious incongruities of color, that involved him in grievous difficulties, he with much reluctance was obliged to abandon the brush for the chisel. He was altogether unable to comprehend the nature of his defect—indeed, refused to believe that he was color-blind. So of men who have attained to eminence in the world of letters, and whose writings unmistakably betray evidences of a meagre color vocabulary. A striking example of this occurred in the person of Angus B. Reach.

"He was unable to recognize a difference in color between the leaf, the flower, and the fruit of plants and trees. His want of perception of color was wholly unknown to and unrecognized by himself, until we sat together at the table of a Paris restaurant. He, wishing to finish his letter to the *Chronicle* newspaper, requested the waiter to bring him some ink. As it often happens, under similar circumstances, the ink was brought in a wine-glass. Reach became absorbed in his subject, while I, seated opposite to him, observed him alternately dipping his pen into his claret glass and into the ink glass. I frequently checked him, but presently to my surprise he took up the ink glass and was about to drink, when I remonstrated, and he then said he could see no difference between the color of the ink and the wine. On subsequently testing him I discovered that he was completely color-blind.

"Homer certainly labored under a physical defect of vision, and this fully explains the

limited use of the terms he employed to express his sense of color, and to which Mr. Gladstone has drawn attention."

Changes in American Vegetation, etc.—A Kansas correspondent of the *Germantown Telegraph* thus notes his observations on this topic:

"It has been truly said that the degree of civilization of a country can be correctly measured by the vegetation as well as by the character of the inhabitants of that country. As proof of this, we have but to consider and take into account the changes that have taken place in the West during the last thirty years. Thirty years ago the Missouri River was the eastern boundary of the Indian and buffalo district, and the prairies were covered with what was called 'buffalo grass.' When civilization began to move West, the Indian and bison advanced also, and the grass that had covered the prairies for perhaps centuries gave place to those grasses allied to the tame grasses of the East. Of course the progress of this change was slow, but during this time the original 'buffalo grass' has become extinct along the Missouri River, the first change being to the 'wire-grass,' so called from its resemblance to wire and its toughness. Then came the broad leaf or 'blue stem' grass, which furnished an excellent quality of hay. But a few years elapsed before this grass began to give way to clover and blue grass, which are now the only grasses grown in the eastern parts of those States bordering on the Missouri.

"As one proceeds West he can easily detect the tendency of the grasses toward the original buffalo grass, until within two or three hundred miles from the river this will be found to be the principal grass of the country. The migration of the Indian and bison west is always followed by this change in vegetation. It is also noticeable that with this comes the change in the wild flowers and birds of a country. Where the Indian and the buffalo roam it is very seldom the beautiful wild flowers, now so abundant in the civilized portions of the West, can be found. Nor do we find such birds as the robin, meadow-lark or blue jay and many others of their like in the land of the Indian and bison, and the majority of the weeds which now grow upon our prairies were unknown thirty years ago. Some of your readers may ascribe this change to the grass 'running out,' but why should it grow prolifically where the bison still roams? The cause of this change has never been satisfactorily explained by those who have given the matter much study."

Silk-Culture in America.—Anent the recommendation of Miss Cleveland, the sister of the President, that silk-culture opens a new field to American women, the *New York Tribune* says certain discouraging things that are in keeping with the views of other newspapers on the silk-culture movement:

"Silk-culture has been tried pretty thoroughly in California. At Sacramento and

San Jose cocooneries were established; but though the experimenters in those places had the advantage of an unequalled climate and Chinese cheap labor, they failed, and failed signally. At intervals similar attempts have been made in other States, but the end has always been the same, and for reasons not difficult to discover. The culture of the silk-worm depends in the first place upon an abundant supply of mulberry-trees. The best kinds, such as the *Morus alba japonica*, or white Japanese mulberry, require from three to five years growth before the leaves can be used as food for silk-worms. In most places in the United States it is necessary to raise the trees from cuttings before the cocoonery can be established, and that, as shown, is a matter demanding considerable time. In the second place the labor of tending and feeding the worms is of the most exacting and exhausting kind. The worms are most voracious. They must be kept constantly supplied with fresh leaves, and their trays must be cleaned with the utmost care, and very frequently. Now it is necessarily to the women of the rural parts, in fact to farmers' wives and daughters, that all silk-culturists must appeal, and this class of women are already overburdened with work, and in no condition to take up a new toil which demands unremitting attention.

"The raising of silk-worms involves a minute and incessant labor, such as Orientals appear to be alone thoroughly fitted for. In Europe the class of women who engage in this work is intellectually far inferior to American women, and the drudgery degrades them still more. No American farmer's wife, weighed down by her multifarious indoor and outdoor duties, can undertake silk-culture with any prospect of success. For if she gives the new work the attention it requires she must neglect all her other responsibilities, and if she does not give it the necessary care the experiment is sure to fail. The truth is, that silk-culture is not at all adapted to the capacities of American women. It is a petty, harassing, exhausting and degrading labor, fit only for peons, or half-animal peasants. There is not much probability that the industry can ever be raised into any importance in this country, and it would not be good for the people of the country if it could be forced into a temporary success."

A simple Experiment showing UNCONSCIOUS MUSCULAR INFLUENCE.—With the aid of a pair of compasses or pencil and a bit of string, carefully draw two concentric half circles; that is, from the same centre, and one about half an inch within the other. The size of the design makes but little difference, but the result is more easily seen if the diagram is as large as convenient. Divide this double half circle into a number of compartments, and in each place a letter of the alphabet, a numeral or a name, as the fancy may dictate, the object being that there shall be no possible mistaking of one compartment for another. Rule straight lines from

each compartment to the common centre. Now take a small button—a shoe-button is as good as any—and fasten a bit of fine silk thread about eight inches long to it, making a knot in each end of the thread. Now, let one of the party take the thread by the end and hold it so far above the figure that the button shall hang about an inch and a half above the paper. Let him fix his mind firmly upon one of the compartments and then close his eyes. Very soon the button will develop a pendulum-like motion, and before long, generally in about three minutes, it will begin to move toward the compartment of which the holder is thinking. It really seems, at the first glance, that the button itself is influenced by the unconscious exertion of will on the part of the experimenter. But close investigation will reveal the fact that the hand moves with a slight, tremulous motion, which, being transmitted through the fine thread, moves the button. Much amusement can be had by putting the names of the party in the compartments, and then seeing of which one the experimenter is thinking.—*St. Nicholas*.

Adulterated Pepper.—Pepper is unfit to be put into the stomach because of its irritating effect, but it is largely adulterated. An incident from life, this:

"I dislike to see you eat cayenne pepper," said a wholesale grocer to a friend who was putting the stuff on some raw oysters. "Why?" said the friend. The grocer dusted a little of the pepper on the open page of his note-book and drew his finger over it. A number of small red lines showed where were grains of pepper. "Because half of this stuff is not pepper. The real article, pure and strong, comes from the West Indies. It is regularly adulterated for restaurant use by mixing it with rice, flour, and ground mustard husks which have been colored red with red lead. These lines on the paper are pure red paint."

Illustrating the Principle of the STEREOSCOPE.—A contributor to *Cosmos* suggests a curious optical experiment which may serve to show the principle of the stereoscope. If we cut out of black paper two similar figures—two crosses for example—and place them, their extremities almost touching, at about three inches from the eyes, before a sheet of white paper, we shall see three crosses, the middle one being dark and completely separate. This phenomenon is explained by the simultaneous vision of the two eyes, and it is easy to show this by looking at the objects successively with one eye. The experiment becomes still more interesting when, instead of black figures, we employ complementary colors—red and green for example. In this case we must use a dark background, and there will appear a white cross in the middle.

Light of the Aurora Borealis.—In a recent work of travel in the far North, the writer says that the prevailing belief that

the Aurora compensates for the loss of the sun in the polar regions is entirely erroneous. "Generally the aggregate amount of light emitted by the Aurora Borealis is so small that its contribution to lighten the darkness is almost *nil*, while it must be of an unusual brilliancy to be even *seen* when the moon is full and the sky clear. For a few moments certainly the light may be very intense, and cast an unusual brightness over the landscape, but these intervals of luminosity are so brief that the light emitted is of no practical value whatever to the inhabitants of the polar regions. The very greatest amount of light which the Aurora Borealis emitted, or which, in any case, I was able to ascertain during my entire sojourn in Lapland, may be compared to that of the moon two days and a half after full, when twenty-five degrees above the horizon and the sky is clear."

A Tall Chimney Removed.—At Salem, Mass., not long since, a brick factory chimney, ninety feet high and only six and a half feet in diameter at the base, was taken up and moved a hundred feet with the aid of six men and two horses. The chimney was nearly cylindrical, the upper diameter being five feet; and it was estimated that a sway of three inches from the vertical would bring it to the ground, so that great precautions were taken to prevent lateral movement in transferring it to the platform on which it was to be transported. A cage was first built around the chimney, consisting of horizontal timbers supporting shores, which extended twenty-three feet up the sides of the shaft, and were reinforced by a second set of shorter ones beneath. After these were in place, and well secured, holes were cut through the brickwork and needles inserted, under which thirty-four jackscrews were placed, and the shoring and shaft raised together high enough to allow a rough platform to be constructed under them, and rollers to be set in place. The platform, which was of strong plank, extended to the new position of the chimney, and by levelling it carefully, and employing a large number of rollers, the load, weighing one hundred and thirty tons, was easily moved into place.

To Distinguish True from Imitation Butter.—The microscope will show the difference, but a good microscope is an expensive instrument, and to use it properly is no school-boy's pastime. We note advice in some of our agricultural exchanges that if people want to distinguish oleomargarine from butter the microscope will help them, but little is said about the skill and education necessary to use such an instrument. Prof. Taylor suggests a simpler method that will answer in most cases:

"Place a very thin layer of the suspected article between two thin pieces of clear glass, and compress the butter sufficiently to admit light to pass through the suspected substance. If the latter exhibits a uniform, translucent appearance, free from white specks, the substance is probably pure butter."

"White specks indicate crystals of fat. If the translucent color is free from specks, but exhibits a mottled or streaky appearance, it is probably a mixed butter. Should the substance be charged with salt, as poor butter and oleomargarine frequently are, press the substance through fine muslin, when the large particles will be removed, allowing the surfaces to come close together, giving an even thickness to the substance between the glass, adding greatly to the efficiency of the test. When the substance is very soft and oily, the fatty crystals will be dissolved, and the white soft specks will fail to appear. Although the above test will generally distinguish the fatty bodies present in oleomargarine, they sometimes fail for the reason given. In such cases the microscope, with polarized light, will have to be employed."

To Preserve Apples through the Winter.—Apples may be kept in a perfect state of preservation and be ready for family use in the months of April, May, and June. I attribute the discovery to accidental phenomena, based upon normal laws operating in the great laboratory of nature. Here is revealed that which led the way to the preservation of apples. In New Jersey I owned a cottage and a small apple orchard, and during a storm in June a large limb, on which there were many apples, was detached and dropped to the ground, and on this brush was soon after thrown, quite covering it. Here the grass grew luxuriantly, and the apples fell from the limb into it. In the following April the brush was removed, and under the grass we found the apples in a perfect state of preservation, their flavor being improved decidedly. The next fall I tried the method, as suggested by the accident, and preserved twelve bushels of different varieties, and had fine fruit in April and May. W. S. BAILEY.

Anthrax in Cattle is brought about by an improper diet, especially foul water in the barnyard. Wherever anthrax occurs there has been gross neglect, carelessness, or ignorance; the parasitic development is the spawn of foulness. Its appearance on many farms is at once condemnatory of the owner, who can not excuse himself by reason of any neglect of his neighbor, as the disease does not come in that way. The younger the herd the worse they will suffer.

The following is given by Henry Stewart as a remedy: "If the disease is discovered at the outset, it may be averted by an immediate dose of raw linseed oil, four to twelve ounces, according to the age of the animal, and this should be followed in two hours by doses of one drachm of chlorate of potash, given each six hours. To prevent it, some precautions need to be taken in regard to the feed, making changes gradually and feeding moderately rich food, but adding generously to the usual poor feed given to the young stock."



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UTILITY OF PHRENOLOGY.—NO. 8.

FROM THE SIDE OF THE PHYSIOLOGISTS.

IN 1832 Dr. Spurzheim visited America, and had scarcely begun the work that he had planned to carry into effect here, when he was seized with sudden illness that proved fatal. By his unexpected death Phrenology and physiological science in general suffered an inestimable loss. On his way from New York to Boston, a few days after he had disembarked from the vessel that had brought him across the ocean, Dr. Spurzheim stopped at Hartford, Ct., and while there was taken to the State prison at Weathersfield. There, in his usual manner, he closely observed the heads and general organization of prisoners who were shown him. Two men especially interested him, and after he had considered several others, he said to the warden: "I should like to go back and look again at two heads that I examined." He was permitted to do so, and re-examined the two men, and afterward remarked to the warden, "I caution you to be careful in respect to these men; they are capable of anything; they will cause you trouble." A few months later, viz., in December, these two men suddenly attacked and

killed the warden, and were tried and executed for his murder.

Within twenty years a well-known lecturer was addressing a large audience in the Opera House of Pittsburg, Pa., when a skull was sent up to the platform with the request that a sketch of its character be given then and there. This was done in substantially these words: "This is the skull of a man, and of low type at that. He had enormous love of money, and would murder to get it, if circumstances favored; he was cunning, a consummate liar, and cruel to the last degree." The skull was the property of a physician entirely unknown to the lecturer, and proved to be the relic of a murderer who had been hung a year or two before, and whose name, when announced subsequently to the lecturer's diagnosis, was at once recognized by the audience.

Here are two cases that in their historical relation may be said to be analogous to the two leading processes of reasoning, the *a priori* and the *a posteriori*. In the former we have a predication of events likely to occur; in the latter we have a predication of effects that had appeared; and both readings had their warrant in indications of cranial contour. Were there no system of localization of faculty in the brain, such interpretations would have been impossible, and they were impossible before the extensive researches of Dr. Gall had demonstrated, *first*, the functional relation of the brain to the mind, and *second*, the location of different mental faculties in different organic centres of the brain. Philosophers and physiologists such as the world knew in ancient and mediæval times had dreamed, reasoned, and speculated more or less brilliantly on the office performed by the strangely constituted mass of delicate substance inclosed by the

skull; some, like Pythagoras, Aristotle, Galen, Albertus Magnus, Aquinas, Gordon, Porta, Descartes, Willis, asserting their belief that it must be in some way the instrument of the soul or mind, and that its marked variations in form, as indicated superficially by the head, must point to variations in mental power and character. The world has never been grateful to the discoverers of great principles, and its treatment of Francis Joseph Gall was similar to that accorded to Galileo and Harvey, but it is nevertheless experiencing in many ways the beneficial effects of the teaching of the great phrenologist. The clue he furnished to the proper investigation of mental phenomena has solved many problems in psychology and physiology. Insanity, idiocy, vice, crime, no longer present the difficulties that formerly precluded their definite study and comprehension. Abnormalities of structure are looked for in correspondence to abnormalities of function. Proportion of parts is associated with balance of faculty, while disproportion or deformity in the structure of the cranium is considered a mark of unbalance or irregularity of mind. These principles are taken into account by ethnologists and upon them is erected the system of classification that is generally recognized in Europe and America. In the estimation of the relics of ancient man, as well as in determining the intellectual scale of our contemporaries, it is the size of a cranium, the profile of the frontal bone, the elevation of the crown, and the proportion subsisting between its length and breadth that are taken into account. Prof. S. F. G. Morton, author of *Crania Americana*, and one of the most eminent authorities in ethnology, regarded the methods of Phrenology as furnishing the

best results in classifying the skulls of different races.

There is no system in the whole domain of science that exceeds the phrenological disclosures of the development and relation of the three grand cerebral divisions in consistency and harmony. The doctrines of Gall and Spurzheim are regular, balanced, and in complete alliance with each other, while at the same time their mission concerns the most important of human attributes. Dr. Robert Macnish, of Glasgow, author of "Philosophy of Sleep," and other volumes of standard value, said: "As a medical man I have derived the greatest benefit from the forcible manner in which the study of Phrenology has directed my attention to the functions of the brain in health and disease. The relations subsisting between the brain and other organs have been unfolded by this science with uncommon clearness, and with a precision and accuracy hitherto undreamt of by physiologists. I have no hesitation in saying that my notions on every subject, whether of morals or physical science, have become more just, more systematic, and more in harmony with each other since I studied Phrenology; and I firmly believe that the same fortunate result may be calculated upon by all who pay any attention to the subject."

In an address by Dr. Elisha Bartlett, late of Boston, at the commemoration of the birth of Spurzheim, December 31, 1837, the following eloquent passage occurs: "Phrenology, by demonstrating the primary faculties of the mind and their relations, first rendered intelligible the infinite variety of thought and action in individuals. Extending the same principles from the individual to the race—from the one person, thinking and acting

to-day, to the many hundreds or millions of like persons, thinking and acting at any time, and all times in the past—it solves the riddle of history, it interprets the great events of time. Beautifully unfolding itself in the process of this interpretation shall we find, everywhere, *Law*. Chance disappears, and we see that throughout all that multitudinous thought and action of humanity constituting its history, in all its fightings, from the first fratricide down to the battle of Waterloo, in all its arts, in all its literature, in its religion, in its laws, in its politics, in its love and in its hate, in its wisdom and in its perversity, in its migrations, in its conquests, in its discoveries, in the mutations of empires, as truly as in the phases of individual life, is there nothing fortuitous, nothing accidental, nothing anomalous. We have only to apply to all this the true principles of human nature as they are now expounded by Phrenology, and its obscurity is dissipated, its apparent contradictions are reconciled, the seemingly inextricable confusion in which its elements are mingled is cleared up. As the sea—alike in its vast aggregate, and its every atom—alike in its rest and in its wrath—is still subject to the laws of gravity and motion, so is the great tide—as it has been called—of human affairs, in its ebb and in its flow—in its agitation and its repose—obedient ever to the few and simple laws which God has impressed upon it.”

From other physiologists of the generation past, Otto, Broussais, Andral, Vimont, Elliottson, Abernethy, Robert Hunter, Bell, Dean, we might draw earnest testimony of the service rendered to science and mankind by the apostles of Phrenology; but from a *quasi* negative

source—at present fertile in procedures—from the class of observers and experimentalists represented by, Hitzig, Luys, Broca, Ferrier, Charcot, Dalton, Beard, some valid contributions to the vast array of evidence sustaining the fact of organic localization. A blow upon the side of the head near the ear transforms a man of peaceful, kindly disposition into a violent, destructive maniac. Years pass by, but he remains insane, until one day, persuaded by the entreaties of his sorrowing wife, a surgeon trepanns the head of the lunatic at the place where the injury had been received; and with the raising of the bone the insanity disappears, the man is restored to his former self, but much older. A slight fracture of the inner table of the skull at the point of injury had caused a bony projection, by which the surface of the brain had been subject to constant irritation; the area of irritation extended to Destructiveness, and other basilar organs were excited and thrown out of balance, thus disturbing the whole mental organism.

Dr. Bennett, of London, traces certain paralytic conditions in a young man to a morbid state in a special region of the brain, and an examination of that region discloses a tumor, the pressure of which is the active cause of the paralysis. Dr. Charcot, of the great hospital, La Salpêtrière, of Paris, finds that certain of his patients who suffer from that singular disease called aphasia, or disturbance of the faculty of speech, are undergoing a change more or less destructive in a certain convolution of the anterior or frontal lobe of the brain; as a *post-mortem* examination proves to be true. Again, Dr. Benedikt, of Vienna, points to an excessive development of the lateral and basilar parts of the brain as characteristic of in-

veterate or old criminals; while physicians who have made special studies of the insane assert that chronic mental disturbances, especially of the violent or furibund type, are associated with marked deviations of the cranium from the normal or balanced contour.

Many years before the names of Charcot, Bennett, Hughlings Jackson, Buttolph, Mitchell, Spitzka, and Gray became reputable as authorities in insanity, Dr. James Scott, of the Royal Hospital at Haslar, publicly declared it his "deliberate conviction that *no* man, whatever may be his qualifications in other respects, will be very successful in the treatment of insanity in its various forms if he be not well acquainted with practical Phrenology; and I will add, that whatever success may have attended my own practice in the lunatic asylum of this great national establishment over which I have presided as chief medical officer for many years, I owe it almost exclusively to my knowledge of Phrenology."

The vivisectionists, with their galvanism, agree in the principle of localization, but contest among themselves with regard to the validity of the motor results obtained by irritating certain convolutions in the brain of an unconscious brute; but the phenomena of heredity, insanity, hysteria, hemiplegia, aphasia, and of all pathological states of the brain, lead the candid observer to definite conclusions that verify the fundamental claims of Phrenology.

OVERDOING IT.

A VERY well known newspaper writer and humorist of the West has come in contact with a certain phase of practical Phrenology that appears to have im-

pressed him unfavorably; he alludes to one exponent of the art as "a long-haired Phrenologist in the West, whose charts, when compared, show that no head examined would indicate anything less than a member of the lower house of Congress; artists, orators, prima-donnas, and statesmen in plenty, but there are no charts showing the natural-born farmer, or carpenter, or shoemaker, or chambermaid."

Further on in his comments he says, "Phrenology is a good thing no doubt, if we can purify it. So long as it does not become the slave of capital there is nothing about Phrenology that is going to do harm, but when it becomes the creature of the trade dollar, it looks as if the country would be filled up with wild-eyed genius that has not had a square meal for two weeks."

In this second quotation the motive is intimated that lies at the basis of such experimentation with heads, as a few among the numerous professors of the art of character-reading may manifest. We shall not attempt to excuse such trickery by saying that all professions are infested with jugglers and charlatans, but rather deprecate the fact. It may not be fairly understood by the public, that for the past forty years or more there has been no other vocation wherein a person of average talent could so easily become notable, and acquire a good income, as in Phrenology; every examiner of experience knows that even clergymen do not more readily obtain the confidence of people, and this fact has had the tendency to inflate some aspiring imitators of Spurzheim with lofty notions of their ability.

The masses of the people, especially the young, are susceptible to flattery and cajolery, and he that is skillful in admin-

istering the honey of praise and commendation, usually wins money and encomiums. We are in the habit of warning all who take up the study of Phrenology with a view to its practice as lecturers and examiners, against becoming affected by the tendency to employ praise and flattery in their relations with their patrons. The noblest use of knowledge that is of service to the world, is its application in a straightforward, conscientious, truthful manner. The educated Phrenologist has a great work to do, and it is his duty to deal truthfully with those who appeal to him for advice and direction. No sooner does a man become subordinate to the purpose of accumulating a fortune, than his principles become perverted, his manhood is marred. We hold that in no line of intellectual effort is truth so much required for constant exercise as in Phrenology. Often, however, the examiner tells the truth with regard to the organization of a subject, when he unfolds a higher standard of capability than the subject deemed himself possessed of, and simply for the reason that he had not exercised certain faculties, and had never looked upon life from the point of view that was presented by the examiner. We could point to hundreds of instances where men had not realized what there was in them before the interview with the Phrenologist.

It will be conceded by the reader without argument, we think, that very few persons come up to the full measure of their capabilities, as they themselves understand them, and the true Phrenologist endeavors to show what those capabilities are, to furnish a standard of attainment that will have the effect of stimulating effort. It is certainly overdoing the matter to raise expectations that are not war-

ranted by organization; to tell a young man with a head but 21 inches in circumference, and a coarse temperament, that he has the qualities of a Newton, or a Franklin, or a Webster, or of a Frelinghuysen or a Gladstone, is certainly a gross exaggeration, and simply the trick of a crank or mountebank. But to-day there are very few Phrenologists going the rounds professionally, who are given to this practice; those who are guilty of it belong rather to a past generation, and we think are largely living in the past, making capital of what they were, or what they are supposed to be.

American society, through the multiplication of treatises, and the extended exposition of the subject by lectures, is acquainted with the general nature and bearing of Phrenological science, and has become somewhat critical; it is not easy for one not well instructed in the theory and practice to obtain a good audience and recognition in any respectable town, in fact, people who go to hear scientific lectures nowadays, demand excellence in every department, and the man, whatever his talent and experience, who subordinates his art to a low desire of gain, becomes the subject of suspicion and ridicule.

We are glad of this, because of its good effect upon the lecturer's class. It stimulates them to greater effort in preparing themselves for the sphere of platform instruction.

The teachers of Phrenology have done, and are doing, as much as any class of reformers, to suppress the shams and mountebanks who impose upon the credulity of the public; they have helped as much as any others to open the eyes of the public to the good and true in all efforts for social and moral progress.

THE TRIBUTE TO OUR DEAD SOLDIER.

THERE is much to encourage the soul of the thinking, moralizing citizen of the American Republic in the universal expression of sorrow that has ensued upon the death of General Grant. Behind the festoons of black and white; behind the thousand memorial designs that in every large city meet the eye on public and private ways, there is much more than a feeling of loyalty to country, and even more than a grateful recognition of the services that the dead soldier rendered in an hour of peril. We observe a deep, earnest sympathy for the man himself, a compassionate regard for his suffering, and a generous abatement of personal criticism, and of the prejudice that is commonly associated with partisanship. All classes, men of all shades of opinion speak kindly of General Grant. The South joins the North in testimonials of respect; the "gray" co-operates with the "blue" in honoring the memory of the leader who, though inflexible in battle, was more magnanimous than Alexander in the flush of complete victory, and viewed his late foe as an unfortunate brother in arms.

It is the humanity, noble, generous, kind, affectionate, that speaks from the heart of our people that appeals most to our consideration on this great occasion of mourning; and we can not but hail it as indicative of the strong national spirit that everywhere abounds. We are impressed that the masses have advanced in their understanding of the great value of our civil and political institutions, and that never before was the obligation felt so powerfully that binds communities and States together in one great Republic. The emotion that dominates the public

mind is one of loyalty to the nation, while it overflows in grief and sympathy for a dead leader of the nation.

SUPERANNUATED MINISTERS.

IT seems to be the fashion in the large religious denominations to expect or demand the retirement of a clergyman from active service in the pulpit when he is somewhere near threescore and ten. If he has been fortunate enough to be the minister of a large or rich parish he will be laid aside with a pension sufficient to meet his reasonable wants; but if his lot has been cast with a small community he may in his old age find himself out of a place with little or nothing for his maintenance. To be sure, in most denominations there is a fund for the help of the "superannuated," but we doubt that the contributions to it are so liberal that the beneficiaries receive enough to supply them with the bare needs of everyday life. To the infirm and invalided the stipend coming from such a fund may be welcome, but we suspect that to the majority of "superannuated" divines it has a savor of bitterness that is far from comfortable, as it suggests the thought that they have been pronounced incompetent to perform further duty as a minister of things divine.

And there is a hardship in this that becomes apparent after a little thought. Why should a clergyman at sixty-five or seventy be any less competent to pursue his vocation than a physician or a lawyer of like age? If years bring weaknesses of body and brain surely the physician should be less competent to discharge his important duties than the clergyman his, because the latter is not so dependent upon the physical senses. Yet as so-

ciety goes we see the aged physician drawing larger fees than his younger and more vigorous brothers; and the lawyer of seventy-five or eighty is sought in consultation regarding the gravest questions of jurisprudence and commercial economics. It seems to us that if age bring wisdom in anything of human concern, it should in affairs moral and spiritual; that the man who has devoted himself to the service of God and humanity

should possess a mental culture of the best character; and his competence as a guide and counsellor should be of a higher grade at seventy than at fifty—and, therefore, his services should be esteemed of more value. We fear that the fault in this matter is with the people who constitute our churches—and its principal ingredient is an unsound desire for change and mere intellectual entertainment.



To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE contributions unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

PREPARED CEREAL FOODS.—*Ques.:* Some claim that many of the preparations of corn, wheat, oats, etc., that are packed by grocers are deficient in nutritive value—what is your opinion?—**DYSP.**

Ans.: If corn, wheat, oats, etc., are put up in packages without having undergone any process other than that of grinding or crushing, they are not impaired for food purposes; and if kept in a

clean, dry place, will suffer little deterioration in the course of weeks or months. But you probably have in mind some of the much-advertised steam-dried or partly-cooked cereals of the market. For these we have little favor, since the process of steaming converts the albumen of the grain into a hard, indigestible solid. It is merely a chemical process that is well known to analysts, and the better the original quality of the grain the more it is injured by the steaming. Try the steam-cooked oats that is so quickly gotten ready for breakfast, and you will find it lacking in flavor and tasteless, if you know what good oatmeal porridge is.

HAIR TURNING GRAY.—**H. A. S.**—Many reasons are given for the premature blanching of hair: such as inheritance, air-tight hats, sedentary life, careless habits of eating, exposure, immorality, neuralgia, nervous weakness. Over-exercise of the brain may have some influence in causing loss of hair, but we think that as an independent cause it is rare. A febrile state of the cerebral tissues, long maintained by producing dryness of the scalp, is likely to injure the hair cells, but this febrile state is due much oftener to other causes than that of over-use of the brain.

An account of Swedenborg was published some years ago in the **PHRENOLOGICAL JOURNAL**.

SLEEPING IN CHURCH.—**G. A. B.**—Whether or not a person has large Benevolence and Spirituality, he may not possess that order of intellect that can maintain an active interest in the address of a minister, and if he be weary, or if he have eaten a heavy meal before going to church, he will be likely to nod. Some persons are so constituted temperamentally that they can not help going to sleep when the congregation at church has settled down to hear the sermon—especially if they are accustomed to the routine of religious exercises. To

some the steady flow of a preacher's voice is like magnetism; and the best intentions, sustained by a large moral development, can not resist the influence to drowse.

WIFE OLDER THAN HER HUSBAND.—

A. Y. C.—The cases in which a woman might with advantage marry a man ten years or so younger than herself are exceedingly rare. Young men have joined themselves to rich women, as Mr. Bartlett did to the Baroness Burdett-Coutts; but it can scarcely be said that the world regarded such a union with approbation. Young men of great intellectual gifts, but little practical economy, have married women much older, as Samuel Johnson did Mrs. Potter—out of gratitude for kindnesses received, and have gotten along pretty comfortably; their wives gave them good dinners, washed and mended their linen, and let them pursue their intellectual callings as they willed. But this, we trow, is not the sort of marriage you have in view. Something more than a matter of convenience is desirable to one who would be genuinely happy in the conjugal relation. A true marriage implies substantial equality between the parties in point of mental constitution, and harmony or reciprocity of sentiment. These requisites we are less likely to find in a marriage where the woman is ten years older than the man, than in a marriage where the man is the older. Another point that is of no minor importance is the tendency of women, especially American women, to age rapidly after forty. She may have as good health as her husband, but she generally looks older than he, although of the same age. A woman at forty-five with a husband but thirty-five, appears more his mother than his wife, and this apparent disparity is likely to produce unpleasant and vexatious relations. Still another consideration: should there be children, rather unpleasant contingencies may grow out of the fact of their mother being so much older than their father. We have known such marriages, but have yet to see one that proved satisfactory to both sides in the course of ten or twelve years.

GOOD RHETORIC.—A. B.—There is a great deal of loose writing in the newspapers and in books. Authors are multiplying on all sides who appear to think that it is only necessary to have something to say to be able to write it down, and that the study of language can be dispensed with. You should endeavor to improve your modes of expression, and to acquire an easy, agreeable style of presenting your thought. By the careful study of good English models, such as you will find in the literature of Milton, Addison, Shakespeare, Bishop Berkeley, Arnold, Hawthorne, Irving, Prescott, and the Revised Bible, you can in time acquire facility, clearness, and force of diction. The use of language is like every other faculty possessed by man; it is rendered perfect only by training, culture, and practice.

A DISINFECTANT.—B.—The mere fact of the odor of carbolic acid being apparent in a room, does not warrant the belief that its atmosphere is discharged of poisonous matter that may have been thrown into it by a diseased person. If the sick can not be removed, a mixture of carbolic acid and spirits of turpentine, equal parts, say half a teaspoonful of each, may be put to simmer in a small kettle of water over a moderate fire. The vapor of this mixture has a destructive effect on the germs of diphtheria or typhus-fever.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

FOUNDATION PRINCIPLES OF A TRUE LIFE.—Referring to "Property in Land," by that able writer and friend of humanity, Henry George, and the able reply to it by the Duke of Argyll, who represents the English Land System, we see again repeated "a passage-at-arms," "war to the knife," "a deadly fight," between good men, reformers, who wish to do the world good, but who waste their words, as do opposing sects in religion and government, by neglecting a reference to the *foundation principles* that control all success in our dual life, viz.: mind and matter represented by the practical use of the Golden Rule in affairs on all occasions. The application of the Golden Rule in finance would destroy the present existing monopoly of money by governments and individuals the world over, and the land monopoly, both of which make slaves of white and black people, and are detrimental to the prosperity of both individuals and nations, causing the two extremes of poverty and riches, and are legitimate causes of sickness, suffering, crime, and death.

It would break the slavery of money, and give us financial freedom and equitable money "as good as gold" the world over, to represent values in material things. No legislation or personal effort for the good of mankind, however benevolent or charitable the effort may seem, can ever be successful without reference to these two fundamental principles in mind and matter represented by the two opposites, viz.: The Golden Rule and Equitable Money—one as important and as imperative as the other in a relative sense, for a successful life.

Savages and small communities with few wants like the Shakers, require but little money, but as civilization progresses, and larger communities and cities arise, men's wants increase in proportion, and more and more money is required to make the necessary exchanges between individuals and nations, for the supply of the always increasing wants of progressive people. But as mind always rules matter for good or ill, so the Golden Rule is first in order, in

the consideration of any subject whatever, either private or public, personal or collective, material or spiritual. Then, secondly, the money question, or the money value of material things must be equitably considered. Thus we see at a glance that Henry George, or the Duke of Argyll, or Herbert Spencer, or "the grand old man," Mr. Gladstone, or any other philosopher or statesman, however well meaning, can never settle any of the difficult questions, so called, of Land Monopoly, Capital and Labor, The Freedom of Ireland or Egypt, War with Russia, or any other Christian war, so called, or heathen wars, or any social or political question whatever, without having reference to the science of justice embodied in the Golden Rule and Equitable Money.

B. FRANKLIN CLARK, M.D.

Belvidere, N. J., Seminary.

OCCULT POWER IN ANIMAL MAGNETISM.—As a practical phrenologist, I take the liberty of offering you a few remarks for your valuable journal, hoping thereby to draw out a response from those who make human nature and its possibilities a study. As the result of many experiments in mesmerism, I found that there was much to be gained by the training of one's own will-power, and that much of the influence attributed by many to intelligences outside of ourselves and our sensitive subjects really exists in our organization. I do not wish to dispute the results arrived at by many professors who have given the world so much light on the results of mesmerism, but the point I wish to make is this, viz.: that all the "occult mysteries," so called, that have been brought out by mesmerists through their sensitive subjects, I have been able to produce by placing my *hands* upon the subject and willing without "mesmerizing." The subject not only remains normal meanwhile, but retains his lucidity afterward, and many of these can see and hear what is going on at very great distances. This I have thoroughly proved to my own satisfaction. How all this is brought about I know not, though I may be the chief actor in the matter. Now what I should like to learn is, Have other persons met with similar results, and if so, can they explain the phenomena on scientific grounds? One gentleman suggested to me that it was most likely that my magnetism changed the molecular activities in the brain of the sensitive—a suggestion that needs some explanation to be intelligible to most of us.

J. McLEOD.

THE ORGAN OF WEIGHT—AN OBSERVATION.—I wish to write a few lines about a case in which the above organ was extremely well developed. I made an examination of the head of a man whom I knew well, and, knowing him, could not at first understand why the organ of Weight should be so well developed in his head, as the work he was engaged in did not call for it, and he was not known to possess any remarkable powers in this direction. At last, however, the mystery

was solved, and it then appeared simple enough. The man was lame, having a club-foot, and it was a hard matter for him to walk, especially over rough ways and in slippery weather. The constant care required to keep his footing when about had promoted a steady growth of Weight, and thus it had become salient. Perhaps others may have noticed similar cases; if so, I should like to hear from them.

R. S. SIDELINGER.

THE JUNE NUMBER OF THE PHRENOLOGICAL JOURNAL closes the half-yearly volume. It is a healthful, hopeful magazine. It is always noted for timeliness in the selection of topics, and for the candor and ability with which they are treated. The opening article of the present Number is on the "New American Ministers to Foreign Powers," with portraits and admirable biographical and analytical sketches. The JOURNAL is always on the side of purity and practical Christianity.—*Christian Advocate*, Buffalo, N. Y.

PERSONAL.

IN MEMORY.—On Sunday, August 2d, we attended the funeral of Miss Jane Middleton, one of our personal friends, and an earnest advocate of the principles represented by the PHRENOLOGICAL JOURNAL. The sad and beautiful service of the Episcopal Church was read in St. Ann's Church, (the Rev. Dr. Gallaudet's,) New York City, and participated in by a large number of deaf-mutes—to whom Miss Middleton was especially known, as a teacher and guide and protector for many years. She was also extensively known in the hospital, asylum, and prison charities of the city, being indefatigable in good words and works, wherever time and duty permitted her to go. Death came to her suddenly in the midst of her activity. An apoplectic attack laid her on the couch from which she never rose again.

PRESIDENT MCCOSH, of Princeton College, has been making a statistical study of the relations of foot-ball and base-ball to scholarship, and finds that of the twenty-seven men who are prominent members of teams and nines, not one stands first in the six academic grades, only two in the second, and that twenty-two fall in the lower half of their classes—a somewhat different showing from that of certain special pleaders for college sports.

LIEUTENANT SCHEUTZE, of the United States Navy, sailed for Bremen in July. He is on his way to the mouth of the river Lena, on the northern coast of Siberia, his mission being to deliver gifts to natives who assisted the survivors of the unfortunate *Jeannette* expedition.

SAMUEL IRENÆUS PRIME, D.D., well known in the walks of New York journalism for over forty years, died July 18 last. He was in his seventy-

third year. Dr. Prime had been connected with the *New York Observer* forty-five years, and for upward of thirty years was chief owner and editor. He was a good business manager and a fertile author, when past seventy years doing some of his best work.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

WERE every one to sweep before his own house, every street would be clean.

NE parlez jamais de vous aux autres, ni en bien, parce qu'ils ne vous croiraient pas; ni en mal, parce qu'ils en croient déjà plus que vous ne voulez.

IF one man conquer in battle a thousand times a thousand men, and if another conquer himself, he is the greatest of conquerors.—*Buddha's Dhamapada*.

OUR virtues are the dupes and often only the plaything of our follies, Bulwer Lytton says; in other words, and scientifically, our moral sentiments are often subject to our propensities, and made contributory to their selfish and misdirected ends.—D.

THE spirit of liberty is not merely, as some people imagine, a jealousy of our own particular rights, but a respect for the rights of others and an unwillingness that any man, whether high or low, should be wronged and trampled underfoot.—*Channing*.

NOW, if there be any one who holds the power of fortune, and everything human, everything that can possibly befall any man, as supportable, so as to be out of the reach of fear or anxiety; and if such a man covets nothing, and is lifted up by no vain joy of the mind, what can prevent his being happy? And if these are the effects of virtue, why can not virtue itself make men happy?—*Cicero*.

WHEN such a man as Geo. Combe comes forth, teaching the everlasting laws of truth to the children of men, he is called a mere materialist. I would not exchange the true test for all the theology that ever existed. All the theological assemblies and gatherings united could not give such benefit to the world as the truths and writings of George Combe, and others who have a profound veneration for the laws of God.—*Lucretia Mott*.

"Tell me, gray-headed sexton," I said,

"Where in this field are the wicked folks laid?
I have wandered the quiet old graveyard through,
And studied the epitaphs, old and new;
But on monument, obelisk, pillar, or stone
I read of no evil that men have done."

The old sexton stood by a grave newly made,
With his chin on his hand, and his hand on a spade;
I knew by the gleam of his eloquent eye
That his heart was instructing his lips to reply.

"Who is to judge when the soul takes its flight?
Who is to judge 'twixt the wrong and the right?"

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

"WHAT is philosophy?" Well, dear, it is something that enables a person to bear with resignation the misfortunes of others.

A NEW cook-book includes a chapter with the odd title, "Why Not Eat Insects?" Did the author never eat huckleberry pie in a restaurant?

MANY of our young ladies look as if a great sorrow was gnawing at their hearts. This look can be called up by any mother asking her daughter if she has darned those stockings.

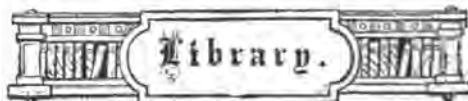
A BRIGHT St. Louis youth got an autograph album filled with signatures, but as they lacked neatness and uniformity he bought a new book and copied all the names into it. Now he is happy.

THE SMALL CHILD.—A lady visiting a young mother, remarked to the grandmother: "How small the child is!"

The old lady replied: "Well, we had a Homœopathic doctor."

"THE matter is, that the rotten thing is full of moths, you miserable—"

"Mots!" do you say?" indignantly interrupted the dealer. "Mots! Vat do you expect to find in a seven-tollar overcoat? Humming birds?"



In this department we give short reviews of such NEW BOOKS as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

OUR HOME PHYSICIAN. A Popular Guide to the Art of Preserving Health and Treating Disease, with Plain Advice for the Medical and Surgical Emergencies. By George M. Beard, A. M., M. D., assisted by Eminent Medical Authorities in the city of New York. Illustrated. Sold by subscription. E. B. Treat, Publisher, New York.

In his preface to the revised edition, which we have before us, the editor feels encouraged to "believe that the experiment has not been entirely unsuccessful, and that the work supplies a legitimate want," the chief element of which consists in clear information concerning the structure of the human body, and the functions of the organs it contains, and intelligible advice for medical and surgical

emergencies, and simple rules for arresting and controlling disease for those who are beyond the ready call of a physician. Dr. Beard was one of the most progressive of New York's physicians, promptly appreciative of the good and useful in new therapeutical discoveries, not bound or hampered by class prejudice and scholastic affiliations, and especially desirous to instruct the public in the means of preventing disease. He had been educated in the circle of medicists who use the material of the pharmacist, and in some advice regarding the treatment of many ailments, those of the eruptive, inflammatory, and scorbutic types especially, he suggests drug treatment, but we find that for the most part he inclines to hygienic methods, and devotes a large part of the book to setting forth the beneficial effects of a well-chosen diet, sufficient sleep, water applications, electricity, out-of-door exercise, etc. He held very decided opinions with regard to the eating of flesh food, and claimed that the tendency of American people was toward insufficient rather than over-eating. Was he a victim of his own theory? There is a great amount of well-digested information drawn from the channels of hydropathy and reformed therapeutics which we advise some of our practicing contemporaries to read with care, because we are sure they would find here many things that would be new and useful to them. It seems to us that Dr. Beard, in preparing the book, had in view the great body of average physicians as well as the un-instructed laity, and indeed his own words are, "It has been my aim to write here in the pages of this book just what I say every day in my office to my patients, just what I have been accustomed to teach in my popular essays and in my lectures before schools and lyceums."

WATER-CURE IN PREGNANCY AND IN CHILDBIRTH. Illustrated with cases showing the Remarkable Effects of Water. By Joel Shew, M.D. Revised, with an Appendix, by H. S. Drayton, A.M., M.D. 12mo, pp. 134. Price, 50 cents, paper.

From earliest time water has been used as an important instrumentality in treating the sick, and its efficacy has in modern times been more clearly demonstrated than that of any other recognized medicinal agent. While thousands of "discoveries" have been received with enthusiasm by the medical fraternity only to be dismissed in a longer or shorter time as incompetent, water has never failed when applied by skilful and intelligent hands to accomplish good. The value of this simple element in those conditions peculiar to woman's married life is very great, and the experience of the best authorities in obstetrics confirms all that Dr. Shew has to say. The need of just such information is the sufficient reason that this new and revised edition is given to the public. Were every married woman possessed of a copy and observed its precepts, we believe that the large mortality among lying-in women, that is a disgrace to our vaunted civilization, would be immensely reduced.

PUBLICATIONS RECEIVED.

THE American nation has a double birthright—liberty and land. Its liberty it has guarded jealously, but until very recent years it seems to have been indifferent to the loss of its public lands and ignorant of the methods by which they have been diminished. Hon. George W. Julian tells the story in brief in the *North American Review* for August. Five medical authorities discuss the question, "Can Cholera be Averted?" "The Animal Soul," "A Profane View of the Sanctum," "The Price of Gas," and "Temperance Reform Statistics" are other noteworthy topics.

CRITICAL METHODS OF DETECTING ERRORS IN PLANE SURFACES. A paper read before the Engineers' Society of Western Pennsylvania. By John A. Brashear. An interesting pamphlet to experts in physics and mechanics.

FOOT-PRINTS OF TEMPERANCE PIONEERS, compiled by J. N. Stearns, is designed as a "Centennial Souvenir" of the temperance reform, and is chiefly made up of the testimony of prominent men of past generations, in behalf of decency, duty, and truth. Beginning with an essay by Dr. Benjamin Rush, written in 1785, its contents embrace declarations by men such as Geo. B. Cheever, Lyman Beecher, Prof. Moses Stuart, Justin Edwards, John Marsh, Lebbeus Armstrong, Theodore Frelinghuysen, Jonathan Kittredge, John Pierpont, Charles Jewett, Albert Barnes, Eliphalet Nott, Thomas P. Hunt, Heman Humphrey, John Wesley, Lewis Cass, Thomas Jefferson, Daniel Webster, John G. Palfrey, Gerrit Smith, and many others connected with the early temperance work. Price, cloth, 50 cents; paper, 25 cents. J. N. Stearns, Agent, New York.

HARPER'S MONTHLY for August is appropriate to the season; its illustrations suggest waving meads and breezes that mitigate summer fervors. "A Trip on the Ottawa" is refreshing, with its pictures of simple life in a section of the Dominion. "Social Democrats in the Reichstag" shows us the sort of men that dispute imperial control in Germany. "A New England Colony in New York" introduces the reader to an old-fashioned settlement away down on the end of Long Island. "English and American Railways" is a good description of the comparative excellences of two great systems of travel. We might say that our own experiences of "third class" coaches are more agreeable than the writer's. A very good Number this of August.

EIGHTH ANNUAL REPORT of the National Food Reform Society for the year ending January 31, 1885, is an interesting and instructive document, being made up chiefly of newspaper notices and reports of the work of the Society. We are glad to see such enthusiasm and good progress in a cause that promises fundamental improvement to the community. Price twopence, or five cents. Office

of the Society, London, Finsbury Square Buildings, E. C.

IN THE SCHOOL JOURNAL Mr. Kellogg lately published a series of articles on the Temperaments, that were phrenological and thoroughly instructive to his large round of readers. In other respects the *School Journal* is kept in advance regarding educational matters by its observant and energetic editor. By the way, the office of the *School Journal* has been removed to 25 Clinton Place, in the neighborhood of the F. & W. Co.'s Office, and adding one more to the group of publication houses in the interest of education.

LIPPINCOTT'S MAGAZINE for August is another example of a monthly gotten up in a manner befitting the season. The only "solid" papers are "The Scottish Crofters" and "The Pioneers of the Southwest." The former contains a statement of the claims of the Crofters and of the tendency of legislation and public opinion in Great Britain in reference to the tenure of land. "Our Ville" is an amusing sketch of French provincial life. "Fishing in Elk River" carries us to the wild mountain region of West Virginia; and "A Forest Beauty" is a description of the tulip-tree, the giant of the Western woods. There are also other good things.

OGILVIE'S POPULAR READING, No. 20, contains six stories: "A Dark Inheritance," "His Secret," "The Withered Leaf," "Clouds and Sunshine," "The Little Earl," "Diary of a Minister's Wife." Price 30 cents. J. S. Ogilvie & Co., New York.

THE MIDSUMMER HOLIDAY NUMBER OF THE CENTURY opens with a lively account of life at "Camp Grindstone," the summer meeting-place of the American Canoe Association. It is profusely illustrated. W. D. Howells, in his picturesque series on Italian cities, writes of his walks through Siena, illustrated from Pennell's etchings and pen-and-ink sketches, some of them of full-page size. The papers on "Typical Dogs" include "The Water-Spaniel," "The Collie," "The Fox-Terrier," and "The Scotch Deerhound," each class being illustrated. There is a paper "On Hotel-keeping—Present and Future," also "The Indian Territory—what it is, and what it should be"; besides papers by Gen. Fitz John Porter on Malvern Hill—"The Last of the Seven Days' Battles," and another chapter from the "Recollections of a Private," both illustrated.

THE POPULAR SCIENCE MONTHLY for August has "Concerning the Suppressed Book," "Genius and Insanity," "An Experiment in Primary Education," "On Leaves," "Diet in Relation to Age and Activity," "Modern Bronzes," "A Sketch of M. Chevreul," among its special features.

THE late number of *Christian Thought* has not been surpassed by any of its predecessors. It opens with a paper by Prof. Davis, of the University of

Virginia, which is followed by a paper from Bishop Harris, of Michigan, on "Capital and Labor." "The Vicarious Principle in the Universe" is a very interesting presentation of the truth that the basis of the atonement as a rule of grace may be found in nature. The miscellaneous articles are of varied and great interest. The Rev. Dr. Deems edits *Christian Thought*.

WORSE THAN WASTED. A supplement to "Our Wasted Resources." By Wm. Hargreaves, M.D., Ph.D. 12mo, pp. 98. Paper 30 cents. J. N. Stearns, Agt., New York.

Recent gleanings from statistics, including the census of 1880, and other official documents that add much to the earnest testimony of the author's previous essay. The cost in money of the liquor-drinking habits of our population is stupendous, quite beyond conjecture by one who is not conversant with facts, but the cost to the physical and moral being of our people is beyond all attempt at calculation. Dr. Hargreaves does not exaggerate the case; he leaves the reader to note his array of figures, and draw what conclusions he may of the terrible condition of society.

PROCEEDINGS OF THE SOCIETY FOR PHYSICAL RESEARCH, Part VIII., for May is of passing interest to the general reader: the chief topics discussed at much length, with a considerable list of examples, are Automatic Writing, in which the little board known as Planchette plays a conspicuous part, and Phantasms of the Dead, following which is a critical examination of such alleged phenomena, by Mr. Edmund Gurney, under the title of Hallucinations.

The retirement of Prof. Sidgwick from the presidency and the election of Prof. Balfour Stewart to that place is noted.

SHALL WE HANG THE INSANE WHO COMMIT HOMICIDES? A paper read before the Medical Jurisprudence Society of Philadelphia, by Clark Bell, is a strong appeal to the intelligent in professional and lay circles in behalf of the unfortunate who in a moment of frenzy or strange exaltation render themselves subject to the charge of homicide.

THE HISTORICAL REFERENCE BOOK with Geographical Notes. By Louis Heilprin. 8vo. \$3.00.

INQUIRIES INTO HUMAN FACULTY AND ITS DEVELOPMENT. By Francis Galton. 8vo. \$3.00.

HOW SHOULD I PRONOUNCE? The art of correct pronunciation. \$1.25.

STUDENT'S ECCLESIASTICAL HISTORY. Part II. The Christian Church during the Middle Ages, with a summary of the Reformation. By Philip Smith. 12mo. \$1.50.

WANDERINGS IN SPAIN. Illustrated. By A. J. C. Hare. Cloth, \$1.25.

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[WHOLE No. 568



MICHEL EUGÈNE CHEVREUL.

MICHEL EUGÈNE CHEVREUL,

THE OLDEST SAVANT LIVING.

THE study of nature is conducive to long life. This fact is attested by statistics, both ancient and modern. And with the lengthened life, activity and vigor of mind are so associated that in some cases most strikingly contrast with the oft-quoted saying of Israel's king: "Though men be so strong that they

come to fourscore years, yet is their strength then but labor and sorrow." The condition of the brain and its attendant organs in old age is dependent mainly upon the manner of their exercise. The use of a faculty, day after day, if it be not carried to excess, serves to maintain it in good order. The eyes and the ears have been known to perform their functions well until very late in life for persons whose vocations required them to make greater demands upon their capabilities than the average pursuits of life.

France is famous for its array of aged men who are doing good work in their different fields of scientific investigation; and one of them, the subject of the present sketch, is the oldest active scientist living. As shown in the portrait, M. Chevreul possesses a very remarkable degree of physical vitality for a man within a year of his hundredth anniversary. Note the plumpness of the cheeks, a very unusual occurrence in a man exceeding eighty years—leaving out of view a man over ninety-five. This shows unusual digestive capacity, power to convert and assimilate food, and to supply the demand of an active, excitable nature. That hair, both in its abundance and in its character, indicates tenacity and endurance.

With his excitability, a true French trait, M. Chevreul associates a cheerful, buoyant nature, a spirit of playfulness that is to-day a marked feature. He has not been the man to suffer from depression, to feel discouragement. His outlook on life has been hopeful, and at the same time eager and stimulated by ambition.

He is a man of generous feeling, prompt to express sympathy and to proffer help; never, we infer from the narrowness at the temples shown in the portrait, controlled by fears of pecuniary loss, or by suggestions that he was acting an extravagant part. He has an appreciation of money for certain uses within his sphere of action, but not an appreciation colored by a strong love for francs and napoleons in themselves.

The development of the forehead shows capabilities of a definite specific order; not versatility, not a general breadth of view, but a disposition to restrict effort and study to a few subjects. He could find sufficient employment and sufficient satisfaction in one sphere, and successful achievement there has been very grateful to him, and stimulates to further activity in the one direction.

With such a temperament and such wonderful nutritive powers, the brain and nervous system have been sustained in free strength and rendered efficient twenty years longer than the average.

In M. Chevreul we view an example of what we consider should be every man's birthright—if society were organized in accordance with the laws of nature—and this aged chemist has been exemplary, simple, and normal in habit—an active, useful life for a hundred years. The following sketch is abridged from an article published in the August Number of the *Popular Science Monthly*:

Michel Eugène Chevreul was born at Angers, France, where his father was hospital physician and a professor in the Obstetrical School, on the 31st of August, 1786. He studied the course of the Central School of his native city, and when seventeen years old went to Paris, where he became associated with Vauquelin in the manufacture of chemicals, and was made director of his laboratory. He was afterward, in 1810, selected by Vauquelin as preparator in the course of Applied Chemistry at the Museum of Natural History. In 1813 he was given the title of Officer of the University, and was placed in the chair of Chemistry of the Lycée Charlemagne. In 1824 he was made special Professor of Chemistry at the Gobelins factory, and director of the dye-houses connected with that establishment. In 1826 he was admitted to the Academy of Sciences, in the place of M. Proust, in whose favor he had retired from the candidacy in 1816, when he had had an opportunity of being elected. In 1830 he succeeded his former master, Vauquelin, in the chair of Applied Chem-

istry in the Museum of Natural History. He has been charged with the administration of the Jardin des Plantes, where he has had occasion to defend the ancient prerogatives of the body he represented against the encroachments of the political administration, and where he made a formal protest during the siege of Paris against the barbarous bombardment of the buildings of the institution.

The most important of the discoveries that science owes to M. Chevreul have been perhaps in the fields of researches on fatty bodies of animal origin, and of colors, their contrasts, their harmonies, and the graduation of their shades. The "*Recherches chimiques sur les corps gras d'origine animal*" ("*Chemical Researches on Fatty Bodies of Animal Origin*"), on which the foundation of his reputation was laid, appeared in 1823. In this work the author developed his ideas on the relations of fatty bodies and the ethers, and propounded the first exact theory of saponification, by showing that either acids or alkalis tend to speed the decomposition of fat substances in acids and in glycerine, through the absorption of a certain number of equivalents of water. The same decomposition takes place spontaneously, but slowly in the open air, and is the cause of the rancidity of fats. The water absorbed in the course of the transformation contributes to the formation of the resultant fat-acid, and the glycerine is separated. Glycerine had been discovered by Scheele in 1775, but, until M. Chevreul's experiments, was regarded as only accidentally present in some fats; and to M. Chevreul is due the discovery that it is always separated in the saponification of fats, and that those bodies are now regarded as salts, formed of glycerine as a base, combined with some acid. This theory led up to the invention of star-candles, of the value of which the present generation, with its gas-lights and petroleum-lamps, can have no conception. For this discovery M. Chevreul was awarded the grand prize of twelve thousand francs founded by the Marquis d'Argenteuil, in conferring which the

Société d'Encouragement pour l'Industrie Nationale declared with justice that it was only registering the opinion of all Europe concerning researches which might serve as models to all chemists. M. Chevreul, it may be added, never thought of turning his discoveries to his personal profit, but gave them freely to the world, and was satisfied with being a student of science.

M. Chevreul's researches in coloring-matters at the Gobelins factory and at the Museum gave occasion to the publication of "*Leçons de chimie appliquée à la teinture*" ("*Lessons on the Application of Chemistry to Dyeing*," 1828-1831); of a memoir on the law of the simultaneous contrast of colors, and on the arrangement of colored objects according to that law in its relations to painting, and of a memoir on colors and their application in the industrial arts, 1864; works embodying novel ideas, the application of which in manufactories and workshops has been attended with important results. M. Chevreul was much grieved when, in his advanced age, the management of the Gobelins factory placed him on the retired list; but, in order to appease his feelings, he was allowed to retain his appointment with the full salary attached to it. In 1879 he was retired from the directory of the Museum, but was permitted to retain his chair as professor.

Among the honors that have been accorded to him are membership of the Royal Society; President of the Agricultural Society; Commander, Grand Officer, and Grand Cross of the Legion of Honor; and other memberships and decorations at home and abroad. He was a member of the International Juries at the Expositions of London and Paris. In September, 1872, the French Academy of Sciences presented him with a medal in anticipatory commemoration of the fiftieth year of his membership. The fiftieth year would not strictly have occurred till 1876; but it was generally understood that he would have been elected in 1816, had he not urged the Academy to give the vacant place to M. Proust, who was

old and infirm, and could not afford to wait. M. Dumas, the Permanent Secretary of the Academy, in a "gracefully-worded speech," recounted the many valuable services rendered by M. Chevreul, "the dean of French students," as he was modestly accustomed to style himself, and at the same time bore warm testimony to the personal character of the man. M. Élie de Beaumont, who had been a pupil of M. Chevreul, added a few words of veneration and respect for his old master, after which the latter, attempting to respond, could only express his inability to do so. In 1873 the Albert gold medal was awarded him by the English Society of Arts, for his valuable researches in connection with saponification, dyeing, agriculture, and natural history. In November, 1876, he was entertained at dinner by eighty *savants* in celebration of the fiftieth anniversary of his professorship and membership of the Academy of Sciences. The American Association for the Advancement of Science, at its Boston meeting in 1880, sent him a congratulatory telegram on his reaching his ninety-fifth year, and expressed the hope that he might be spared to continue his labors until the end of his century, which only a few months are lacking to see fulfilled. In the same year he completed the fiftieth course of his lectures at the Museum, on the application of chemistry to organized bodies. Each course consisted of forty lectures, so that the fifty courses included in all two thousand lectures.

A curious illustration of his vigor and activity, lasting into extreme old age, is afforded by a communication which he made to the Academy of Sciences on the 4th of February, 1884, which was on the varying color-effects produced by the glare of a conflagration playing upon a gas-light that stood in front of the Museum, which he observed for an hour. Delicate work that for the eyes of a man ninety-eight years old! That vigor still continued till the beginning of the present year, when M. Chevreul presided at the meeting of the new Association of

French Students, the "Scientia"; and when his name was mentioned in connection with those of Jamin, Pasteur, De Lesseps, and Léon Say, as one of the persons whose co-operation was expected to insure the success of the organization. In his address at this meeting he declared himself still a student.

An interesting account of M. Chevreul's habits is given by a writer who is quoted in the *Lancet*: "He is generally lightly clad, and wears no hat unless under circumstances in which he is obliged to appear in one; indeed, he hardly needs a hat, as he has most luxuriant hair. He is almost constantly at work, allowing only ten minutes for each of his meals, of which he has but two a day. He breakfasts at seven, the repast consisting of a plate of meat and another of vegetables, which he eats together, the whole being washed down with two tumblers of water. He is said to have never drunk a glass of wine in his life—a remarkable thing for a Frenchman. He dines at seven in the evening, and takes nothing between the two meals except a small loaf at noon, which he eats standing and by the side of his alembics. The writer who relates this states that on a visit, in 1874, to M. Chevreul, he found him in the attitude just described, and on expressing his surprise at the frugal manner in which he lived, M. Chevreul observed: 'I am very old, and I have yet a great deal to do, so I do not wish to lose my time in eating.'" In his work he is said to follow a motto that he has chosen from a maxim by Malebranche, and which is regarded by *Nature* as affording a true key to his life, his works, and his discoveries: "Chercher toujours l'infailibilité, sans avoir prétention de l'atteindre jamais" ("Always to seek infallibility, without having the pretension of ever reaching it").

He may be said to illustrate the counsel of Seneca: "Study rather to fill your minds than your coffers; knowing that gold and silver were originally mingled with dirt, until avarice or ambition parted them."

BABY-FACES—A STUDY IN PSYCHOLOGY.

A BABY'S face—what is there in it? A well-known unmarried lady, often seen on the lecture platform, says that "no two women are alike, but men can be arranged in bundles," which is declarative of attentive study on her part of her own sex, while of men she is comparatively ignorant. So the intelligent mother can tell you the difference between her baby's face and that belonging to the little, gurgling, crowing pet over the way. She has studied it and knows its variation of feature from other babies at a glance.

A hundred years ago there were certain philosophers of distinction who compared an infant's mind to a sheet of blank paper, and claimed that its future was altogether dependent upon its training. Strange that intelligent men should entertain such a view, when the teaching of ages before embodied principles that have become formulated in the doctrine of *heredity* that biologists and physiologists generally now accept. It must be that those old savants never studied baby-faces, but considered the subject of mental development deductively; reasoning from their "inner consciousness" on the presumptive effect of impression, environment, association, and forgetting or ignoring the influence of parentage. Had they observed how children laugh and cry, exhibit anger, petulance, and passion, with but a tithe of the care of Mr. Charles Darwin, they would not have given their support to a sophism entirely at variance with that canon law of human being—"Like produces like." The characteristic lineaments of race, the general contour of family, the special expression of father and mother, are manifest in the mould and texture of an infant; incipient, germinal to be sure, yet traceable by the discriminating eye.

It is an interesting avocation to watch the growth of a child from birth merely for the purpose of noting the changes that gradually take place in its physical

structure, the increase in size of the different parts, the growing adaptation of the young being to his physical needs and environment. Several distinguished authors have spent much time in the study of the nervous and muscular relations of expression, and have given to the world results of high value. Sir Charles Bell, Dr. Duchenne, and Mr. Charles Darwin have labored to show how man is provided with a remarkable apparatus of most delicate sensitivity for the manifestation of his various feelings. In the child, by reason of want of culture and self-control, the simple phases of this apparatus, when in exercise, are analyzed with comparative ease. In the fully matured man and woman, especially if the culture be high and the environment elaborate, the analysis is one of subtle nicety.

Back of the facial apparatus is the brain with its complicated organism that somehow actuates the mechanism that conveys to the observer a knowledge of the mental condition. It is this mental condition that chiefly concerns us, for the physical, at best, is but secondary in importance. The same set of muscles may be exercised in the facial expression of even contradictory emotions, but no brain-centre possesses more than one particular function. What we are, what we feel, think, say, and do, belong to the life spiritual or mental, and make up the substance of our weal or woe, and in the infinite variety of thought and feeling the brain-centres operate as so many keys of a wonderful musical instrument, that set in motion the human machine and thus translate into tangible manifestation the mental life.

Let us consider some baby-faces, not to trace the connection between the fibres of the *orbicularis* muscle and an act of weeping or laughing or sneezing, not to ascertain how the *depressores anguli oris* draw down the mouth to give a crying expression to the face, but to glean from

them certain facts relating to their respective types of race and character. "The child is father to the man," or mother to the woman; with equal conformity to scientific principle is the child representative of his parents in bodily peculiarities and mental characteristics. As Mr. Galton says in his "Record of Family Faculties": "The natural gifts of each individual being inherited from his ancestry, it is possible to foresee much of the latent capacities of a child in mind and body, of the probabilities of his future health and longevity, and of his tendencies to special forms of disease by a knowledge of his ancestral precedents. When the science of heredity shall have



No. 1.

become more advanced the accuracy of such forecasts will doubtless improve; in the meantime we may rest assured that fewer blunders will be made in rearing and educating children under the guidance of a knowledge of their family antecedents than without it."

The established principles of transmission furnish a solid basis for training the young to lives of usefulness and harmony, since by their application parents or guardians may be enabled to develop into higher activity those traits that are desirable, and reduce in strength and influence those that are disturbing and injurious. Judicious education from the dawn of intelligence will effect a marvelous change in character, so that the declaration of many offenders against law

and propriety that they were "born so and couldn't help it," is deprived of its force, and knowledge of one's weakness or bias in an illicit direction will impose obligation to strive for its correction. The noblest types of character known in society are the result of training and disciplining elements that, if they had been left to grow wild, would have destroyed the mental harmony and ruined the men. Socrates is a famous example of the effect of self-discipline upon a character which, by original endowment, was sensual and selfish as he himself acknowledged. If by analysis of the facial expression we are enabled to discover the dominant traits in the disposition of a child, we are in possession of the prime essential to successful education. To dissect the mechanism of expression and to trace its correspondence in man and the brute is doubtless an important department of research, but manifestly he who shows how structure and form are related to special faculties and powers of the mind, performs a far more useful service. He helps to build character, to make men. He is needed in society for society's permanent growth in the arts of peace and true prosperity. His instructions are more precious than rubies and diamonds, silver and gold, as they concern mind and its proper development. He knows that

"Talents, angel bright,
If wanting worth, are shining instruments
In false ambition's hand to furnish faults
Illustrious, and give infamy renown";

but he can point to uses and applications that will bring out the worth of talent, and form the common mind for its sphere indispensable by appropriate education.

Not long since I received from a Western photographer some cards on which were mounted several groups of babies' heads. The variety of expression very clearly shown in the little faces at once interested me. I selected a dozen or more of the most striking, and wrote to the photographer* to send me prints of

* Mr. H. Pietz, Springfield, Ill. Our engraver has tried to be faithful, but the wood-cut in several cases does not give the softness of expression shown in the photograph.—Ed.

them from the original negatives. He promptly and courteously replied to my request, and in a week or two I received



No. 2.

a package of excellently finished *visites*, from which the illustrations in this article were selected. The youngest is nearly a year old, the oldest bordering on three years, so that each face has obtained a characteristic mould, the ossification of the different parts of the cranium being practically complete.

Number 1 is evidently a boy of fair health, with stronger lungs than stomach, and a decidedly active temperament that shows itself in excessive restlessness when he does not feel comfortable. He is more sensitive than timid; rather inquisitive, but not intrusive; easily pleased and naturally prone to occupation. Give him some little employment and he will be busied long and delightedly. He has a very strong will, but is easily diverted by kind treatment from anything that may be undesirable. The expression of eyes and mouth would lead an observer to say that this boy has a frank, good-natured, yet very positive father, and a mother known for a quiet, meditative cast of intellect. Both parents have light complexions and probably brown eyes.

What has been predicated of our first baby-face is not difficult of apprehension by the average student of human nature, and needs but a thoughtful regard to a

few principles that are based on physiology, and which I will briefly epitomize:

As a rule, a child resembles both parents, but there are dominant features that impart a closer likeness to one. In the case of a boy, chin, nose, and forehead are, in outline and expression, mainly derived from the paternal side, while in the case of a girl, the mouth, nose, and cheek-bones or the mesial portion of the face, are usually from the maternal side. The other features, especially the eyes, are, in the preponderance of cases, likely to show a blending of the parentage on both sides. The temperament or habit of body, with its bias toward fatness or leanness, light or dark complexion, usually comes from the parent of the same sex—physiologists, however, appear to be agreed, for the most part, that the physiology of the child is dependent more upon the mother than upon the father. Training and associations have great influence in modifying original stock impressions, but it can be said that three-fourths of those who reach adult life retain the featural similarities of childhood, and their indication is the more distinctive with the attainment of maturity. In Mr. Blaine, for instance, the cast of the more striking parts of the face is inherited from his mother. He was "his mother's



No. 3.

boy" in childhood, and those features that impart most life to a face, the eyes and mouth, are like his mother's. So,

too, is the upper part of his forehead. Inheritance from the mother, if it predominate in the organization of a boy, imparts to the face a rounded outline with fullness of the cheek and a rounded chin. And where a girl's face is notably strong in its bony contours, as flat-checked, ridgy over the eyes and prominent in the nose, and high and conical at the crown, her dominant peculiarities of physiognomy are masculine; she has inherited them from her father, or through the mother from the grandfather, but in the great majority of instances from her father. We hear people say frequently of a boy, for example, that he is the image



No. 4.

of his mother, because of a certain expression that is caught at the first glance; whereas a careful analysis of the whole physiognomy would show him to possess more elements of contour and feature derived from his father. The common tendency is to look at the eyes and the mouth and to base a hasty judgment on them.

With these points fully understood it is not very difficult for an observer to discern the major elements of heredity in the average infant. Some babies are fed much after the manner of the young of the porcine family, and their facial tissue becomes a pudgy mass of adipose matter that almost completely conceals the indicia of character. This unnecessary and unhealthful condition, however, reveals one fact, the animal type of the par-

entage, and of that can be predicated some relationship to the not very circumscribable H. family.

As regards the psychical or dispositional traits of children, it may be unnecessary to remark that their reading is not difficult after a little practice, if the observer but follows the general rule that the leading traits are limned upon the features through the operation of the same law that transmits similarity of character from parent to child. In the simple, unschooled, undisciplined face of the child, the dominance of sentiment, pride, wilfulness, selfishness, kindness, affection, appear with signal distinctness. Proceeding now with my remarks on the faces that I have to show let me say that—

Number 2 is of a very different type from Number 1; he comes of German stock, probably, that lived in the Rhine country. He is a bright, observing child with a will of his own, and can show temper when that will is crossed. Both the mother and father are well provided with the mental element of Firmness, and are not easily coaxed; but we would suggest that in dealing with their little son it were better to try coaxing tactics rather than force. He has a questioning, doubtful look, as if he were not quite satisfied with the operations of the photographer.

Number 3 is a little German girl, who wonders what that queer box, the camera, is, with its great glass eye staring at her, and why she should be required to keep still so long. Yet she is not a difficult one to content, although active and energetic in her childish ways. Her parents are brisk, enterprising people, the mother especially. I would venture to say that the mother is the manager of the business as well as of the home, and that the father, profiting by her good counsel, is a prosperous storekeeper. This little one will like to be engaged at something that will give employment to her feet and hands when she is a few years older. She is well constituted for acquiring a trade, and can be made a useful assistant at home or in some outside vocation.

Number 4 is a restless, uneasy, peevish boy. Evidently it was a labor of love, perseverance, and forbearance to get him before the photographer's instrument. Evidently, too, he is not healthy, but subject to pains and disturbances that keep him in a state of discomfort much of the time. Perhaps he suffers like too many children from not being understood, and hence is considered hard to manage. He is sensitive, timid, distrustful, excitable, but not wanting in intuition. The temperament is of the American type, to the excitability of which the lack of robust vigor adds much that may appear disagreeable. I infer that the parents of this boy married young, and that the father was not distinguished for robust health or decision of character. The bones of a baby's face are gelatinous and the tissues soft and rounded, yet the features will show effects of ante-natal condition in the mother and of nursing and treatment.

In Number 5 we have a boy somewhat like Number 1 in physical condition, but a better-natured or, at least, more docile little fellow. He is a welcome child at the table where he "boards"; both parents have generous and sympathetic natures, and combine in testimonials of loyalty to their baby. He is unaccustomed to harsh speech or acid



No. 5.

reprimand, and does not require them. He understands the language of kindness and is inclined to be observant to

the law of love. Father and mother are associated in the organism of his brain, quite harmoniously associated. In dis-



No. 6.

position they are much alike; perhaps have imparted a little more timidity and diffidence than are practically advantageous in this wealth-eager age; but judicious training can convert those weaknesses to good account if the true happiness of the little man is made the object of his education. The type of organization appears to be that of New England; on one side, perhaps, traceable to a good old Puritan stem. One can scarcely doubt as he studies this bright, sweet face, that his

"Mother is proud and she holds him fast,
And kisses him first and kisses him last;
And he holds her hand and looks in her face,
And hunts for her spool which is out of its place;
And proves that he loves her whenever he can,
That is why she is proud of her little man."

Number 6 is probably a little lady of Hebrew descent; her eyes, the contour of head and face, and the general sturdiness of the physical expression indicate this. She is likely to develop into a practical, thorough-going, energetic woman, one appreciative of her rights and earnestly careful in the management of her duties, social and domestic. Those eyes, so wide-open and full, evince a ready susceptibility to impression and unusual gifts of expressing thought, at the same time a tendency to excess in showing

emotion. She will be sensitive enough, and have a high regard for station and good name. It is a rather mature face for a baby.

Number 7, evidently the eldest of the series, is a boy of many superior parts; perhaps a little sluggish temperamentally. On the father's side there may be physical infirmities that have their effect in the boy, but the cerebral organization is unusually symmetrical, and were it well supported by a vigorous body we could promise an exceptional future for him. The intellectual faculties are capable of extended cultivation, the esthetic sense is delicate, the intuition very active. If he lives to manhood he will be distinguished for spirit, pride, emulation, and, perhaps, for caprice and open indifference to the minor considerations of every-day life. He will desire to lead, and to have to do with large matters. With so large a head and such organization he will not be easy to rear and train by those not conversant with the principles of physiology and mental hygiene. There is a mixture of racial elements in his organization, German and American, we think, the former predominating in his mental action.

In Number 8 we have a scion of a different class, a lively, mischievous elf, that



No. 7.

everybody likes. The artist must have found it a very difficult task to keep him quiet long enough for even an "instanta-

neous" impression. He is a rollicking into-everything busybody, a little Frenchman very likely, who may have come to



No. 8.

the "States" by way of Canada. He will be likely to develop into the good-natured, affable man, with a grain or two of headiness and obstinacy, but talkative and social, easy in adapting himself to others, skilful as a mechanic, ingenious, versatile, serviceable.

Baby Number 9 will have the sympathy of the reader, doubtless, for he is a sickly, wan-faced specimen of incipient humanity. A constitutional dyspeptic whose nervous system is insufficiently nourished, he must be very wisely fed and cared for if his parents would save him. The growth of the brain forward appears to have centred in the mesial region, imparting to the forehead a wedge-like shape, with a rather flat top-head inclining downward. He is preternaturally observing and intelligent, and the undue activity of the little brain renders his physique puny. The little fellow has for the most part his mother's organization, and probably received his weakness from her, through the mysterious influence of a condition that might have been but temporary. The contrast of this boy with Number 5, or the curly-topped urchin last described, is great, and one can scarcely help advising his parents to give him plenty of sunshine, with opportunity to run in the fields and play with the chickens and

kittens all summer, and see that he has simple, nourishing food.

Oho, what have we next? a well-organ-



No. 9.

ized little one, to be sure, whose complexion shows his close relationship to the negro race. Most likely his parents, uncles, aunts, and cousins are very proud of him, and expect high things from him when he reaches man's estate. That is an unusually large head, and of exceptionally precocious growth in the upper region. In nearly every respect it greatly exceeds the typical form of his race; but it is probably the outcome of several generations of life amid scenes of



No. 10.

civilization, and the boy was born in a family that has had a much better environment than the average negro family of

American society. With such a start in organization this boy, if well educated and guided, should become a man of superior ability, taking rank with such men as Holley, Douglass, and Garnet. He is capable of doing much more than merely filling the place of a hotel waiter, or dancing attendance as a valet upon some gentleman of fortune.

In Number 11 we have a nice little girl, a bright little chatterbox. She is light in weight, but elastic and wiry; can be kept in good health with but moderate attention to her physical needs. She is strong-tempered, curious, and wilful, but helpful and industrious if judiciously directed. A very affectionate child, her moods



No. 11.

and biases may be controlled by kindness and tenderness, but the policy of force would find her disposed to rebellion and operate unhappily in giving a vein of deception to her character. The mother has imparted a good proportion of the motive or muscular temperament, so easily desecrated in form and expression. What the stock is we confess ourselves to be unable to say from the photograph. She looks enough like a little gypsy to warrant one in imputing traces of Romany blood to her lineage. At a venture I will say Southeastern Germany was the home of her father. As I look at her bright eyes I am reminded of a little story that came under our notice not long ago. A sunny-tempered little girl lived in a

boarding-house where there was a peevish, tyrant of a boy, nearly her own age—two years. The children played together, but the domineering manners of the boy, and the way in which he would possess himself of the little girl's playthings and compel her to do his will, excited not a little indignation among the adult boarders, especially the bachelors. One day the little boy, without provocation, struck the baby-girl squarely in the face. Submission or a scream was expected and nothing more, but, to the astonishment of the by-standers, the gentle, blue eyes fairly snapped with fierceness, and the girl-baby, catching her boy-assailant by the ears gave a screech, and down-stairs



No. 12.

they both rolled. The uproar called half the boarders that were in the house at the time to the foot of the stairway, where the children were screaming, and they found the girl's hands still tugging at the boy's ears; and when they were loosened and she was in her mother's arms, she seized the boy's hair and tore out a handful.

A plump, solid boy concludes the list, a splendid specimen of robust infancy. Both father and mother have contributed to that admirable physique, and perhaps the nurse is doing what she can to fill out the soft tissues, thinking, as many nurses

ignorantly do, that a great fat body is the ideal of infantile perfection. He's a domestic tyrant this boy; has his own way in most respects, and shows a very energetic use of lungs and legs when he does not. He's "papa's boy," in the main, as concerns disposition, strong in will, disliking restraint, audacious and pert. We fear that he is too much petted by the family, and already feels the importance of his position as the autocrat not only of the breakfast-table, but of all the tables and chairs of the household. His ears are of generous size, and he has a good showing on the side of affection, but unless they who keep him are discreet in their treatment they will develop a troublesome degree of selfishness and exaction in his character, and find to their sorrow in later years that the "cunning rogue" of a baby has become the imperious youth whom to deny is to produce an outburst of anger and resentment. We hope, however, that his surroundings are wholesome for his development and that he will be guided judiciously, for he has all the makings of an enterprising, spirited, courageous, thorough-going, useful man. The race marks in this little fellow are well compounded, and he evidently belongs to a family that has reputation for high capabilities and refinement.

Should the reader be interested enough in baby physiognomy to visit the studio of a photographer who has a reputation for "taking" children, it will be found that an examination of a hundred portraits of the youngest specimens of humanity that the artist has to show, will reveal scarcely two faces that bear a close resemblance to each other, and the premise of the physiologist that we are born each with different original endowments, sustained as it is by our dozen illustrations, will have more striking confirmation.

THE EDITOR.*

* Abridgment of a paper on "Parental Influence on Infant Physiognomy," read at the Summer meeting of the Academy of Anthropology, Kingston, N. Y., Aug. 26, 1885.

JOHNSON AND BOSWELL ON LIBERTY.

IT is difficult to understand the attraction of these two men for each other, except upon the principle of magnetism that unlike poles attract each other, or of the algebraic equation that requires unlike signs to be added. For two minds could scarcely be more unlike than those of Johnson and Boswell; and yet no two men were ever held together in firmer bonds of friendship. On the part of Boswell was an admiration and affection for Johnson that amounted almost to adoration, while the attachment of the great man to his inferior was not less sincere. "My regard for you," says Johnson, "is greater almost than I have words to express; but I do not choose to be always repeating it; write it down in the first leaf of your pocket-book, and never doubt of it again."

Except in the matter of a certain devotion to literature, the two men did not seem to have had a single sentiment in common. Boswell scarcely ever ventures an opinion, a thought, or a view, that Johnson does not at once controvert or rudely crush to atoms. As illustrative of the contrariety of their views of things, and further, also, of the strange contradictions of their own minds, we have their opinions on the subject of liberty and slavery. Johnson was an ardent Tory, devoted to extreme views of Church and State, and in favor of only a minimum of personal freedom. He opposed bitterly, with tongue and pen, the American cause during our Revolutionary struggle. His extreme views as against personal liberty were such as to be proverbial. On one occasion, when he was led to denounce some project on the ground that it destroyed "a certain portion of liberty," the celebrated John Wilkes exclaimed, "What! does *he* talk of liberty? Liberty is as ridiculous in *his* mouth as *Religion* in *mine*." Yet Johnson was devoted to the freedom of the slave. He wrote a powerful argument in favor of a negro slave who had been carried to Scotland by his master, and

who claimed his liberty before the Scottish Court of Sessions. In the course of that argument Johnson says: "The laws of Jamaica afford a negro no redress. His color is considered as a sufficient testimony against him. It is to be lamented that moral right should ever give way to political convenience. But if temptations of interest are sometimes too strong for human virtue, let us at least retain a virtue where there is no temptation to quit it. In the present case there is apparent right on one side and no convenience on the other. Inhabitants of this Island can neither gain riches nor power by taking away the liberty of any part of the human species. The sum of the argument is this: No man is by nature the property of another. The defendant is therefore by nature free. The rights of nature must be some way forfeited before they can be justly taken away. That the defendant has by any act forfeited the rights of nature, we require to be proved; and if no proof of such forfeiture can be given, we doubt not the justice of the court will declare him free." No more logical plea has ever been made before a court of justice. Again, in one of his pamphlets against the Americans, he asks: "How is it we hear the loudest *yelps* for liberty among the drivers of negroes?"

On the other hand, Boswell was in favor of greater freedom for the individual. He and Johnson could never agree upon that subject. One night at Ashbourne he threw Johnson into a violent heat by arguing in favor of his "fellow-subjects on the other side of the Atlantic." At another time he writes to Johnson: "I am persuaded that the power of the Crown, which I wish to increase, would be greater when in contact with all its dominions than if 'the rays of regal bounty' were 'to shine' upon America through that deuce-troubled body, a modern British Parliament."

At the same time that this man was opposing tyranny and arguing in behalf

of greater liberty for his fellow-subjects, he was in favor of negro slavery, and even defended the slave-trade. It is curious at this age of the world to read the arguments by which that barbarous traffic was justified a hundred years ago. "The wild and dangerous attempt," writes Boswell, "which has for some time been persisted in to obtain an act of our Legislature to abolish so very important and necessary a branch of commercial interest [*i. e.*, the slave-trade], must have been crushed at once had not the insignificance of the zealots, who vainly took the lead in it, made the vast body of planters, merchants, and others, whose immense properties are involved in the trade, reasonably enough suppose that there could be no danger. The encouragement which the attempt has received excites my wonder and indignation; and though some men of superior abilities have supported it—whether from a love of temporary popularity, when prosperous, or a love of general mischief, when desperate — my opinion is unshaken. To abolish a *status* which in all ages God has sanctioned and man has continued, would not only be *robbery* to an innumerable class of our fellow-subjects, but it would be extreme cruelty to the African savages, a portion of whom it saves from massacre or intolerable bondage in their own country, and introduces into a much happier state of life."

One of the "zealots" who was engaged at this very time in the nefarious attempt

to break up the beneficent institution of the slave-trade was the gentle poet Cowper:

"What wish can prosper, or what prayer,
For merchants rich in cargoes of despair,
Who drive a loathsome traffic, gauge, and span,
And buy the bones and muscles of a man!
The tender ties of father, husband, friend,
All bonds of nature in that moment end;
And each endures, while yet he draws his breath,
A stroke as fatal as the scythe of Death."

Extrêmes meet. Johnson's mind and Boswell's come in contact and are drawn together, but it is only at the opposite ends. It is a study for the psychologist. The men were not more unequally mated in point of age, personal appearance, condition in life—and in all these respects they were very far removed from each other—than they were in point of intellect, education, and similarity of views; yet between them existed for many years, and until they were separated by death, a friendship so remarkable that their names are indissolubly joined together.

In 1784 Johnson died, and Boswell wrote his life. Boswell had a great subject, and Johnson a great biographer. "Homer," says Macaulay, "is not more decidedly the first of heroic poets, Shakespeare is not more decidedly the first of dramatists, Demosthenes is not more decidedly the first of orators, than Boswell is the first of biographers. He has no second. He has distanced all competitors so decidedly that it is not worth while to place them. Eclipse is first, and the rest nowhere." T. J. CHAPMAN.

SAMUEL IRENÆUS PRIME, D.D.,

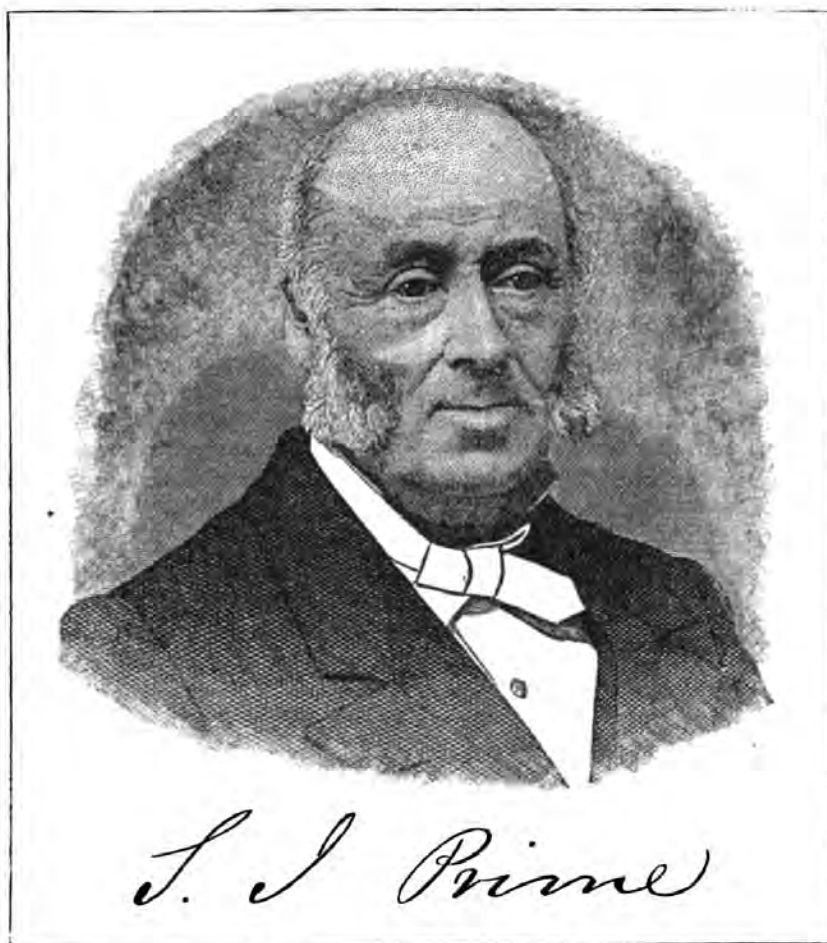
LATE EDITOR OF THE "OBSERVER."

A HAND well known in New York journalism for upwards of forty years has laid down its pen and now lies quiet in the grave. Samuel Irenæus Prime was connected with the New York *Observer*, a weekly religious newspaper, and prominent as a representative organ of the Presbyterian Church. He came of a deeply religious stock. His father was a

minister of the Presbyterian Church, and many of his near kinsmen have been, and some are still well known in the orthodox pulpit. He was born at Cambridge, Washington Co., N. Y., Nov. 4, 1812, studied and prepared for college, and after being graduated at seventeen commenced to teach. Desiring to enter the ministry, he a year or two later studied

theology at Princeton, N.J., where he took his degree in divinity, and soon afterward was in charge of the Presbyterian church at Ballston Spa, N. Y. Feeble health compelled him to resign, and after a few months' rest he tried another church, but in a few years broke down altogether, and concluded to withdraw from the practical work of the ministry. An affec-

For many years, owing to ill health and the small compensation received for his services, young Prime found it very difficult to provide for the wants of his family. Some outside engagements helped him, notably one with Harper Brothers, to furnish material for a department of their magazine. The money he received from this source was applied to the payment for



tion of the kidneys, which made life almost intolerable at times, clung to him for many years, but was finally overcome by care in his habits, so that, at fifty, he was a comparatively sound man.

In 1840 he came to New York and obtained employment in the office of the *Observer*, and thus began the connection with journalism that was uninterrupted until his death.

certain shares of *Observer* stock, and thus was made what proved a successful investment, and which led to his becoming later the principal owner of the *Observer*.

Beside his constant work for his paper, Dr. Prime wrote a number of Sunday-school books, and also several volumes of a more important character, as "Travels in Europe and the East," in two vols.; "The Alhambra and the Kremlin, or

Studies in the South and North of Europe"; and "The Life of S. F. B. Morse," inventor of the electro-magnetic telegraph—a succinct and luminous history of the greatest triumph of human genius in the field of science. His books on "Prayer" have been as widely read and useful as any treatise of practical piety in modern times. One of them has had a circulation of 100,000 copies in England, has been twice translated into French, and has appeared in the Tamil language in India, and in Dutch at the Cape of Good Hope.

Dr. Prime was a man of strong and practical views—earnest, emphatic, decided. Successful in business, he was also felicitous as a pastor. In the church to which he belonged he had been identified with every movement and measure for the last forty years. By nature and grace a peace-maker, he was a leading advocate and promoter of the reunion of that great body, after thirty years of division, and after the civil war, which divided again the Northern and Southern Presbyterians, he labored with great energy in successive General Assemblies to bring about a reconciliation.

Two years ago he had the honor and the pleasure, which he esteemed one of the greatest triumphs of his active life, to appear on the floor of the General Assembly of the Southern Church at Lexington, Kentucky, as a delegate from the Northern Assembly, with the olive branch in his hand, the herald of restored and established fraternal relations. He has said that this was the closing act of his ecclesiastical life; and having fought a good fight, he was willing to wait for the crown.

For some years previous to his death he had been in the habit of spending a good part of the time in short tours, visiting mountain and seaside resorts and country churches, where he was always welcome. From these points he would write letters to his paper that were pleasant minglings of historical reminiscence and moral reflection. The last letter he contributed to the *Observer* had the title, "Is the Old Gentleman Dead?" and was an appreciative sketch of a worthy man whom he had known for many years, and who had recently died.

In May, 1873, we published a series of sketches of the editors of the leading religious publications of New York City, and among them one on Dr. Prime, the notes for which were supplied by the courtesy of the *Observer's* editor himself. In that sketch we said—of his organization as shown by photographs furnished—we were then not personally acquainted with him—what we have not had occasion to modify since, viz.: He is staunch, methodical, energetic, and progressive. He differs widely in mental organization from most ministers of his sect in possessing so much practicality, and so little dependence on the intangible evidences of emotion or feeling. He should be keen-sighted, quick in drawing conclusions, and active in the prosecution of his chosen calling. Benevolence, Veneration, and Firmness are large, and constitute the principal ingredients of his religious life. In fact, the chief stimulus of his moral life is benevolence, and this gives tone and direction to his very practical intellect.

D.

LIBERTY OVERMUCH.

IT is natural for each creature to love its freedom. Confine it, and its first impulse is to break out of the enclosure. When a bird is put in a cage or a snake in a box, how busy it will be for a long time to find an egress! The beasts in the cages of a menagerie would all get away

if they could. They prefer to govern themselves and to direct their own outward movements according to inward choices. Many children would leave school if permitted to do so. Most prisoners reflect, more or less, upon the possibilities of an escape.

We are thankful to live under a constitutional government, and to be permitted to take part in the choice of our own rulers; to be allowed to go here and there without inspection; to have the right to express our convictions, and to combine with our fellows for our own improvement or to influence the sentiment of the community, worshipping God according to the light in individual bosoms, and so on.

In America there are but few monarchists, very few who would prefer to live under a despotism where all the power was concentrated in one person, the sceptre to descend to the eldest son. The majority of the civilized world sympathize with the Nihilist this far,—they hope they will be able to overthrow or modify Czarism, and that the people of Russia may sometime be represented in the government of Russia.

Well, there are not many anywhere, unless maddened by oppression, who would not shrink from the thought of anarchy, who would not trust the majority of men without restraint, and who do not see that there are some functions in national life which can not be well performed only by a national understanding and combination in the form of government.

When we read of riots anywhere in the United States, gotten up in the name of labor, or any other name, we shrink back from approval. We do not believe in lynching a criminal, however atrocious his crime. The government is ours, the laws are ours; we should honor our own. The course of legal justice may seem tardy, yet let us await its disposals. If laws are defective, there is a way for their amendment. If a man in office does not attend to its duties, there is a method for his removal. If the Constitution should be revised, a convention can be called.

The law may not always give a man full redress. Nothing yet in the world is absolutely complete; but how much better it is for a man to suffer in silence, or get such satisfaction as he can in the courts, than to take law and retribution into his own hands! The most common

excuse for murder is that chastity has been violated. This plea has, in notable cases, prevailed with the jury. It never should. The charge of the judge can not be too strict to the jury on such trials. If one man may come into court, his hands gory with his brother's blood, and be exonerated because a wife or daughter has been seduced, murders will increase and there will be less chastity in the land on account of such vindications. Such proceedings send all abroad the knowledge of an exciting case of temptation and fall. The whole deep pool of passion is stirred, tragedy enhances temptation, especially with the weak and restless. Whatever brings the affair vividly before the public, stimulates the fancy of the wayward, the tendency to imitate, while each can hope to escape the unwelcome penalty.

Governor or President should be slow to appoint any one to high position who has killed a fellow-being. Affection may be wounded, pride mortified, peace disturbed, a pet lamb led astray, yet I must not kill. My greatest glory will still be self-control, humility, practical wisdom. Self-esteem, Approbativeness, and the animal propensities may suggest that I roar like a lion and spring forward like a tiger; but what say the moral sentiments, what is the counsel of proper reflection, the demand of others' welfare, the example of the Redeemer of the world? Shall I heed the hint of a proud associate, or the fervent wish of what is highest on earth and the glory of heaven?

It is plain enough, look which way we will, that there is an instinctive love of liberty; that it is an interest of the world that one should not be subordinated to the caprice of another; still, it is something that can not always be gratified, but must be regulated—must not degenerate into license, or followed to the injury of the community. There is no more heroism in the mere love of freedom than in appetite for food. In self-denial, in serving our fellows, heroism may appear.

There are many delusions about freedom. The young may look forward to a time when they can choose their own

associates, come and go as they please, and the like. One class of restraints may relax, but another sets in with the more power, they find.

The universe is not so full of freedom as some love to imagine. The material world is subject to law. Where life commences, conditions multiply, and they must all be fulfilled or the penalty is certain. God himself must act from the sacred energy of His own divine nature, can not lie, be unholy, unfaithful, or unkind.

Persons may come to our shores from foreign lands, supposing, in a vague way, that here everybody simply acts from spontaneous, personal choice. They find law, order, police, sheriff, and the like. It is well for them that they do, and for all. The Irishman just over is represented as being surprised on being asked to pay for a loaf of bread he had taken from a stand. He thought it was not much of a free country. He could have all the bread he wanted in Ireland by paying for it. Where could he find a land wherein men would or could afford to part with bread without an equivalent? Our view does not annul the doctrine of charity. Yet, charity is a voluntary matter, a compassion for the helpless, a gracious kingdom by itself.

We do not like to have children bawl out, "I will," "I won't." We tell them that it is not proper. We want they should have will power. Experience, however, shows us that such explosions are trouble-breeders, coarse, selfish manifestations of petulance and animality. The very tone is rasping and disagreeable to us, and causes shame, when escaping from the mouth of our own offspring. It is not the Christ declaring He will draw all to Him. It is not like a Garrison, under a sense of duty and high fidelity, resolving in the presence of all opposition he will be heard. It is not the voice of the greatest captain of the age, consecrated to his country's good, saying, "I will fight it out on this line." It is only will and won't. Anybody with a mouth can say that. That may be spoken in

meanness, in treachery, in the service of Satan. In wilfulness a servant may no longer serve as he should, a parishioner refuse to do his part, a scholar vex the teacher, a minister address a people in a way to do the least good, an editor print a savage editorial, and so on. Our wills should be enlightened and sanctified. Our choices should be reasonable, justifiable. There can be no rightful liberty to do wrong. We must not press our individual preferences to the detriment of society. We must not monopolize the attention of the community, or occupy it in part, without sufficient reason. If we live with others, if we have the benefit and security of combination, we are bound to respect the public weal, and should modify, restrain, and govern ourselves accordingly. Liberty to do right is all the good man covets.

In a country paper I had the good fortune to find this paragraph, which I transfer to my article. It is my own mind well expressed :

"Some people talk as if the whole object of life was to obtain liberty, instead of the whole object of liberty being to attain a higher and fuller life. To be free to speak, to write, and to act just as we choose is certainly a thing to be desired ; but a far higher aspiration than this would be that we should only choose to speak, to write, or to do that which is true, fitting, and valuable."

One danger lies in license, disregard of sanction, tumult and wrath. And how much is secretly suffered in a free country, by those having cares and charges, on account of the miserable, rascally wilfulness and false independence of this and that one. If not pleased, if jealous or envious, see how they can outdo that long-eared fellow, whose braying is no delight to the musical world. Their ancestors fought on Bunker Hill. They guess they can do as they please ; they guess they will. They are children of their childhood, and, sometimes, children of the devil. Some will tell you they must live ; they are going to live. You expostulate that the business in which

they are engaged is injurious to the public. To such an one Dr. Johnson would say, "I see not the least necessity in your living." No one should be tolerated in getting a livelihood to the detriment of others.

I want to close with an application to the labor question. Let it be understood, the writer regards labor and capital as having a relation something like husband and wife. Call capital husband. It may have been, like other husbands, rather assumptive. Still, it has its place in the great family. Every right-minded man has respect and sympathy for labor; yet, he does also want labor to truly respect itself, do what is for its lasting interests, and unite with the rest in maintaining always the common interest of order, good neighborhood, fairness, justness, and the like. Those that have property are still human beings, with human rights, capable of suffering, of enjoyment, and the majority of them were once poor. The greater part of those in affluence were once employ  s, worked hard with hands or head, or both; were prudent, held themselves away from vice, went to church on Sundays, struggled to rise "to be somebody." They have natural conscience, friendship, sympathy, and participate in all that can adorn a human being. They have a right to the best use of their faculties and the legitimate results thereof. All men are dependent, and desire the good-will of mankind.

Laborers have a right to specially combine for their own advantage or defense, for their enlightenment and power, if such combinations are necessary. They may act in concert. Still, because engaged more strictly in manual occupations, they, no more than others, can safely attempt to put off any law of God, rightful ordinance of man, sentiment of reciprocity, principle in conduct, politeness, consideration, or the common graces of civilized life and modern society. Irreligion, assassination, do not help the Nihilists. Our Revolutionary fathers were moderate, thoughtful, legal men. They petitioned; they implored. They were long-suffering, slow to anger, care-

ful to proceed in ways and methods to secure and keep the respect of the world. They did not insanely try to live without government, but when they separated they set up one of their own, and had become able to establish it. A "strike" can never be justified while wages are fair, nor at any time, until every appeal has been found vain. Why should not "hands" protest if dissatisfied, if they themselves can not be heard, by one or more of their own, engaged counselors? Here is an honest lawyer, there a retired judge, a minister out of a settlement, a heroic editor, who would plead for them. Why must it be a "blow": a blow always from their own fists, a blow first. This is not wise, is not American. It is not educatory, it is not elevating or a discipline. Then if one set of hands sees fit to "strike," to quit work together, what right have they to decree that others shall not work, and to resort to violence to prevent? Who has the right to obstruct the public convenience, to assail, assault, and maim, to secure more wages or any human end? Anything?

I am glad to be informed that the above reasoning is being employed in substance by an increasing number of employ  s. I am happy to feel that the "laboring population," so termed, though not always the severest workers, will see more and more the importance of self-culture, of being clean from vice, of rising out of the mire of immediate indulgences, of suppressing envy at good fortune or superior skill, and of making the most of the diffusive, teeming advantages of modern life, through which the masses may be developed, may be prosperous and happy. Because I do not address myself so particularly to the wealthy, to employers, to the heads of corporations, to legislators, and to all who are especially responsible, no one should infer any abatement of earnestness in my brief writing. These classes have special opportunities to learn their duty, to study human, Christian, and wholesome monetary relations, and "woe unto them" if they do not get their lessons "by heart."

IMPERSONAL.

AT SUNRISE.

LIGHT swaying in the nightly breeze,
 Now heard—now hush'd, are the tall pine trees—
 The needles thrill and click, as they
 Drink the rich wine of the coming day—
 Up springs the bird with a single note,
 A gush, unconscious, from his waking throat—
 The black pool smiles, for floating by
 Is the silvery wing of the dragon-fly—
 Out from the mould creeps the spotted newt,
 Where he slept all night in the yellow root :
 The serpent glides from moss and brake
 And all his rattles glow and shake—
 'Tis the mystic flame of an inner life—
 Sweetness and beauty, and gladfulness rife ;
 'Tis the subtle hour of life at best—
 Spirit—and soul—and youth and zest—
 'Tis the Psychic wing that touching the rose
 Exhales a sweetness more than it knows.
 The brief, bright hour on which the fern

Has garnered seed, and ceased to yearn—
 The moment when the seven-string'd lute
 Is sweeter for its being mute—
 When the lily sleeps in crystal bed,
 Fairer for being left unwed—
 To live—to breathe is boon so sweet,
 It lights the eye and wings the feet :
 Oh, Sun of suns in far-off space,
 Unclosing thy pavilion'd face—
 Centre of hope, of life to be—
 Emblem of immortality—
 Bearer of missals, rightly read,
 Potent as message from the dead—
 Star-biding blaze—how thou dost rim
 Life's golden chalice to the brim !
 And we the sparkle drink of that full being,
 That scarcely lies beyond our seeing !

ELIZABETH OAKES SMITH.

Hollywood, N. C.

NOTES FROM A TEACHER'S DIARY.

APRIL 3d, 18—. I have just returned to my school after a restful two weeks' vacation. I have been so happy in the home of my youth that I feel like a new being. How I pity my next-door teacher friend who has no father's house to rest in, no sisters to welcome her back when her toilsome term is over. In one thing we have full sympathy—we are both motherless. On my way back I stopped in New York City to call on the phrenologists in Broadway, to purchase books on mental science and to obtain a chart of my head. I can never again doubt the truth of this wonderful science, since by the touch of the hand and the sight of the eye my character, with its peculiarities, has been so clearly given. I shall take up the works I have bought and reduce them, if possible, to practice. I hope by this fascinating study to grow in mental power, to become more considerate of the imperfect character daily before me, and to learn how to insure success in reaching my pupils' hearts and of leading them up higher in all that is noble and true.

May 1st.—A month has slipped by ; a month of close study of character and ability. I am getting "quite expert" in

this thing, I am told, and often "guess" right. It is not guessing so much as they think. I gave a stranger's character so truthfully last evening that there was a round of applause. But it is not to amuse people that I have studied Phrenology. I trust this "noblest study of mankind" will lead me to see my own faults and the way to correct them.

May 12th.—I was writing a note to the principal this morning when a feeble voice near, said, "Please, where shall I sit?" "Wait a moment, dear," I replied, without looking up. The up-stairs monitor was waiting to take my note to the principal. As soon as she had left I turned to the new-comer, a very slender girl with an exceedingly long and narrow face that looked very much as if some one had taken it between strong hands and squeezed it. I knew at once that some of the faculties were not active if, indeed, they existed. There was nothing pretty about this child except her neatness, and there was nothing repulsive. She gave me no unnecessary trouble nor any pleasure. I at once perceived that the organ that should make her a mathematician was wanting, there being but the slightest distance between the outer angle of the

eye and of the eyebrow. She could not take part in the arithmetic lessons, though she looked anxiously from the pupils to their teacher in a half-frightened way. I was careful to reassure her with a smile whenever our eyes met. But for my mental study I could not have dealt with her in a proper way. As it was I sent all the class to the blackboards and called her to my side. "How far have you been in arithmetic?" I asked, in a low voice. "I? oh! I can't do any arithmetic!" she replied, and began to beg me not to turn her away. "I shall not do that," I said, "if you learn other lessons well and are a good girl." She had a fair geography lesson and spelled some words well and read correctly although very slowly. She studied hard to gain a *little* knowledge of books. Her temperament is not active, and the propelling powers are no more than half way on a scale of seven. She is interesting as a study.

May 18th.—I have spent several hours in trying to confound Phrenology by teaching Mary to count. First, I took two oranges from my desk, saying, "See, one orange and one orange, make two oranges." So far she understood before. I placed beside them an apple and said, "Now, we will suppose this to be an orange, too," and went on with the illustration, "and one more makes three." "But it is not an orange," she quickly replied. I saw at once there would be confusion in her mind and took up three books, but they were not alike and so were rejected in the same way. Going to three desks I selected three books as near alike as possible and tried again. The experiment failed. I dismissed her with a kiss, bidding her not to be discouraged; that to-morrow I would borrow the counting frame from the primary teacher and the blocks, and we would see what could be done.

"I can't learn if you do," she said, with a sigh, "but I'll try; *I must learn*, father says, now I'm in your room. He thinks if any one can make me know anything you can; you do so much for your pupils."

"To-morrow night, then, we'll begin again." I laid my hand on her head, it was high and full over the top. Benevolence was well developed, the forehead broadened at Causality; Comparison must have been large or nearly so, and Conscientiousness and Firmness. She had also a reverent spirit, but the earthly elements were small. I tried to reason with her to see if Veneration was in full play; it was not, but awoke at the right touch. It was to her dull understanding what the first strain of music must be to a musical ear that had never heard one before. Her eyes sparkled as if relighted.

May 21st.—I have given up all hope of teaching Mary anything with figures. It is a useless, a tiresome process to her poor mind and a sad failure to myself. I shall go to her parents and tell them the whole thing, else they may think I am not doing my duty by their child. She is very firm in all her convictions of duty, and fond of consideration.

May 28th.—I have called on Mr. and Mrs. B—. They seem intelligent, enterprising people, not at all wanting in any perceptible faculty. They keep the largest hotel in the city, with its three hundred boarders, and do this successfully. They sat down, one each side of me, to talk of their child, and thanked me tearfully for the interest I have shown in her. They are ready to compensate me for my extra labors on her behalf. They are well aware of her defects, and mortified to have such a child. I assured them she had some redeeming traits, and that those would be turned to good account. They dwelt long upon her obstinacy, but had failed to see that reason was so well developed. They did not believe it true, and so to illustrate it they sent for Mary and told her to do a piece of work wholly distasteful to her. She looked up at her father with a heavy frown and a sullen pout. "Mary," I said, "come here, dear, and tell me if you can think of any reason why you should do this." She came slowly, looking me full in the eye, and waited before me. I drew her into the vacant seat by my side. It was some

minutes before she spoke. "Yes, I can think of some. Father would be pleased if I would do it, and it would help a little." "There is one more that is even better," I said, "for in the Bible children are commanded to obey their parents, and so you should willingly obey, for it would be right. And then your love of your kind father should help you in this." She looked long into my face and then rose with a sigh. "Mary," I said, "come back and kiss me, I'm going soon. Father hasn't quite understood his little girl, but you and father will love each other better now." She looked first at him standing at the table, then at me, then gazed long into her mother's tearful eyes, and slipped out.

We talked on a short time, when suddenly the child opened the door. She went quickly to her father's side, took his hand and said: "I'll do it every day, papa, because I see it is right." Mr. B— burst into tears. "Why, bless you, Mary, what has happened to you, you haven't got it done already?" "Yes, sir!" He sprang up, went out with a quick tread, was gone but a moment, and on returning, said, "and never done so well."

June 28th.—A good many things have occurred since I last wrote. A pupil sits before me who rarely studies a page twice, and he does not forget. He is a living geography and speller. His criticisms are accurate, never failing to see exactly and to be able to tell the situation of every place on his map, and the letters in each word. One important question for me to answer is this: what credit is due this boy of talent above those who are not so well endowed, but who diligently plod on to achieve the same result? There has been a good deal of feeling of an envious nature toward him and he was at first inclined to tower above the duller ones. I called their attention once in class to the very round forehead so definitely marked by Form, Individuality, Memory, Comparison, Constructiveness, etc., and bade him shine with a pure, true, and modest lustre for the gifts God had bestowed on him, and which only made his accountability the greater. He

seemed to apprehend my meaning and grew humble under it. He studied out his arithmetic lesson then instead of learning it by a glance upon his neighbor's slate. He says that he desires to be noble with his gifts, and to make them in some way please God who was so kind as to bestow them on him.

He reads character wonderfully. I asked him as we walked together about the faces we met and was charmed to hear the replies. I recall how scornfully he spoke of one man as "a cheat" (he keeps a lager-beer saloon), and of another who could be thoroughly trusted. He would make a splendid detective. These faces were all wholly unknown to him, but I had met the first one mentioned, as he sent to me two sons. I did not deem it wise to speak of this, lest in some way he might wound the feelings of his classmates, but suggested that children of all such parents needed great consideration shown them by all good people, and to be lifted up above the surroundings that influenced them. He glanced at me shyly, understanding my intention, as I saw the next day when looking into the school-yard. There he had taken a lad on each arm down under the tall hemlock in the corner and stood chatting away as kindly as if their feet were not bare and their father did not sell liquor. It made me love him as I have not done before.

After school he waited to speak with me. "Teacher, I've got a little pledge and we've signed it, I, and Georgy, and Frank, but the paper isn't very nice and it's wrinkled."

I gave him a new sheet, wrote the pledge on it, which was, "Never to drink any intoxicating thing, neither cider nor beer, nor to chew nor smoke."

"Why not add *nor swear*?" I asked. "The boys must be consulted first," he added. So the pledge was locked in my desk for safe keeping until the morrow. Johnny was in bright and early. "You can add," he said, "*swear nor steal*, for I've learned something very important."

I did as requested, and offered to add

my own name to the list, but the lads all thought it would not look well after the last two words, but I assured them it did not presuppose that I was guilty of either of these sins, but desired not to be. I did not place my name to head the list, as this was not original with me, but desired to be the

fourth in number should they be willing so to honor me with a place and name among them. They shook hands in a charming manner as they left my desk and thanked me gleefully. I learn that twenty names have followed mine and they are still at work. L. R. DE WOLF.



THE SCENERY OF THE CANYONS.

NOWHERE in the old world do we find grandeurs of the peculiar type of the Rocky Mountain canyons. They are *sui generis*, and must be seen by the lover

of the sublime to be understood in their special differentiation from the bold, rugged, and severe types of nature as found in Switzerland, in the Himalayas,

or in the gorgeous desolation of northern Norway. There canyons differ oppositely from mountain peaks in their geological character, in that they are effects wrought by deep and swift watercourses, while the mountain shows its primary origin to

and mineral matter, leaving those deep precipitous gorges and those strange and often grotesque columns of rock that tower up from the water-level of to-day.

In the "Plateau Province," so named by Major Powell, the traveller sees won-



A CANYON "POCKET."

have been the work of tremendous forces that rent and upheaved the colossal rock masses above the plain. Slowly but surely the streams and rains have cut their way downward into rocky strata or dissolved and tore out the softer and looser earth

ders that tax his powers of admiration. This region is a lofty table-land, occupying parts of Wyoming, Utah, Colorado, and New Mexico, and varying from one to two miles in elevation above the sea. "From whatever direction the scene is

approached," says a writer, "it is one of startling novelty, stately magnificence; instead of the familiar aspects of nature, gently sloping valleys, low foot-hills, and anon mountain ridges or conical peaks, the traveller meets with a succession of horizontal terraces, inaccessible cliffs, with lofty abutments, droppings sheer upon other platforms hundreds and even thousands of feet below. To add to the weird splendor of the scene, the element of color is not wanting. The walls of the cliffs are not chaotic in shape or neutral in color, but are symmetrically carved and sculptured by the hand of Time and gorgeous with the richest hues of stone and earth. Unlike other mountain fortresses we meet they do not present unbroken fronts; infinite rills of rain and melted snow have channeled them into deep promontories, and interlacing have cut off 'buttes' or grand hillocks of stone, sometimes more than a mile from the main body of the cliffs."

Our illustrations show two views of the canyon order of nature's architecture, the one with its cathedral-like masses lit up by a descending sun, the other a forked cleft or canyon pocket frequently met with. One familiar with the scenery of the "Plateau Province"—Capt. Duncan—describes the buttes in this graphic manner: "They stretch their tortuous courses across the land in all directions, yet not without system. Each cliff marks the boundary of a geological terrace, and marks also the termination of some geological series of strata, the edges of which are exposed like courses of masonry in the scarp-walls of the palisades. In the distance may be seen the spectacle of cliff rising above and beyond cliff, like a colossal stairway leading from the torrid plains below to the domain of the clouds above."

"Very wonderful at times is the sculpture of these majestic walls. The resemblances to architecture are not fanciful or metaphorical, but are real and vivid; so much so that even the experienced explorer is sometimes brought to a sudden halt and filled with amazement by the apparition

of forms as definite and eloquent as those of art. Each geological formation exhibits in its cliffs a distinct style of architecture which is not reproduced among the cliffs of other formations, and these several styles differ as much as those cultivated by different races of men. The character which appeals most strongly to the eye is the coloring. Subdued colors are wholly wanting here, and in their place we behold brilliant belts which are intensified rather than alleviated by alternating belts of gray. Like the architecture, the colors are characteristic of the geological formations. They culminate in intensity in the Permian and Lower Trias, where dark, brownish reds alternate with bands of chocolate, purple, and lavender, so deep, rich, and resplendent that a painter would need to be a bold man to venture to portray them as they are." Look at the horizontal bands that stretch across the buttes in our illustrations. Every one of these is a stratum which originally lay unbroken over a vast expanse, stretching for hundreds of miles. Nor is this all; the fossils found in the strata at one end of the plateau province are found in the same band, in the same proportions, hundreds of miles away.

TRUE RICHES.—As certain persons were returning from the burial of their dead, the remark was made, "What a sad life our friend lived. How unfortunate he was. Poverty seemed to accompany him. He died poor." "Had he not some little success?" one inquired. "No," the answer was; "everything was against him; his life was a failure." "I do not understand you," said a voice, which had thus far been silent; "I was with him in his last moments, and I thought he died rich." "Oh, you mistake; his estate amounts to nothing at all." "But surely he left a good name, and a legacy of noble deeds, and a holy example, and lessons of patience in suffering, of hope in adversity, of heavenly confidence, when no sunbeams fell upon his path." "Then he

died rich," was the emphatic declaration, "richer than the millionaire who went to his long home the same day, miserable in all but his gold." Any grasping, selfish man with a moderate share of brain may

gather money, and learn the art of keeping it; but not one in a hundred can conquer bravely in the battle of life as he did, and step forth from the ranks of men a Christian hero.

H. M. BOOTH.

READY FOR A DIVORCE.

"**K**ATE HARDY has gone to house-keeping."

"Houskeeping! I didn't know that she was married."

"Oh, yes; she has been married six months and more."

"Why, she isn't sixteen years old, is she? It seems only yesterday that she was a little girl in short dresses."

"She will be seventeen on her next birthday."

"What kind of a man has she married?"

"Oh, 'a man of words and not of deeds,' as our school copybook used to say. One of those young fellows that sit in corner groceries with their heels braced against the store smoking a cigar—more than twelve years older than Kate. By the time she's grown up they'll be ready for a divorce."

This conclusion struck me forcibly. I had been hearing a great deal about divorce lately—sermons on divorce, newspaper articles, dismal croakings and prophecies, promulgations of remedies, etc. I was reminded of the old saying: "An ounce of prevention is worth a pound of cure."

Here was Kate Hardy, but the other day going to school with the other children of the neighborhood, a bright, forward, rather wilful girl, fretting a little as she grew older at the monotony of her life and the prosiness of her surroundings; longing for a journey, new books, a pretty room. Her home was hopelessly commonplace. Cooking, cleaning, sleeping, was the daily, monthly, and yearly routine. Once when Kate petted some geraniums and coaxed them into bloom, her mother found fault because they were in the way.

"I want something to cheer me up a little," said Kate, pleasantly.

"My work is enough to cheer me up," said Mrs. Hardy.

At that moment she was dressed in a faded calico, with her hair drawn back in a tight little knot; she was minus a collar, and her dark apron was soiled and greasy. She was not a slattern, but she believed in saving washing and in dressing according to her work. Kate looked from her flowers to her mother, and something not entirely unlike disgust dawned in her face. Feeling such as was then awakened in the young girl rapidly develops into character. We do not realize how plastic is character in the young; indeed, it only exists as emotion. But in some sudden heat it takes form, and if a wrong form, can only be changed by great suffering.

Here, then, was my little friend married, and to a man unworthy of her; a man who, by and by, would be sure to arouse her repulsion. She would grow into a strong woman and find herself mated to a weak man. There would be antagonism, bickering, wearisome efforts at adjustment, and in a moment of irrepressible and maybe righteous anger, a resolve to separate.

This is how many divorces are prepared. We often hear it said that the stream can not rise higher than the fountain. The fountain is the home. There is where our efforts should be directed, concentrated. There are certain crimes that justly rouse the horror of the community where they are committed; there are other crimes that are smiled upon or ignored. These latter are committed in respectable homes where children are brought into the world and then left to

chance. Their bodies indeed are cared for after a fashion, but we have it on the highest authority that "the life is more than meat, and the body more than raiment." Do not parents need teaching upon this vital subject?

Simplicity, truth, beauty, wise restraint, wise relaxation in the home—do not these subjects need discussion? Would they not better become the pulpit than the reconstruction of the dry bones of a dead theology? Would we have social ethics take the place of religion? asks one. Social ethics are a part of religion. The religious needs of the people are different from what they used to be. The sanctions of the church are not so strong in their effects upon the minds of men and women. "Thou shalt," and "Thou shalt not," are no longer felt to be commands from which there is no appeal. The com-

munity must be controlled by education, by reason, by influence. The preacher must show nowadays what God commands in our structure, in mind as well as body, not what He commanded on Sinai merely. The unwritten law of everyday life must be expounded, with all its wonderful and unlooked-for and unexplainable variations. To teach the parents is more important to-day than to teach the children. There is a need of studying first principles in a restated form. The law should be delivered anew, and with thunderings and lightnings.

If, then, the question is asked, how shall divorces be prevented, we may safely answer, by doing all in our power to prevent marriages, so called, that naturally lead to divorce. And here a vast field of education is opened.

MRS. M. F. BUTTS.

PRO AND CON.

"**VOTE?** No, I'm sure I'll never vote. I don't think women have any business to." And the angular form of Mrs. Slowgo straightened itself in her chair, and the large mouth was drawn up with a more than usual determined expression.

"Neither do I. Why, the thought of crowding among those rude men on election days is absolutely fatiguing." The pretty, plump figure fell back comfortably in the lounge, where it was oftenest to be found, for Jane Mason did love her ease so well.

"And you really do believe, Agnes, in women's voting?" asked Lucy Eames.

"Certainly I do."

"Please repeat some of the reasons you have been giving these incorrigibles, for really my slow-going thought has hardly kept up with you."

"Well, Lucy, I think we should vote for the same reasons men do, because we are interested in good men being placed in office; because we are, some of us, taxed for property; because we must suffer from the wrong man's wrong policies;

and last, but not least, I've read in an old-fashioned book these words:

"'And the rib that the Lord God had taken from man made He a woman,' so that really until woman votes the whole man will not, as she is a part of him."

"Really, Agnes, why weren't you a lawyer or a minister?"

"I would not object to being a good minister; lawyers have too much temptation to falsehood."

"What a minister you would make! If women ever vote in our church, see if I don't put you in the desk," and the bright face looked all the admiration felt for the friend who to her was the personification of excellence.

"And you are yet unconverted, Lucy, after all my preaching?"

"No; but you see I'm making up. After Miss Dickinson's last lecture, I began to think women themselves stand in the way of their rights. But really, there is something in what Mrs. Mason says of the unpleasantness of crowding about among vulgar men at the polls."

"Now, that poor, hard-worked reason

ought to have a rest. As though there were no crowding among them at other places—plenty of them, where it sometimes seems that, like Esther, we have almost to say, 'If I perish, I perish,' and brave the crowd."

"Hear, hear," sneered Mrs. Slowgo. "We shall see what we shall see when women crowd in to vote."

"Dear me!" came a smothered voice from the depths of the sofa pillow: "you spoiled my nap."

What in all the world was so important as ease to Mrs. Mason? What if there were wrongs to be righted, battles to be fought with error, at cost of all the pretty luxuries and frivolous employments of women of means and leisure? Surely *she* was not made for them. Nay, verily, too indolent to ask for a privilege that involved responsibilities, she was content to be like a certain animal, that if fed and supplied with plenty of straw, aspired no higher than its pen.

As to Mrs. Slowgo, she had far different reasons.

"Women didn't vote in my day, why should they now? No reason why the present generation should be any wiser or ask for other privileges than they had then. I am content to let things go as they did then. I should be *ashamed* to vote."

Good, old, steady-going stage-horse, why should it aspire to be a winged racer?—especially when to become one it must encounter hostilities, lose caste, be called "strong-minded."

"But, Mrs. Slowgo, can not you give us some better reasons than these?"

"Reasons, plenty of them: how it would

look, and how it would operate! Why, all the women would forsake their homes, where *I* think they were made to shine." Poor Mrs. Slowgo never illuminated hers much. "And be usurping over their husbands,"—rumor did make it that she occasionally was the man of the house—"and a pretty sight it will be at the polls: quarrelling enough, I'll warrant. Oh, you'll see, if it ever comes to that, which I hope to goodness it never will. There's one woman that won't vote, if all the rest do."

"Good-bye, Mrs. Slowgo, you have annihilated me. Come, Lucy, we must not neglect our homes," and with mischievous smiles they bowed themselves out.

"Has that horrid woman gone?" moaned a voice from the lounge.

"Yes, I hope so. If only Ag. Warner would not be forever preaching 'Suffrage,' and reasoning about wrongs and their remedy, there wouldn't be a better woman living. But she's too high-flown for me."

No danger of poor Mrs. Slowgo soaring higher than the *law* allows.

It would never do for her to look too closely into these wrongs of the working-classes; she might find her under-paid servant-girls rising up in judgment against her, and be touched in her most vulnerable point—love of money. But it is so much easier to go on in the old way, and salve her conscience with the assurance that she paid as much as others.

Women, as well as men, love their ease, ignore care and toil if not forced upon them by the death of friends and protectors; and so to-day she is not "eligible."

COUSIN CONSTANCE.

LOCALIZATION OF THE FUNCTIONS OF THE BRAIN.—A REVIEW.

BEFORE treating of the attempts to localize functions in the brain, perhaps it would be well to say a few words about the brain itself.

The brain, the chief centre of the nervous system, is the rounded or oval mass of soft matter filling the cavity of the

skull. The lower margin of the brain may be indicated by drawing a line from the outer angle of the eye, backward through the opening of the ear, till it reaches the posterior region of the head. Between the brain and skull there are three membranes: first, one which is next

the brain, called the *pia-mater*, which is a very thin, transparent, and delicate membrane, sinking down into the folds of the convolutions, and forming a conveyance for blood-vessels. The second is above this, and is a thin membrane, called the *tunica arachnoidea*, from its resemblance to a spider's web. The third is a thin, strong, opaque membrane, called the *dura-mater*; it lines and adheres closely to the inner surface of the skull. The brain is composed of two substances, a white or medullary substance, which is made up of minute fibres, and a reddish-gray, ash-colored or cineritious substance, called the vesicular or gray nervous matter, which is composed of cells or corpuscles intermingled with fibres. The gray matter forms a great part of the cortical, or convoluted substance of the brain.

The surface of the brain is not plain, but moulded into numerous smooth and tortuous eminences, called folds or convolutions, which are separated by furrows that dip deeply down into the brain. By this convoluted arrangement the surface of the brain is greatly increased, and the gray matter very much extended, as it completely invests the white or medullary substance, and follows the folds of the brain, thus gaining a greater surface than it would have if there were no convolutions. These folds or convolutions are very numerous in man, but among the lower animals they are less marked, and the lower we descend in the scale of being the fewer becomes the number of these convolutions, till in the inferior orders they disappear altogether. They are arranged on the same general plan among individuals of the human race, but they differ greatly in number and depth. This difference causes a difference in the quantity of gray matter, and it is found that this difference corresponds with the degree of intelligence and mental vigor, those having the greatest depth and number of convolutions having the greatest intelligence and strongest characteristics. On account of this difference, it is generally supposed that the gray matter is specially

concerned in the exercise of thought, while the medullary matter is supposed to serve chiefly as a medium of communication. The brain consists of two general parts: the cerebrum and cerebellum, or great brain and little brain. The cerebrum is the upper, or principal portion of the brain, and is eight times the size of the cerebellum. It is divided into two hemispheres by the falciform or scythe-shaped process of the *dura-mater*.

Each of these hemispheres in its under surface is divided into three lobes. The hemispheres are connected in the centre by a thick stratum of transverse fibres, called the *corpus callosum*, and in front by the anterior commissure, a small, round cord of white fibres, and at the back by another cord, called the posterior commissure. Sir Charles Bell says that "Whatever we observe on one side has a corresponding part on the other side, and an exact resemblance and symmetry is preserved in all the lateral divisions of the brain, hence the brain, like other parts of the body, is double." But there is a slight difference in the convolutions of one hemisphere from those of the other, and this may be accounted for by the education of one hemisphere more than the other, through the education or exercise of one half of the body more than the other half, just as the right hand is educated more than the left, because more used. The hemispheres are also divided to some extent by *sulci*, or fissures of considerable depth, as the Fissure of Sylvius and Fissure of Rolando.

The cerebellum lies behind and directly under the cerebrum, from which it is separated by a strong membrane, proceeding from the *dura-mater*, called the *tentorium*. The cerebellum is a wedge-shaped body, and has two hemispheres, but it is not convoluted like the cerebrum, its surface being traversed by many curved furrows, which vary in depth, and thus it is folded into plates or laminæ. The cerebrum and the cerebellum, and other parts of the brain, are united by the *pons varolii*, a mass of fibres mingled with gray matter, which lies under and be-

tween the hemispheres, and right above the *medulla oblongata*, the capital of the spinal column. The medulla oblongata is recognized as the medium of communication between the brain and body. The medullary fibres proceed from the medulla as a radial point to all parts of the brain, and to it proceed *via* the spinal cord the nerve fibres from the body.

It has often been thought that by tracing these fibres to their extremities in the brain, the functions of the brain might be discovered, but this is too difficult a project, as the following and cutting of these fibres must greatly impair the manifestations of the brain, besides endangering the life of the animal.

Various methods have been resorted to for discovering the functions of the brain, with more or less success. These methods may be considered as five in number :

1. *The Anatomical method*, or the discovery of the functions from the anatomy and dissection of the brain.

2. *Comparative Anatomy*, or the comparing of the brains of different animals, and by this means ascertaining what parts of the brain possessed by some animals are wanting in the brain of other animals, and then locating those powers or functions possessed only by some of these animals in the parts of the brain which are wanting in those animals who have not the powers or functions possessed by the others.

3. *The Clinical and Pathological method*, or that by means of injuries to the brain, and the cure of these injuries. It being seen that during these injuries certain functions are impaired, and when these injuries are cured the functions are restored, the conclusion is reached that the parts of the brain injured are the centres of the powers or functions impaired.

4. *The Experimental method*, or that by means of mutilations of the brain and the stimulation of its parts by galvanism. In this method the parts mutilated are thought to be the centres of the powers or functions impaired by the mutilation, and the responses given to electrical or

galvanic stimulation are supposed to indicate the functions of the parts stimulated.

5. *The Phrenological method*, which may be said to include all the others.

The first, Anatomical method, has been productive of but little result in discovering the functions of the brain, but it has served as a help to other methods. By itself it could do nothing, as no functions have ever been discovered by means of dissection, except under principles which do not apply in the case of the brain. Physiologists dissected the lungs, heart, and blood-vessels long before Harvey, and yet they did not discover the circulation of the blood.

The second method, that of Comparative Anatomy, has been very useful combined with other methods, but by itself can not be successful. The third method, the Clinical and Pathological, has been of great benefit, and by itself may yet be successful. The fourth method, or the Experimental, is still under discussion. The fifth, or Phrenological method, has been the best so far.

The experimental method may be said to begin with Haller, Lorrey, Zinn, Fontanel, Duverney, Rolando, Flourens, Magendie, Gall, and Spurzheim. Some of these repeated the experiments of the others, with varying success; each tried to improve on what others had done, and avoid their mistakes.

In later days the same experiments were repeated with some improvements by Hitzig, Fritsch, Ferrier, Fairfield, Schiff, Goltz, and Munk, besides others, whose names we need not mention. The method pursued by all was to remove parts of the brain and watch the effect produced on the animal by their removal, or to stimulate the brain by means of galvanism or electricity. This is done by touching the surface of the brain with the electrodes of a galvanic battery, or voltaic pile, and thus passing a current through the part of the brain touched by the electrodes. In some cases the mutilations and galvanism have been combined in the experiment.

The general method has been to put the animal under the influence of chloroform or ether, to deprive it of sensibility, and while the animal is in this state to remove parts of the brain, or stimulate it with galvanism, and after the animal has recovered from the effects of the mutilation, to see what change has taken place from the loss of the brain matter. This is necessarily a very dangerous process, as there is great loss of blood, and oftentimes the animals die under the operation. It is besides difficult to get at some parts of the brain without cutting other parts, and hence the results of these experiments are in many cases unsatisfactory. Goltz used a method of removing the parts of the brain by a stream of water, which was not so dangerous and did not cause so much loss of blood.

It is customary for writers to begin this subject with Flourens, but the same experiments were performed by Rolando, of Turin, in 1808, preceding those of Flourens by some years. The observations of Rolando, however, were uncertain and inconclusive, and seem to have been the results of accident rather than a well-matured plan of operations. In some of his experiments he included totally distinct divisions of the brain in the same injury, and it was therefore impossible to draw any positive conclusions from the results.

Flourens has been considered the most successful of the older experimentalists, and he was much more careful in his operations. He tried his experiments on pigeons, dogs, birds, rabbits, and other animals. He both applied the electric current to the brain, and removed parts of the brain with the knife. He cut away the brain by slices, and observed the effect after each slice was removed, both with and without applying the electric current. Flourens cut the cerebellum in slices, and when the first slice was removed, there was a loss of harmony in the movements of the pigeon. When the central part was removed there was great agitation, and spasmodic action. When all was removed the animal lost the power of standing, flying, leaping, or

walking, which had gradually been affected by the mutilations. When put on its back it could not rise, but did not remain quiet like pigeons deprived of the cerebrum. It was restless and agitated. These results were due to a want of control of the muscles, hence Flourens concluded that the cerebellum was the centre of co-ordinated movements. He found when he injured or removed the cerebrum the pigeon could stand firmly on its feet, but was sluggish and appeared to be in a deep sleep, wholly oblivious of external impressions, and incapable of originating motion, moving only when stirred. Another pigeon under the same circumstances was easily terrified, and fluttered its wings as in flight. Flourens' view was, that all sensations had been obliterated, and his inference was that the cerebrum is the seat of volition, perception, and memory. Flourens made many experiments, but they were in the main a repetition of those of Rolando. Like the latter he commenced with the brain and cerebellum of mammalia, and finished with the cerebellum of reptiles and fishes, terminating the whole with researches into the action of the nerves. He drew conclusions from his experiments in many cases which do not seem to be warranted by the results. There is no time to dwell much on Flourens, as we have more important matter before us, hence we will leave him by giving an extract from his account of the history of a hen, which will give some idea of the work done by him.

"She was a fine and vigorous hen," he says, "and when deprived of her two lobes, lived ten entire months in the most perfect health, and she would have been living still if at the time of my return to Paris I had not been obliged to abandon her. During all this time I did not lose sight of her for a single day; I spent many hours of every day in observing her; I studied all her habits; I followed her in all her actions, and noticed all her ways.

"The following is an account of the observations which this long study fur-

nished me. As soon as the two cerebral lobes were removed, the sight of both eyes was lost. The animal no longer heard or manifested any sign of volition, but she kept herself perfectly balanced on her legs, and walked when irritated or pushed; when thrown in the air she flew, and swallowed water when it was put in her beak. In other respects she stirred not unless irritated; when placed on her feet she remained on them; when laid on her breast, like hens when sleeping or resting, she continued in this position; she was constantly plunged in a sort of lethargy, affected neither by noise nor light, but from which she could only be aroused by pinching, blows, pricking, etc. Six hours after the operation the hen assumed the attitude of profound repose—that is, she turned back her neck and concealed her head under the feathers of her wing, as animals of this species do when sleeping. I left her about eight minutes in this state, and then briskly irritated her; she suddenly started from her sleep, but hardly was she awake when she again relapsed into a deep sleep. Eleven hours after the operation I caused the hen to eat by opening her beak, and thrusting in food, which she swallowed very well. The next day she aroused a little from her sleep, and in doing so she exhibited the manners of a hen awaking. She shook her head, moved her feathers, sometimes even cleansed them with her beak, and sometimes changed the foot on which she stood; for often she slept resting on one alone, as birds generally sleep. A man acting in this way would be said to be half asleep, as he stretches out his limbs, gapes, shakes himself a little, goes to sleep again, or remains thus drowsy.

"The third day the hen is no longer as quiet as usual. She goes and comes, but without motive or end; and if she meets an obstacle on the way, she knows neither to avoid it nor turn from it. Her comb and gills are red as fire, the skin burning; she is seized with acute fever. I gave her water in abundance. Two days afterward the hen became calm and drowsy as usual. In the second month after the operation

she is in perfect health, she becomes very fat, I feed her well. She sleeps a good deal, and when not asleep she is drowsy. Five months after the operation a smooth skin is formed over the wound on the cranium. I have kept this hen from feeding on different occasions, then I have put food under her nostrils; have plunged her beak in grain; have placed grain in the end of her beak, have dipped it in water; have placed her on a heap of corn; she neither smelled nor swallowed, nor drank; and would have died of hunger if I had not fed her. Finally, when she met with an obstacle in her path, she fell against it, and the blow stopped her; but to fall against a body is not to perceive it by touch, hence she has lost touch."

From this Flourens concludes that the hen has lost taste, touch, and smell, with vision and hearing, also that she has lost all intelligence. With Gall we must refuse to accept these conclusions, or else we must have grave doubts of them; for to accept them we must believe that to stand erect, to walk, to move in consequence of irritation, to fly, to swallow, turn back the neck, conceal the head under the wings, shake it, put the feathers in motion, sharpen and clean them with the beak, alternately change the feet to rest them, stretch out and straighten, shake and resume the equilibrium, rise up, and resist efforts made to open the beak, as a pigeon did whose two lobes were removed, are all proofs of the absence of sensation, volition, etc. To accept these things as proofs would be to consider that a man half awake was deprived of will, memory, sensation, etc.; for a man in that condition would give the same manifestations.

Dr. Gall found a tame jackdaw in his garden, whose thigh was broken. He placed him in a cage, where he remained perfectly still, neither ate, drank, nor flew. He thrust food to the bottom of his beak, but he rejected it. Two days afterward he swallowed, after this he ate, drank, became wild, and flew away. This shows that it takes much less than the destruction of the cerebral lobes to suspend the exercise of its faculties.

In more recent times Hitzig and Fritsch, two German physiologists, performed numerous experiments on animals by means of the local application of a constant galvanic current to particular convolutions of the brain, and these experiments were repeated with greater care and more success by David Ferrier, of King's College, London. His researches were made by the application of an electric current to different parts of the cortical substance of the cerebrum, and to the other ganglia forming part of the brain, the animal being previously rendered insensible by chloroform. The method of applying the electricity found most effective was that known as Faradization, that is, the use of the interrupted current of an induction coil, which could be increased or diminished at pleasure to meet the requirements of the case. The electricity was applied to the brain by inserting the electrodes into the surface of the brain. These electrodes are smooth and pointed, so as to separate the material of the brain without tearing or lacerating it in any way, and thus causing less injury. He also removed parts of the brain and experimented on the animal while under the influence of the chloroform.

Ferrier begins his investigations on the nervous system with the spinal cord. He concluded that reflex action exists in the spinal cord because that action takes place when there is a severance of the brain from the lower centres, but the brain has an influence on the cord when the connection between the two is not severed. The influence of the brain causes the action to be longer in its occurrence. A frog when placed in water tries to escape when the temperature of the water rises to great heat, but a frog deprived of its brain, in the same condition, remains motionless till death comes, but if touched with acid it moves.

All the cranial nerves except the olfactory, the optic, the oculo-motor, and the trochlear are connected with the gray centre of the medulla oblongata. If the medulla oblongata is destroyed, life

ceases, but if all the centres above the medulla are removed the animal may still live and can be stimulated. Some children who are born with the medulla oblongata only, are able to suck and perform other functions. Ferrier concludes that the medulla oblongata is the co-ordinating centre of associated movements; for when it is destroyed this power is annihilated. He thinks also that it may be the centre of speech, and that it is the centre of respiration, but the respiratory centre is also in connection with the sensory nerves, for cold water dashed in the face causes respiration. Ferrier concludes from his experiments that the medulla oblongata is the centre of reflex co-ordination of a complex character. He found that if a frog was deprived of part of its brain and then stimulated, it would act like a frog in full possession of its faculties, but if left alone it would sit motionless. From this it is seen that there is a difference between the actions of a frog deprived of part of its brain and those of one deprived of all but the medulla oblongata. This shows there is a difference in the functions of these parts. He found that a fish deprived of part of its brain, and left to itself, swam on in a straight line, while the frog in the same condition remained motionless. The difference was due to the difference in the nature of the fish and frog. Pigeons also remained still unless stimulated, but when he treated mammals in the same way, there was great variety in their actions, things became more complicated, they did not act as frogs and fish, and it could not always be told what they would do. The functions are so interwoven in the mammalia that it is difficult to extract a part of the hemispheres without injuring or affecting the rest. The actions vary even in different orders of mammals, and also according to their ages. The experiments can be performed more easily on the young than the old, as in the old the manifestations are more varied. The lower centres of themselves are incapable of originating actions or manifestations of any kind in the mammalia.

Ferrier considers the maintenance of equilibrium to be a function of the mesencephalon, or ganglion between the medulla oblongata and the cerebrum and cerebellum. His reasons are that when all above these ganglia is removed, frogs and birds can balance themselves and stand on one foot, but when they are removed they can not do so. To effect this, however, he considers afferent and efferent nerves as necessary, and also a co-ordinating centre. The afferent nerves are those which carry sensations to the brain or any other ganglionic centre, hence called sensory; the afferent are the nerves which bear out the results of these sensations into actions, hence called motor. The co-ordinating centre is the brain or other ganglionic centre which acts on receiving the sensation conveyed by the afferent nerves.

A frog deprived of the cerebral hemispheres, but having the optic lobes and cerebellum, can maintain its equilibrium, but if the skin is removed from the hinder extremities it falls like a log when the basis of support is removed. (Why do not the experimentalists locate equilibrium in the skin or sense of touch? There would be as much warrant in doing so as there is in some of the localizations they make, since, if the skin of the hinder parts is removed, equilibrium is lost.)

Equilibrium thus being possible when the hemispheres are removed, Ferrier concludes that this function does not require consciousness, although it may be used when the hemispheres are entire. Equilibrium and co-ordination then do not depend upon the influence of visual impressions, but they have an influence, and may in a measure make up for the loss of tactile impressions. The most important influence on the maintenance of equilibrium, however, is that of "labyrinthic" impressions. If the semicircular canals situated in the labyrinth of the ear be divided, the equilibrium is disturbed greatly, and the head can not be maintained in its proper position. The semicircular canals are, therefore, organs of

impression necessary to maintain the equilibrium of the head. When they were destroyed Goltz found that the head swayed back and forth, and rotated in various ways. A current of electricity passed through the head in the region of these canals causes great dizziness and want of equilibrium.

Ferrier regards the optic lobes and corpora quadrigemina as having an important relation to vision, but not as the centre of vision. They have something to do with the co-ordination of retinal images. When one lobe is destroyed, blindness of the opposite eye results. Superficial injury of one lobe causes fishes to roll over in swimming. In rabbits it causes blindness and immobility of the pupil of the opposite eye. Great disturbance of equilibrium and locomotion results from lesions of the optic lobes. When they are irritated there occur various manifestations of the eyes, dilatation of the pupils, cries, movements of the trunk and limbs concerned in maintaining the normal attitude and complex movements.

The functions of the cerebellum, according to Ferrier, are obscure and disputed; even disease has supported opposite conclusions. Yet he says: "The researches of Flourens are the starting-point of clearly derived notions of the functions of the cerebellum." In his experiments Ferrier excludes it from mind proper or from the domain of conscious activity, hence any mental function whatever can not be located in it which is in the realm of sensation, emotion, volition, or intellect. Lesions of the cerebellum produce a disorder of movements, like intoxication, varying in degree, but as to their character, Dalton, Wagner, and others do not agree. Pigeons can be partly deprived of the cerebellum and recover so as to show only a weakening in the length and time of the movements, not in the co-ordinating of them, but this does not hold good in the mammalia and man. In cases of disease of the cerebellum in man, where they were partly destroyed or lesions made in them, yet the

motion was perfect. Andral gives a number of these cases in his *Clinique Medicale*, but Ferrier thinks they are not reliable. Brown-Sequard thinks the disturbance of motion caused by lesions of the cerebellum is really due to irritation of adjacent parts or organs, but Ferrier says they occur when precautions are taken to avoid irritation, as freezing the cerebellum by ether-spray, which does not irritate adjacent parts. Experiments on monkeys are impossible from the overlapping of the cerebral hemispheres, but electrization of the monkey's cerebellum produces movements of the eyes and certain movements of the head and limbs. The same takes place in rabbits, also in dogs, with movements of the nostrils and ears. It is so also in cats, but in cats and dogs other regions are irritated at the same time. In pigeons Ferrier found movements of the head, wings, and legs, but none of the eyeballs. In fishes the eyes jerk forward. In all these cases the motions were toward the side stimulated.

WILLIAM HYDE.

(To be continued.)

FILTH AND LONGEVITY.—While the principle that cleanliness is an essential to health and longevity is an established fact of human life, now and then an exception is found that astonishes the physiologists. For instance, at Howdon, a dirty, desolate village on Tyneside, England, a boy was born who, at the time of his birth, had the following extraordinary number of grandparents and great-grandparents alive. The grandfather and grandmother on the father's side were hearty and well, and so were both parents of the grandfather and the mother of the grandmother of the grandmother. The grandfather and grandmother on the mother's side were active and strong, and so were both parents of the grandmother. The boy thus had four grandparents and five great-grandparents alive, each of whom was in active work earning his or her own livelihood. Yet the village where these hale and hearty grandsires and grand-

dames live and flourish is one of the most unsanitary in England. Open sewers run down the centre of some of the streets. Until a few years ago the water supply was from one well. Houses have been condemned, wholesale, as unfit for human habitation, to the intense disgust of the people. Yet, notwithstanding all these adverse conditions, these families live and thrive.

THE WAY TO SING.

THE birds must know. Who wisely sings
Will sing as they.
The common air has generous wings :
Songs make their way.

No messenger to run before,
Devising plan :
No mention of the place, or hour,
To any man,
No waiting till some sound betrays
A listening ear ;
No different voice—no new delays
If steps draw near.

"What bird is that? The song is good,"
And eager eyes
Go peering through the dusky wood
In glad surprise.

Then, late at night, when by his fire
The traveller sits,
Watching the flame grow brighter, higher
The sweet song flits
By snatches through his weary brain,
To help him rest.

When next he goes that road again,
An empty nest
On leafless bough will make him sigh :
"Ah me! last spring,
Just here I heard, in passing by,
That rare bird sing."

But while he sighs, remembering
How sweet the song,
The little bird, on tireless wing,
Is borne along
In other air ; and other men,
With weary feet,
On other roads, the simple strain
Are finding sweet.

The birds must know. Who wisely sing
Will sing as they.
The common air has generous wings :
Songs make their way.

HELEN HUNT JACKSON.



STIMULANTS AND NARCOTICS.

STIMULANTS and narcotics, employing so vast a proportion of the time, money, and vitality of the American people, demand the closer attention of intelligent minds. Do we receive any equitable recompense for this enormous outlay? The millions of dollars expended; the millions of lives soiled and wasted, where shall we turn to find remuneration for the loss and sacrifice? All countries at all times have had a favorite narcotic. For centuries before the birth of Christ the Malay chewed his betel-nut and the Chinaman his opium.

The principal narcotics now used in the several parts of the globe are—alcohol, tobacco, opium, chloral, hashish, coca-leaf, betel-nut, intoxicating fungus, and kava. These are variously denominated stimulants, narcotics, and sedatives, some of them possessing medicinal as well as destructive qualities. Confining ourselves to the three in common use on our continent: Opium, the least important of these, is the dried juice of the unripe capsules of a species of poppy. The plant is a native of Asia, and is cultivated in large quantities for consumption and export in Turkey and India. The amount of opium exported annually from India alone is reckoned at 7,500 tons. The Chinese consume more of this drug than any other nation on the globe. A great proportion of the inhabitants are continually under its stupefying influence. Opium is a combination of six different

alkaloids with one acid. Although it has valuable medicinal properties in lulling pain, its use as a narcotic is disastrous and ultimately fatal. Millions of people without regard to age or sex, usually the inhabitants of Asiatic countries, are wedded to the enthralling use of opium.

Tobacco, a poisonous weed and destructive narcotic, is generally conceded to be a native of our continent. "Americans are becoming smoked sardines," says a writer of note. Who in passing through our streets can conclude that our country is other than a vast smoke-house? The chemical constituents of tobacco are a volatile oil, a volatile alkali, and an empyreumatic oil. The volatile oil has the taste and odor of tobacco and produces an irritating sensation on the throat and lungs. The evil effects are mainly due, however, to the volatile alkali, nicotine. This poison is scarcely inferior to prussic acid, one-tenth of a grain killing a large dog in the space of three minutes. A hundred pounds of dry leaf yields seven pounds of pure nicotine. Thus in smoking a quarter of an ounce of tobacco there may be drawn into the mouth "two grains of one of the most subtle of known poisons." The empyreumatic oil is also an acrid and dangerous poison.

Chewing and smoking are the most common forms of abusing the weed in this country. Snuff-taking was a more ancient habit. A century ago it was quite common for both sexes to carry

their snuff-boxes and bring them into constant society use.

To the more deleterious habits of smoking and chewing we would now give a few moments' attention. Smoking has become so common with young and old that we wonder as we see boys just emerged from short clothes with cigars in their mouths at what age they acquired the habit. Smoking debilitates the nervous system and weakens the physical powers; but one of its distinctive evils is the injury which it inflicts upon others. The smoker has neither the power nor the wish to consume his own smoke. All in his company must share it—will they, nill they. No one expects the strong arm of the law to be invoked to remedy the wrong done to the non-smoking public. Common justice and the popular idea of right should purify the atmosphere.

Russell Carpenter, a recent English lecturer on tobacco, says: "The chewing of tobacco is not the custom in England, except among sailors, but Americans are notorious for it." Think of it! the people of this enlightened republic notorious for chewing tobacco. A grand compliment to our teeth, no doubt. Chewing necessitates a great waste of vital force; for "this continual grind was scarcely Nature's grand intent, in fashioning mankind."

The evil and listless effect of the continued use of tobacco on nations is finely illustrated in the case of the Turks. Centuries ago they stood high among the powers of Europe; but becoming a race of inveterate smokers have lost all strength as a people and are now the most indolent of Europeans. The extravagance of the habit alone would condemn it. More gold is expended by the people of the United States for tobacco in its various forms than is required to furnish our whole population with daily bread.

Alcohol, the most dangerous and poisonous of the narcotics, is extensively used in all enlightened portions of the globe. Its effects and that of its various compounds do much to debilitate the intellectual and physical capacities of man-

kind. The only source of alcohol is sugar or other saccharine matter as found in vegetable form. By the action of fermentation the sweet and nutritive products of the earth become the bane of its inhabitants. In olden times alcohol was distilled from rice. Pliny speaks of an inflammable wine known to the Romans during the first century. We hear of it again in Bagdad, and soon after in Spain, where the Moors manufactured it in great quantities. From this time forward its use steadily gained popularity and favor. The English exported the liquid to America. The settlers believed it would strengthen them and enable them to clear their forests. The taste and consumption gradually increased with the increase of population, until to-day statistics show that 561,000,000 gallons of this burning and pungent stimulant are used annually in these United States. This vast amount of drink costs the consumers over \$800,000,000. Adding pecuniary loss to the individuals and cost of crime to the government, to that of the liquor, we find the total yearly expense of alcoholic stimulants to the people of our country to be upward of two billions of dollars. And what have we to show for this vast expenditure? Pauperism, crime, insanity, immorality, vice, and a community blighted with drunkenness. This being the result of the unrestrained use of alcohol we marvel that our people continue to be its slaves.

I shall not now endeavor to explain why almost all nations at all times, impelled by a depravity of appetite and desire for self-forgetfulness, have been enslaved by narcotics. I could not if I would. They benumb the finer sensibilities, smother purity, deaden the higher mental aspirations and angelic principles within us. If we lived above and beyond them the possibility of our accomplishments would be vast and outreaching. If a new era were instituted and the coming generation would by earnest endeavor rise above the thralldom of perverted appetite, the earth would blossom anew.

ELLIS P. OBERHOLTZER.

HOT WATER IN CHOLERA.

IN a recent Number of the *Christian Advocate* (N. Y.), Mrs. S. L. Baldwin relates her experience in the treatment of cholera with hot water, during an epidemic that visited Foochow, where Mr. Baldwin and she were engaged in missionary labor. We quote as follows:

"The scourge raged during July and August, but early in September greatly abated, and ere the close of the month there were only scattering cases here and there. Early in October it was deemed safe to commence the missionary touring among the distant churches. Mr. Baldwin left us for some weeks' absence on his district. Two or three mornings after his departure we were at breakfast, our cook waiting at the table as usual. He stepped out to the kitchen to bring in a plate of breakfast-cakes, was absent, I am sure, not more than five minutes—I doubt whether that long—when the coolie came in, with frightened face, exclaiming, 'Brother Ingo is very sick; he has cholera!'

"I hastened to his room and found him on the floor vomiting water in small quantities, blue about the face, limbs cramped, and already cold as in collapse. He complained of no pain save in his back and the cramping of his limbs. I saw the frightful signs of the scourge, and that what was done must be done quickly, for he was a man of weak constitution and very slight build. Not long before, Bishop Wiley had been our guest for six weeks; he had left with us a bottle of Jamaica ginger. I quickly prepared a dose, adding two or three teaspoonfuls of brandy. This I gave the man to steady him a little, until I could prepare a hot bath, which was my chief hope for him. I explained as briefly as possible my purpose to the other natives, assuring them this was my only hope for Ingo. This I did to secure their help, as they are very much afraid of water in sickness. Fortunately hot water was ready, and the bath prepared in a very few minutes. I had a wash-tub placed in the man's room near his bed, put in the

water, and added a handful of mustard, and then had the man lifted and placed in the tub, leaving upon him one suit of cotton clothing—simply a loose blouse and pants. I made the water just comfortably warm at first, then covered tub and man with a blanket, leaving the side next his face open for breath, and through this opening I added hot water as he was able to bear it. I did not note the number of minutes he was in the tub, but left him there until the blueness had gone from his face, and he assured me that the limbs were no longer cramped, and that he was thoroughly warm. Then I had a dry thick blanket spread on the bed and the man lifted quickly upon it, and rolled up in it, and so we left him to rest. Soon after, the doctor for whom I had sent, but for whom I could not wait, arrived and assured me that my treatment was just right.

"Since writing the above I have met with a Boston physician who in an extreme case resorted to the same remedy, with the most perfect and speedy success. Cholera presenting itself in the form it did at Foochow would not allow time for heating of water, but from frequent sudden illness in our family demanding the use of hot water I had a long-established rule with this same cook that there should always be hot water in the kitchen. His obedience saved his life. Judging from my experience and observation, eight out of ten of the cooks of this country would have to die under the same circumstances, just because said rule would not have been obeyed."

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DENTISTRY IN ANCIENT TIME.—In the museum of Cometo, in Tuscany, von Marter recently discovered a skull containing false teeth. They seem to have been made from the teeth of animals, and were fastened to their natural neighbors by means of narrow gold bands. The tomb from which this skull was taken, was said to date back to the fifth or sixth century before the Christian era.

SIGNS OF HEALTH AND DEBILITY.

DR. REGINALD SOUTHEY, in one of his lectures on "Individual Hygiene," makes a good summary of the signs of sound health and debility as follows:

"A sound constitution depends upon a body well constructed both inside and out, and upon a balance of functions, circulation, respiration, innervation, digestion, sanguification, each well, all unconsciously fulfilled; upon a temperature well maintained all the body over; and last, but by no means least, upon good habits of life. A man, as Celsus said, is not to live too much by rule; he should be the master, not the slave of his body.

"The state of health is a state of very perfect hæmotosis, distribution of the blood in which the tissues of the body are neither too moist nor too dry. Flabby muscles and hydræmia of the intercellular tissue are suggestive of debility if not of actual disease. There appears to be a maximum of solidity, a ratio between weight and height and girth, which coincides with that period of life when the energy or vigor is greatest, when each individual is capable of his greatest feats of strength and endurance; it is better marked in males than in females, and happens at or about the thirtieth year of life. This is the quality of body which the hygienist aims at prolonging.

"The following signs may be accepted as evidence of sound health: 1. Individual adaptability: the capacity in man to adapt himself to extremely opposite conditions of existence without suffering in energy. 2. Endurance: the capacity of supporting considerable bodily or mental labor without suffering from fatigue, or of repairing the latter quickly. 3. Self-command: the capacity of controlling the emotions, blunting as well as sharpening the sensations of will. 4. Resistance to morbid influences: the capacity of eliminating all poisons quickly by dint of sound organs of excretion.

"The following signs of debility ought to be enumerated as well: 1. Deformity,

obesity, leanness: bad construction of the skeleton or of its clothing. 2. Personal inadaptability: liability to disturbance of either mind or body upon slight provocation, such as change of food, clothing, climate, or any interruption of the ordinary habits. 3. Lack of endurance: small staying powers, requiring long rest to repair fatigue. 4. Small emotional control: the persons who are quickly provoked to anger, or are speedily moved to tears or laughter, exhibit feeble nervous system, and are prone to nervous disorders. 5. Proclivity to morbid influences: those whose organs of sanguification or of elimination are damaged; who, although equal to ordinary calls upon them, exhibit their inefficiency by succumbing to every contagion, miasma, or poisonous influence that they encounter."

THE TOOTH EVIL.—American youth is getting more and more into a bad plight with defective eyesight and defective teeth, two important factors generally confessed in the physical sum total of good looks and health. Children of twelve wear spectacles, because parents have abused their eyesight by reading by an imperfect light, or while jolting in cars; their teeth are rarely sound, a writer in the *Bazar* affirming that the modern child often has hundreds of dollars worth of gold in its mouth before that age, and that children of sixteen often wear complete sets of false teeth. Not all the advanced science of modern dentistry can save teeth that are decayed before they are fairly cut through a baby's gums. The mischief is beyond repair while the pearly little tooth lies hidden in the tiny jaw, and it is caused by the innutritious food the parents, particularly the mother, have eaten, the sweets, the sauces, the hot and ice-cold drinks, the highly spiced diet which produces dyspepsia, and thins and disorders the blood. According to the dentist, the American tooth will eventu-

ally be as obsolete as the dodo. It is rapidly ceasing to exist, in spite of the care that is bestowed by those who have the means to pay dentists' bills, and, what is worse, in spite of human vanity. Fine teeth, white, wholesome teeth, are a

priceless treasure, and if reformers would attack the dietary system of the "society", home, as well as the clothing of modern women, they might accomplish a greater good than they are at present doing.

THE TWO DOCTORS.

FOUNDED ON EXPERIENCE.

THE New England village of N— contained two rival doctors, both of whom were also rivals for the favor of the lovely Miss Ella Deane. Dr. Simpson and Dr. Emmons were two quite different individuals. Dr. Simpson was somewhat more polished externally, more conventional, more fresh from his books, more given to routine, and, like many other physicians lately graduated, felt that he could walk right up to a patient, feel of his pulse, see his tongue, look wise, and then write off a Latin prescription that would scatter the disease to the winds. Dr. Emmons was less formal, less fettered by the schools, lived close to nature, and, seeing how predisposed all men are to run in ruts, strove to think for himself, and to adapt his remedies to the condition and temperament of the patient. His hair was not so immaculately smooth as that of Dr. Simpson and his coat was not quite so fashionable, but he possessed a noble head and a genial soul shone out from his whole face, while the earnest contact of his hands with those of his patients as he greeted them seemed to give them new cheer and strength.

Both physicians were frequent visitors at the residence of Mr. Deane, and both considered it a great favor to have the society and sprightly conversation of the beautiful Ella, whose sweet simplicity of manner seemed to signify that she was quite unconscious of her own charms. Mr. Deane himself had a most tender affection for his daughter, and she in turn leaned on her father with all a daughter's love.

Gradually it became apparent to all

that Ella's health was failing, and that her step, usually so elastic, was growing languid and her face becoming pale, while a severe cough was setting in. Dr. Simpson informed her father that she was in a serious condition and was rapidly running into *phthisis pulmonalis*. Dr. Emmons also informed him that her case, though not yet dangerous, was leading into consumption and should be attended to at once. Mr. Deane, noticing what learned words Dr. Simpson was in the habit of using and that he designated her disease *phthisis pulmonalis* at once, while Dr. Emmons didn't know any better than to call it *consumption*, concluded to employ the former to treat his daughter. In fact, he hadn't the least idea that both terms meant the same thing and that Dr. Emmons generally used plain English when talking to unprofessional people.

Dr. Simpson chuckled to himself over the fact that his system of technical claptrap had overawed Mr. Deane and gained his point. "Cure her?" said he to himself, "of course I shall cure her in a little while, and she in her gratitude will easily be led to commit herself to my care and keeping for the rest of her mortal life. As to Dr. Emmons, I pity him somewhat, but he is evidently not scientific and has lost the day. She must have some cod-liver oil for her lungs and some iron to tone up her blood, for she is afflicted with anæmia."

With these thoughts, the confident Simpson went forward to put his theory into practice, wholly unconscious of the fact that there were causes lying back of these conditions of stomach and lungs

that must be reached if anything permanent was to be effected.

"Preposterous!" said Dr. Emmons to himself, when he heard that cod-liver oil and iron were being forced down into a stomach that was so weak as to be unable to assimilate some of the simpler foods. "It looks now as if that angel girl was to be sacrificed to ignorance, for the real cause of her present difficulties will not be touched."

Dr. Emmons did not say this before the world at large, for they would have considered it as a manifestation of professional jealousy; nevertheless, he grieved night and day over the course which he felt sure would destroy that lovely temple of a human life. A few weeks served to prove the truth of his fears, for Ella steadily failed, the hectic flush made its appearance more intensely and her cheeks grew hollow. The poor girl was even tortured by blisters, while her stomach was filled with indigestible compounds. Finally, Dr. Simpson had a consultation with other physicians of the same stamp as himself, and as a result it was communicated to Mr. Deane that he must prepare for the worst, as Ella's case was getting beyond human power to save.

Mr. Deane was almost beside himself with excitement, and turning sternly to the doctor, he exclaimed :

"Dr. Simpson, you have wronged me in this matter. When I placed my daughter's case in your hands she was not very low, and you declared that you would have her all right in a little while. Instead of that she has grown worse. My daughter herself declared that you were not reaching her chief difficulties, and now I have come to the conclusion that you are scientific only in the use of big words. Dr. Simpson, I want you to know that that dear girl is all I have in this world, and if she dies my sun will have gone from the sky, and I shall never want to see your face again."

This was uttered with tears and an energy that made the doctor tremble; but at the same time he tried to justify himself, declaring that God's providence is

inscrutable and beyond human power to bend.

"It is more inscrutable," said Mr. Deane, "that a man can spend years at a medical college, and then when he commences practicing makes people worse than they were before. Allow me to say that I shall have no further use for your services."

It needed a thunderbolt of righteous indignation like this to set the conceited young man to thinking and to make him feel that something besides mere druggist's stuff should be used for upbuilding human systems.

Mr. Deane went to Dr. Emmons and begged him to make the most persistent efforts to save his daughter, although a council of medical men had considered the case quite hopeless.

Dr. Emmons at once stated that he had given him a severe and discouraging case to deal with, although it might have been easily controlled at first. However, he would hope to save her, although it would be necessary for her to undergo a process for eliminating the impure elements caused by the disease and the treatment that might for the time being almost overwhelm her.

When Dr. Emmons went in to see Ella, she sent an appealing look into his very soul, exclaiming, gently, "Save me, doctor, save me. I am not afraid to go to the other life, and sometimes I wish for its blessed rest, but my dear father would be disconsolate and I feel that I must do some important work here before I go."

The doctor thought that even in her weakness and emaciation there was something almost unearthly in that radiant countenance, and taking her hand tenderly in his, he exclaimed: "You little woman, I will raise heaven and earth to save you if human power can do it."

He then told her that he would organize his forces and plans for a desperate encounter with her disease and appear in the morning to carry them into effect, but in the meantime he would like to have her nurse make downward passes over her spine and all her limbs with the object

of drawing the congested blood away from the vital parts ; also to practice transverse wringing movements over the same parts to kindle the blood.

That night Dr. Emmons felt a mighty weight of responsibility upon him. He prayed for light, for help, for power. He saw that the clogging and impure elements of her system must be thrown off, and yet the ordinary methods of sweating them off would be too weakening for one who was already very weak. He had read how Baron Dupuytren cured a lady after the most eminent physicians had failed by simply putting her into the light, and he had heard marvellous things about the sun-healing movement in the country, especially in lung difficulties. Ella had cheerfully promised to submit to any course of treatment that Dr. Emmons might consider best, but in the morning when he appeared with a big funnel-shaped instrument made of bright metal on one arm and a wooden frame somewhat resembling a chicken-coop on the other, she gave a hearty laugh. He then explained that he had had them made in hot haste that morning—the funnel, which was about two feet long, being for the purpose of concentrating a large amount of light by reflection, while the frame was for the purpose of going around her as she sat up in bed. This had a large opening in the top through which her head could come, while blankets were to be spread over the crate-like affair, leaving her head outside in the pure air and shutting in the radiations of her body as well as the sunlight which might be introduced through the funnel. After a little laugh Ella was bolstered up in bed, the crate was placed over her, a white blanket placed over that, and the small end of the funnel inserted through an opening in the crate so as to throw the light directly on the skin over her lungs. The bed was then wheeled up to the window so that the full sunlight could come into the large end of the funnel, care being taken that it should not strike Ella's head.

" Doctor, you are a genius," said Ella,

after the first trial. " This heat is delightful ! My dormant lungs drink it in as if they were famished. If the sunlight is the great vitalizer, why shouldn't it kindle up human bodies when it can get to them ? Doctor, it begins to burn."

" Let it burn a little," said the doctor, " for it will fire up the organs and draw some of the soreness outside."

After a little while the perspiration started, though it had hard work to release the impure elements from the fever-closed pores. This sweating process was allowed to run twenty or thirty minutes, the light having been thrown upon the upper spine for a portion of the time. The nurse then washed her in tepid water and was surprised to find sticky and even colored matter thrown out upon the skin.

" I feel easier and fresher than I have for days," said Ella.

" But I shall have to keep this up every day for a while," said the doctor, " even if it should weaken you somewhat."

Day after day the work went on. The struggle was severe. Sunlight and massage roused the turbid elements to the very foundation, and one night he was sent for with the announcement that she was dying.

" I don't believe it," said he, though at heart he was somewhat alarmed. " The crisis has come and I trust that with a little help she will get safely through." He found her almost smothering, but ordered a hot foot-bath, which drew the blood downward and gave relief.

She had passed the Rubicon. From that time onward she moved steadily upward, to the great chagrin of the other doctors. She soon sat up, then walked a few steps out of doors, then took short rides, then longer rides, and finally she declared her health was in as good condition as it had ever been. The roses came back to her cheeks and elasticity to her steps. But another change had been going on between the patient and her physician. To each the approach of the other was like the coming of a new sun into the sky. With childlike simplicity and yet with delicacy they uttered their kind re-

gards to each other. Finally, when the doctor determined to bring matters to an absolute crisis, Ella knew it as well as he.

"Sweetest of women," said he.

"Noblest of men," said she.

"You darling, you know well enough what I'm up to."

"Of course I do," was her answer, "but say it nevertheless."

"Will you be my sweeter half for ever and ever?"

"Certainly, dear, if you will be my stronger half for ever and ever."

E. D. BABBITT.

LAY IN A STOCK OF HEALTH FOR SUMMER.

"Winter is the seed-time of health. To be well in summer, take much exercise in the cold season."—MARY LYON.

A WHOLE chapter of the truest philosophy embodied in two lines. The electro-nervous fluid, or that principle which vitalizes, tones up, and strengthens the nervous system, is largely supplied by the oxygen and electricity of the atmosphere. It reaches its greatest tension in the winter. The more we get of it then, the higher will the mercury of health rise during the following summer.

Sick people rarely gain strength in summer. They do gain this, though; because windows and doors are open so that they can not help breathe good air, and because perspiration is so easily induced, the system has a chance to throw off impurities, to rid itself of foul matter, and, being thereby put into a situation to build up and grow strong, if as winter advances they are still allowed plenty of oxygen.

But if, instead, they shut themselves into ill-ventilated shops, offices, stores, parlors, kitchens, studios, or school-rooms by day and sleeping-rooms by night; ride when they had better walk, and go out as little as possible for fear of taking cold, they will fail of adding this solid strength that the renovated system is ready to receive—will lose ground already gained.

If those who are subject to spring fevers, who became so enervated, prostrated, and overcome this summer by the heat, would exercise freely and vigorously out of doors in this coming winter, and see that their rooms are constantly ventilated, they will not only feel splen-

didly meanwhile, other things being equal, but will be correspondingly better next summer.

One day a mother, talking about her little son, casually observed that he had been remarkably well all summer; that every season before he had been sickly.

"Did you keep him in the house last winter?" queried the listener, anxious to know if this theory explained the cause.

"Oh, no," she replied; "he was then just tall enough to open doors, was very active, and I could not keep him in, so I finally concluded to dress him warmly and let him run."

"Did he have colds?"

"Yes, a few; but no more and not nearly so dangerous as in previous winters."

Make a practice of daily tying up the ears in cold weather, and look out for ear-aches and sores in the head the next summer. Bundle up the throat—it is rendered tender and liable to various local disorders; and so on.

Winter is the time to begin to lay in the next summer's stock of health.

MRS. E. R. SHEPHERD.

THE earnest physician, whose regard for right and the best interests of his profession, standing high above mercenary motives, is hemmed in upon every side by a class of intriguing imitators and stealthful filchers, whose sordid motives pass current with society, and receive a compensation equal to the merit of the most scientific physician. This is one of the influences that deteriorate the practice of medicine.

NOTES IN SCIENCE AND AGRICULTURE.

Specimen Woods of the United States.—There is now on exhibition, at the New York Museum of Natural History, a large collection of the trees of the United States, with over 400 trunk sections of the different species. These specimens are cut in such manner as to display their barks and the transverse and longitudinal sections of the wood. This is done by cutting away one side of each specimen at the top to the depth of one-half the diameter of the trunk, and for one-third its length. One-half of each exposed portion is polished to illustrate the effect of this treatment of the wood, the remainder being left in the natural condition. In the case of trees of commercial importance, this form of representation is supplemented by carefully selected planks, or by burls, showing the true industrial value of the wood. Among the specimens is a plank of redwood (*Sequoia sempervirens*), measuring $8\frac{1}{2}$ feet in width. A species remarkable for slow growth, and which is only 24 inches in diameter, shows an age of 410 years, being the oldest tree in the collection. This is the *Picea Engelmanni*, named for its discoverer, Dr. Engelmann, and known also as Engelmann's spruce. Another example of slow growth is seen in the *Pinus edulis*, or edible pine, from Arizona, called also nut pine. The seed of this pine, which resembles a good-sized bean, is used by the Indians for food. A tree of this species, which is 369 years old, measures only fifteen inches in diameter. Another specimen, which is 341 years old, shows a diameter of 37 inches. It is the Western shell-bark hickory (*Carya sulcata*), from Allenton, Mo. The same locality is represented by a specimen of the *Tilia Americana*, or basswood, which is 40 inches in diameter and 150 years old.

One also of much interest is the *Gleditsia triacanthus*, or honey locust, from Missouri. This is a tree of singular appearance. Its trunk is covered with thorn clusters, the spikes shooting, ray-like, in all directions from their growth centres. These thorn formations have their basis in the bark alone, without any source whatever in the wood itself, not even reaching it, and are easily detached. It was, therefore, necessary to suspend the tree from the ceiling of the car in its journey from the West.

Another equally extraordinary tree is a representative of Texas. This is the *Cereus giganteus*, which resembles a fluted column. It is a tree which can be really taken all to pieces. Its component parts are in the form of vertical sections of twisting curvatures in the line of their circumference, whereby one portion is fitted exactly to another. They can be separated without the slightest difficulty, in the absence of any heart at the centre for their attachment. The Washington palm (*Washingtonia filifera*) from Southern California is also curious. The specimen

includes the top of the tree, which is severed from the body, and bears its dried and yellow wide-spreading leaves. Its peculiarity is in the ring formations of the trunk, which are almost wholly detached from each other, standing one within another like a succession of forms of bark.

The cocoanut-tree from Key West and the finely odorous nutmeg from California are among other specimens of importance. The catalpa is represented as a species most remarkable for its durability. Some of this wood, known to have been buried in the earth for seventy-five years, has been brought out in perfectly sound condition. Specimens of beautiful woods are seen in the holapensis, the arbutus, sweet bay (*Persea carolinensis*), Alaska cedar (*Chama cypariss nutkensis*), and the beautifully-figured maple burl from Missouri.

This collection was presented to the Museum by Mr. Morris K. Jessup, of New York.

Removal of Grease Spots from

BOOKS AND ENGRAVINGS.—Grease spots, if old, may be removed by applying a solution of varying strength of caustic potash upon the back of the leaf. The printing, which looks somewhat faded after the removal of the spot, may be freshened up by the application of a mixture of one part of muriatic acid and twenty-five parts of water. In the case of fresh grease spots, carbonate of potassa (one part to thirty parts of water), chloroform, ether, or benzine, renders good service. Wax disappears if, after saturating with benzine or turpentine, it is covered with folded blotting-paper, and a hot flat-iron put upon it. Paraffine is removed by boiling water or hot spirits. Ink spots or rust yield to oxalic acid in combination with hot water; chloride of gold or silver spots, to a weak solution of corrosive sublimate or cyanide of potassium. Sealing wax is dissolved by hot spirits, and then rubbed off with ossa sepia. India ink is slightly brushed over with oil, and after twelve hours saponified with salmiac; any particles of color still remaining must be removed with rubber. Blood stains disappear after the application for twenty minutes of chloride of lime; the yellowish stain still remaining yields to a weak acid. Fresh spots of paste are removed with a moist sponge; older ones with hot water. Fusty stains of yellowish color, surrounded with a darker line, disappear if the paper is bathed in clean water to which some chloride of lime has been added. If they are found in bound books, linen dampened in the same liquid is placed on both sides of the discolored leaves, while the latter are separated from the other leaves by tinfoil. As soon as the spots have disappeared, the linen and tinfoil are removed, the leaves placed between blotting-

paper, and the book is closed. If there are many fusty spots in the book the binding is taken off, and the whole volume placed for a night in chloric water. The separated parts are then hung up to dry, and the book freshly bound. If the spots are large and dotted with black points, tartaric acid is applied.

The Bischoffsheim Observatory.

—Astronomers are much interested in the great cupola which Mr. Bischoffsheim has just had built at Paris for his observatory at Nice. It is looked upon as one of the greatest achievements in what may be called astronomical architecture. Its dimensions are twenty-two and a half metres of interior diameter, and very nearly twenty-four metres, or nearly eighty feet, of exterior diameter. The height of the new construction is forty feet, and it is to be raised on a wall thirty feet high. The material is steel, and the weight ninety-five tons. But it is not only in point of size that the cupola of Nice claims to be a curiosity. A still more notable feature is the mode of progression by which it is destined to revolve, so as to present its telescope to that part of the sky where observations are to be made. Hitherto the plan has been to make a groove in the circular wall on which the dome is raised, and in the groove to place spherical rollers upon which the superincumbent structure may move. But in the present case fears are entertained that the great weight might cause such a strain as to make this system unworkable, and it was then proposed to float the edge of the dome in a liquid filling the circular groove. Mr. Bischoffsheim's new cupola is arranged by comprising the old and new systems, so that both rollers and floating apparatus are employed.

Joan of Arc not Burned.—History seems to be about to lose another of its favorite stories in the case of Joan of Arc, as documentary evidence of the strongest kind goes to show that the old story of the burning of the Maid of Orleans is a fable. There is proof that Joan lived after 1431, and that she arrived in the town of Metz on the 20th of May, 1436. She was then recognized by her brother. There is a record in the archives of Metz declaring her marriage to one Robert des Armoises, knight, and mentioning the birth of two sons. After Joan was married she was known as Dame Joan, and whenever she came to Orleans she was sumptuously entertained with meat and wine at the expense of the town. There is a record which materially assists this proof and shows that the town of Orleans paid to her 210 livres as a recompense for services rendered during the siege.

It was always difficult to believe that a king who owed his crown to a mere girl could suffer her to be burnt alive without raising his voice. It was necessary that the English soldiers, who believed her to be a sorceress, should think she was burnt, but Charles VII. knew it was a farce, and could, therefore, afford to remain passive. If the statement

that she was not burned can not be declared authoritatively, it at least may be sufficiently sustained to clear considerably the atmosphere about Rouen.

Watering Plants.—A practical observer says: "We do not altogether recommend watering gardens, especially with a watering-pot or small sprinkler. Superficial watering often does as much harm as good. Watering the surface encourages the growth of surface roots at the expense of those that run deeper in the soil. Surface watering also bakes the top of the ground, forming a crust, which is very injurious to any growing crop. Some of the market gardeners who have an abundance of water at command from street water-pipes, have found that watering gardens by the use of hose and sprinklers is of doubtful utility. Few of us have the patience to sprinkle water as slowly as it is delivered by the clouds. We hurry it so much that the surface is puddled, and put in a condition entirely unlike the action of a long-continued, gentle rain. Then some water while the sun is shining, which is also contrary to nature's ways.

"Artificial waterings should be done by underground drain-pipes, if practicable, to be of the greatest benefit to the soil and crops. In a small garden, where one has a few plants that it is specially desirable to force into constant growth, water may be applied by sinking flower-pots, pieces of drain tile, or old stove-pipe in the soil, into which water may be poured and allowed to settle into the lower strata of the soil without wetting the surface. Evaporation at the surface is thus prevented, and a little water will do as much good as a large quantity applied in the usual way with a sprinkler."

How he Lost a Farm.—An old tobacco-user relates his experience with the weed and what it cost him. His use of it, as shown by his own words, was but trifling compared with that of some men we know, but the grand aggregate is large. He says:

"At the age of twelve years I commenced the use of tobacco, with the opinion that it looked manly to use it. I had considerable difficulty in forming the habit. I was very often sick and blinded from the effect of it, but by and by the habit was formed and I was a tobacco-chewer—ejecting from my mouth tobacco juice. My parents tried to prevail upon me not to use it, but in vain. I had my plugs about the barn. As a source of expenditure, the habit was a success. I was able in a year or two to use fifty cents worth a week. It puzzled me greatly to provide the spare change to enable me to continue the luxury (as I esteemed it). Frequently the use of it produced nervousness and prostration. I was often subject to great inconvenience, in entering the house of some tidy housekeeper, to find a place to spit; was often compelled to hold the tobacco in my mouth until it was full and running over, then a rush for the door. At other times I would swallow the

juice, which would produce a burning sensation in my stomach, causing an increased flow of saliva; still I persisted in the use of the weed.

"Twenty years sped away, through which I had probably averaged 50 cents a week, or \$26 a year. Having a little leisure one rainy day, I began a calculation of what it had cost me, principal and interest, in 20 years, which I found to be \$1,500; that is, if the \$26 each year had been loaned at 10 per cent. interest and compounded annually. This brought me to the age of 32 years, when I found that the \$1,500 loaned at 10 per cent. interest and compounded annually in 28 years, or by the time I would be sixty years of age, would amount to near \$24,000. I passed my fingers through my hair, and thought what a good-sized farm that would buy."

Engraving by Electricity.—Lieutenant Buller Carter, of Bow Lane, London, has invented a new engraving machine, in which electricity has been introduced into the mechanism with great success. It is chiefly intended for decorative engraving upon metal work, and is capable of producing high-finished results with a celerity in which manual work is completely distanced. The words or designs to be engraved are first furnished by a setting of ornamental types or a stereotype plate. Over this is passed in parallel lines an arm of the machine, to which is attached a fine protected platinum point. The motion of the arm is responded to by that of a table, which carries the metal to be inscribed or decorated beneath the point of the graver. The types or stereotype plate, by raising the platinum point, puts into circuit a current of electricity, which, acting upon an electromagnet, raises or depresses the graver and produces an enlarged or reduced engraved copy of the types upon the metal on the table, and does this with perfect accuracy.

Plant Rotation.—At the late convention of agricultural colleges, which was held in Washington, Mr. Coleman, the new Commissioner, delivered an address, from which the following paragraphs are taken:

"The idea has been entertained that chemical analysis would indicate the best line of practice to be followed in regard to the rotation of crops, or perhaps *obviate* the necessity of any change except that of convenience. This was to be effected by analysis of the soil and the plant to be grown in it, so that the ingredients removed by the latter could be replaced, and thus the fertility of the soil could be maintained for an indefinite period. But, so far, this knowledge has not been promulgated, neither the analysis of soils, nor the analysis of plants, furnishing the data seemingly necessary for practical purposes.

"The phenomena attending the growth of certain crops for a series of years on the same soil apparently included certain factors which are not readily explained. It is well known

that nurserymen, who pride themselves on maintaining a high standard of quality in their salable stock of pear, apple, peach, and other kinds of fruit trees, are careful not to attempt to grow two successive crops on the same land. Even after experimenting with all kinds and qualities of manures which their skill and experience can suggest, the quality of their stock will depreciate if grown a second time on the same soil, unless long periods elapse between the rotations. Even in the case of such humble plants as petunias and verbenas in the flower-beds, it is well known that they cease to give satisfaction when grown more than three years in the same place, notwithstanding the ground is well manured. These and the facts of a similar kind might be assumed as an indication that there may be some as yet undiscovered cause that exerts an influence in plant nutrition.

"The hypothesis has been advanced that plants excrete injurious matters by their roots, which exert a baneful influence upon future crops of the same plants, but may furnish nutritious matter for plants of a different species; this has also been given as a reason for the benefits which follow a rotation of crops. It has also been stated that growers have found that a crop of tomatoes which follow a crop of watermelons will show increased productiveness from that circumstance alone. Similarly it has been asserted that the best strawberry crops are those taken from land which produced potatoes as a previous crop. Statements of this kind are not usually and generally made by farmers or gardeners without some basis of fact, and it would seem to be a matter worthy of special observation. Doubtless there is something yet to be learned on this subject of the rotation of crops, and as it is one of careful observation, rather than of extra skill or large expenditures in making experiments, it is all the more worthy of attention."

Extermination of Bed-bugs.—A correspondent of the *Country Gentleman* says: "We moved into a frame-house, about two years old, and my consternation was very great to find it thoroughly stocked with these pests; there was not a crack or crevice that was free; they were under the base-boards and over them. After fighting them eight years, I learned from a girl that had served as a chambermaid in a large boarding-house that bugs can be entirely exterminated for all time. I immediately followed her direction, which was to take grease that was cooked out of salt pork, to melt it and to keep it melted (the vessel can be kept in a pan of coals), and to put it with the feather end of a quill in every place I could find a bug. It is necessary to see that the bed-cords are entirely free from the pests, and I will warrant there will be no more trouble. It is more than thirty years since a bug has been seen in my house."

Wind-Mills.—An 8½-foot wheel will raise 3,000 gallons of water daily a distance of 25 feet. Its first cost, including pump and a plain tower, is about \$150. A 10-foot wheel will raise about 9,000 gallons of water a day a like distance, and cost about \$180, including the appurtenances above mentioned. A 12-foot wheel will raise 16,000 gallons of water per day the above distance, and cost with the same appurtenances \$210; so up from 14 to 16, 18 to 20 feet diameter of wheel until we reach a 25-foot wheel, which costs about \$1,200, and will raise 100,000 gallons of water daily the specified distance.

Chicken Cholera.—The Department of Agriculture publishes the following remedy, recommended by Dr. Salmon, for preventing chicken cholera: A solution made by adding three pounds of sulphuric acid to forty gallons of water (or one-fourth pound sulphuric acid to three and a half gallons of water), mixing evenly by agitating or stirring. This may be applied to small surfaces with a small watering-pot, or to large grounds with a barrel mounted on wheels and arranged like a street sprinkler. In disinfecting poultry houses the manure must first be thoroughly scraped up and removed beyond the reach of the fowls; a slight sprinkling is not sufficient, but the floors and roof and grounds must be thoroughly saturated with the solution, so that no particle of dust, however small, escapes being wet. It is impossible to thoroughly disinfect if the manure is not removed from the roosting-places. Sulphuric acid is very cheap, costing at retail not more than twenty-five cents a pound, and at wholesale but five or six cents. The barrel of disinfecting solution can therefore be made for less than one dollar, and should be thoroughly applied. It must be remembered, too, that sulphuric acid is a dangerous drug to handle, as, when undiluted, it destroys clothing and cauterizes the flesh wherever it touches.

A "Daisy" Farmer.—A farmer in Huron has for years had his pastures and uncultivated farm lands overrun with field daisies. They grew so rank that they choked every attempt to raise crops on the land, and were a continual source of annoyance and regret. Last year there came to the Huron man a friend from New York; and from him the discouraged farmer learned how fashionable the humble daisy had become in æsthetic circles. This gave our bucolic friend what the stock gamblers call a pointer; and this year, cutting his daisies at the right time, packing them carefully, and sending them to florists and others in the cities on commission, he has sold nearly the entire crop of "weeds" at handsome figures, and only wishes it were larger and would last longer.

Restoration of Faded Photographs.—It is only necessary to immerse the yellow print in a dilute solution of bichloride of mercury until all the yellowness dis-

appears. It is then well washed in water to remove the mercurial salt. If the print be a mounted one, it is by no means necessary to unmount it previous to treatment; all that is required in this case is to keep it in intimate contact for a time with blotting-paper charged with the bichloride. By the bichloride treatment no lost detail is actually restored, as some have imagined. It is simply that the sickly yellow color which, as it were buried, the delicate half-tints, or what remains of them, is removed, and thus renders the picture bright and clear. Pictures which have been treated with the mercury always possess a much warmer tone than they did originally, as the purple or back tones give way to a reddish brown or reddish purple—more or less bright according, probably, as gold or sulphur had been the principal toning agent. Here a question very naturally arises with regard to the future permanence of pictures which have been thus "restored," seeing that negatives intensified with mercury or transparencies toned with it are so prone to change. In answer to this we may mention that they appear to be permanent—at least that is our experience with some that have been done for many years. There appears to be no further loss of detail, and the whites retain their purity. Indeed, since undergoing the treatment with mercury, no alteration is yet perceptible.—*Manufacturer and Builder.*

A Practical Test of Fertilizers.

—Mr. Charles Hunt, superintendent of the Rhode Island State farm at Cranston, made a comparative test of fertilizers last season. The products grown were on exhibition at the State fair and attracted much attention. They consisted of potatoes, corn, and corn fodder. One square rod of ground was devoted to each kind of fertilizer, and the result of the trial is given in the following table. Equal values of the different kinds of fertilizers were used:

One square rod.	Corn fodder.	Corn.	Potatoes.
	lbs.	lbs.	lbs.
Bones and ashes.....	50	27½	33½
Nothing.....	26	15	11
Ground bone.....	44	22½	39
Darling's fertilizer.....	108	45	60½
Dole's fertilizer.....	85½	40	78
Stockbridge.....	117	47	63½
Green manure.....	94½	41½	58½
Old manure.....	54	21	33
Earl's phosphate.....	71½	27½	61½
Clark's cove guano.....	125	45	60½

Reduced Postage and other causes have increased the correspondence of the world. Less than fifty years ago the average of letters received by each person per annum was only 3 in the United Kingdom, and it is now 37 letters and 4 postal cards. The latest reliable ascertained comparison (for 1882, when the average was 35 in Great Britain) gives the average per head in the United States at 21; Germany, 17; France, 16; Italy, 7; and Spain, 5.



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THE UTILITY OF PHRENOLOGY.—
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JUDGING OTHERS BY ONE'S SELF.

A LARGE space in our discussion of this subject has been given to the consideration of self-culture. And reasonably so, because of the paramount importance of the development of one's self, and in the course of our remarks we have indicated under different aspects how self-culture is related to conduct and purpose. Without the development and discipline of education the faculties of the mind will be lacking in individuality and vigor, and the untrained person will be a mere imitator, vacillating and unsteady, and subject to the impulses of his stronger feelings and sentiments. Comparatively few people think in an independent manner, because their intellects have not been trained. The masses borrow their opinions from the newspapers, and use them in their talk unconsciously. Here and there is a man or woman of independent character and culture, whose utterances are accepted with readiness by the community, and made to yield material for the routine talk, gossip, and discussion of the many.

Were the methods of teaching in vogue designed to instruct the young concerning the nature of their mental faculties, and how to use them in thinking, there would be far less subservience and imitation; people would think for themselves; seek to see and know the truth for themselves and not take it so generally at second-hand.

Irregularity and want of purpose in conduct whether tending to harmless insanity or to crime, are due to one conspicuous cause, undevelopment. The trained mind is self-regulating; the untrained mind is lacking in self-restraint.

The Superintendent of the Elmira Reformatory School, Mr. Brockway, a gentleman of wide experience in the observation of criminals, has in operation a system that is nothing more than a practical application of the principle of self-development; the propensities that have ruled in the free life of a man and made him a transgressor of the law are there subjected to restraint, and the higher sentiments and feelings with the intellect are encouraged to exercise their regulating influence—until "the habitude of thoughtful, reasonable action replaces the thoughtless and reckless." Success does not always follow the persevering effort of the instructor in that institution, there being some whose organisms are perverted seemingly beyond correction, but ninety per cent. are amenable to training and salvation, thus showing that the class termed criminal is almost entirely constituted of those who were not properly educated in childhood and youth. What encouragement there is in this for our expectation of grand results in the application of a scientific system to the education of children and youth at large.

In our business and social intercourse

with the world, mistakes are likely to occur constantly if we are not able to understand the nature of those with whom we come in contact. We hear people say, "I judge him by myself." At once a false and true ground of judgment; true if one does know himself from systematic study, false if one does not know his mental constitution from such study; because in such case one generally entertains narrow and conjectural notions of his character, and in estimating others hastily concludes that they are pretty much the same as himself, only he has been more fortunate or unfortunate in his material surroundings. For instance, the man ignorant of mental science usually thinks if he is selfish that all men are selfish—the difference in their expression of selfishness being merely dependent upon their relative position, some being so happily situated that all their wants are supplied, do not have cause to show the propensity in an offensive way, and hence are amiable and pleasing, and ought to be; others being poor and having the same cravings as their well-to-do neighbors, should be expected to manifest a discontented disposition and be fretful, complaining, and disagreeable. The generous, sympathetic man who does not understand character, mistakes in accounting others as generous and kind as himself; and it is only after a long and severe experience that he learns that there is a great difference among people in the matter of benevolent feeling. We have heard persons, well educated so far as school attendance is concerned, express strong indignation on account of certain treatment they had received from others with whom they were intimate. Being largely developed in Friendship themselves, and prompt to render any

little services that might give pleasure to an acquaintance, they were surprised and chagrined when they found that the feeling was not reciprocated, and when they really needed some accommodation it was not heartily given. Who has not known two persons long and familiarly acquainted to become divided, one having large Friendship, bitterly reproaching the other for not doing some comparatively small service in his or her behalf, while the other with but moderate Friendship indicated surprise that he or she was expected to do it, as there was no practical ground for such expectation.

We meet with men and women who get along well in the world; they have large Human Nature, Comparison, and Perceptive intellect, and are consciously or unconsciously good judges of character. Possessing a fair degree of Benevolence they adapt themselves to others, and so associate pleasantly with them. The successful business men as a class are thus constituted; the tact or shrewdness which is ascribed to them being but a product of the special training received by the faculties named in the course of their dealings. Add to their type of intellect a proper knowledge of its constitution and systematic training, their power to deal with customers would be vastly increased, and it would not be necessary for the salesman or commercial traveller to exercise so much assurance, persistence, and effrontery in order to gain his end. We know a book canvasser who has been very successful, especially in selling valuable books or *éditions de luxe* of standard authors. He adds to a well-organized intellect and a good moral development a knowledge of mental science. This has helped him in the maintenance of a vigorous phys-

ique. With these factors he feels competent to approach any man, and in presenting his business he keeps in view the character of the man he accosts, having made the best estimate he could in the few moments of his personal introduction.

Some say, "I treat all alike." The statute law does that for the purpose of restraining the vicious—it regards all as knaves; but such a rule does not answer in the shifting kaleidoscopic course of every-day social and moral life, and the man who attempts to apply it will meet with disappointments and failures, the natural results of an ignorant or prejudiced disregard of the truths of human nature.

INVESTIGATING GHOSTS.

THE learned and progressive gentlemen who constitute the working factors in the Society for Psychical Research of London, are embarrassed much in the way that an unsophisticated youth would be who had suddenly come into the possession of great riches. They have been investigating hypnotism, the divining-rod and thought-transference, and appear to have reached some definite conclusions with regard to the production of the phenomena connected with these subjects. They have latterly taken up the much more occult phenomena of spiritism, and almost in the outset of inquiry have been overwhelmed with stories and accounts of apparitions more or less supported by respectable testimony. London itself is found to be richly supplied with ghosts, so that there is material enough at hand to employ the time and wits of the investigators. These gentlemen of S. P. R. aim to be candid and

impartial; they have a most difficult nut to crack, and evidently know it. The eyes of the world scientific and unscientific are upon them, and mistakes even of caution or discretion will receive little mercy. They must, to use the words of a writer, "be just to an apparition as well as generous to a molecule"—"must use the eyes of the soul as well as the lens of the microscope." They find that some of the many cases submitted to their juridical analysis can not be relegated to hallucination, disturbed mind, overwrought imagination, fear, or expectancy, and to apprehend the true nature of these seems like clutching at a shadow; theory here has no basis, and must therefore be placed in abeyance until some positive data may warrant its revival.

We do not look for a solution of the phantasm problem. If there are supernatural phenomena we do not expect to be logically satisfied concerning their character. Scientific research may settle the question of the occurrence of such phenomena in the affirmative, and may go so far as to classify, or differentiate peculiarities of expression—we think that it will; but to disclose their cause and manner of production seems to us beyond the reach of physical machinery. We are much in accord here with Miss Phelps, who has said that "no investigator is qualified to pass judgment upon psychical phenomena who is not equally ready to admit, if admit he must, in the end, that he is dealing with the physiological action of cells in the frontal lobes of the brain, or with the presence of a human soul disembodied by death. He must be hospitable to a hallucination, or to a spectre. He must be, if necessary, just to an apparition as well as generous to a molecule."

MORBID NEWS-MAKING.

JOURNALISTS, literary men, those who make it their occupation to write or prepare matter for the newspapers, are, as a class, sticklers for respectability, and if one's claim in that behalf be casually impugned his indignation is aroused and he declares himself "insulted." Yet who that reads several newspapers does not know the want of common decency exhibited in some of them. Sensation appears to be the controlling motive in the management of certain dailies; and it is reflected by the large, flaring head-lines that meet the eye at the top of every column; it glows in the startling titles that impress the reader that he is about to be informed of something much out of the ordinary; and it is salient in the phrases, the treatment of the subject, in every line and word.

In some of these a straining for humor is the prominent characteristic, and the editorial and reportorial wit is exerted to convert everything into fun. If there be a phase of the grotesque, however small, in any offence against social order, it is seized and magnified until it becomes the chief element of the published item. A hideous crime, even murder, is treated with facetious garrulity. In certain dailies the cardinal "virtue" is completeness of detail, especially as regards the vices that abound in society. "Get everything" is the mandate issued by the chief to his reportorial staff—and the readers of such papers are "feasted" with long screeds of diluted fact and high-colored fiction concerning events in private and public life. Floating bits of scandal, family differences, church troubles, theatrical disputes, the divorce courts, furnish the stock that fills whole pages

with disgusting narrative. There is much rivalry shown in fullness of detail regarding events that embody horror. A suicide, a murder, a riot, an epidemic is blazoned in great capitals, and extra editions are published to feed the public appetite for such morbid stuff. An English visitor thus notes his impressions of the literature most prominent in our news sheets:

"Take up a New York morning paper and you will find the platform utterances of your chief statesmen dismissed in a few words, while its leading pages will be covered with headings such as 'She Shoots Herself,' 'Attacked by a Negro in Her House,' 'The Child Polygamist,' 'Miss Jones Elopes,' 'She Left Him Forever,' 'He Loved Her too Well,'—and so on, *ad nauseam*. In London this kind of newspaper work is entrusted to *The Police News* and *Town Talk*, and other such papers which respectable citizens would never admit into their houses and no respectable hotel would leave on its tables."

Meanwhile the public appetite for this stuff has been stimulated and cultivated by the newspapers, and its mephitic corruption has been sown in the blood of the excitable masses, to bring forth in time harvests of vice, crime, disease, and death.

Why can not something be done to purify the press and make it the teacher of truth, duty, manliness, honor, and purity? Why will not our respectable brothers and sisters who write for the columns of this or that newspaper aim to treat facts as facts, suppress the unnecessary and improper, leave punishment for wrong-doing to the legal authorities, turn a deaf ear to the scandal-monger, and let private affairs remain private property? Phillips Brooks said in Boston not long ago: "If we could sweep intemperance out of the country we could wipe out

almost all the poverty in the land." He might have added: "Gentlemen of the press, if you would frown upon every corrupting influence that now finds easy access through your pens to the pages of your newspapers and periodicals, you would wield such power in the land over the minions of impurity and wrong that intemperance, like other forms of vice, would be rapidly diminished."

OUR DRINKING HABIT.—Some of our contemporaries are manipulating the statistics of the liquor trade to show the pleasant and much-desired deduction that the people of the United States drink less of intoxicating beverages than they did twenty years ago. The deduction is based upon the fact that the consumption of spirituous liquors—whiskey, brandy, gin, etc.—has fallen fifteen per cent. since 1860, and that notwithstanding the great increase of population. But when we consider the

immense increase of consumption in the case of wine and malt liquors during the same period, we are not so content with the situation of affairs as our contemporaries appear to be. Increase of taxation has had a great deal to do with the reduced sale of whiskey, and other common drinks that possess a large percentage of alcohol; and meanwhile the demand for beer and wine has risen to the enormous figure of 607,000,000 gallons that were consumed last year,—over ten gallons to each man, woman, and child of our population. The proportion of alcohol in our native wines, and in ale and beer, may be very small as compared with whiskey or brandy, yet the vastly greater quantity of the lighter beverages drunk by individuals is productive of serious injury to mind and body. We have but to consult the returns of the police courts, and the registers in our city hospitals, to learn that alcohol, however disguised, is an inveterate destructive.



To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A

two-column article is read by four times as many people as one of double that length.

6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE CONTRIBUTIONS unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

MESMERISM.—T. D. G.—The careful reading of the books on mesmerism will supply information for experiments. Like all scientific subjects, personal observation and practice are necessary to capability in the performance of the art. Nearly every one may do something in mesmerism, but special power depends upon organization and especially that of the nervous system. Among the treatises of practical value are Deleuze's "Animal Magnetism," 524 pp., \$2; Dodds' "Lectures on the Philosophy of Mesmerism," 50 cents.

ROBERT BURNS is the author of the quotation you have inquired about, "Man's inhumanity to man makes countless thousands mourn."

In the next Number we shall give space to your second question concerning the infinite combinations possible of the known phrenological organs.

ICED WATER AND KIDNEY DISEASE.—

J. W.—A physician claims that thirty or forty years ago, when people slaked their thirst with fresh water from a well or pump, kidney disease was virtually unknown. But now, however, the general use of ice in every household and saloon and the multiplication of soda fountains, ice-cream saloons, and places where iced things abound, cause thousands of persons to abruptly shock their heated internal organs with freezing draughts, and kidney troubles have become very prevalent. We think that he is not far wrong. The constrictive and congestive results of frequently applying water at the freezing point to delicate internal membranes sixty-seven degrees warmer can not be other than harmful, and stomach, liver, spleen, and kidneys must suffer from the unnatural habit.

LEMONS IN WARM WEATHER.—A. S.

T.—Lemonade is an excellent beverage for warm weather. It should not be pungently sour, or yet very sweet. A mildly acid taste will be sufficient to secure that moderate astringency that is favorable to the intestinal function. A person of active habits, accustomed to drinking freely, might drink a quart a day with good effects, using it as his only beverage. For this the juice of two small lemons would be sufficient.

EVENTUALITY SMALL? GOOD MEMORY.—T. F.

—It may be that the moderate or small development of Eventuality is more apparent than real. Sometimes an examiner does not take the development of the superciliary ridges sufficiently into account, and a large frontal sinus may give a depressed contour at the middle line, while the forehead, if viewed laterally, will be found of ample depth and fullness. Yet, with moderate Eventuality, a man's familiarity with ancient history may be explained by the development of other organs. Large Veneration would impress one with the disposition to esteem the old, Sublimity would lend its influence, and Spirituality help. The perceptive faculties, if large, and Comparison, would aid in contributing activity to the mental impressions, and those topics that afforded him gratification by their study would be retained in good part. Ancient history, as it is usually presented by writers, is not a subject of dry details, facts, dates, etc., but a synthetic, philosophical array of events, involving usually not one nation, but several; hence, the reasoning faculties are exercised in its consideration, and as a rule those who take a special interest in the affairs of the past have a good degree of Causality and Comparison.

VENERATION AND FIRMNESS.—*Question*: How can a person increase his development of the organ of Veneration? Also Firmness?

W. S. M.

Answer: One with small Veneration should endeavor to render the sentiment of respectfulness active by mingling with people who are older and of superior endowments, and by proper religious association; take part in the exercises of a church, one where the ceremonial tends to awaken lofty emotions of awe and devotion; cultivate the spirit of worship; read books on religious topics and also descriptions of the ancient and venerable in history and geography. Endeavor to follow strictly the guidance of your intellect—letting that be well instructed—with regard to your proper conduct. To whatsoever is decent, becoming, proper, dignified, elevated, be respectful and subservient. Determine, when you are satisfied that a certain line of conduct is right, to follow it. This will strengthen both organs.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

DREAMS, VISIONS, AND PRESENTIMENTS.—

A writer in the JOURNAL of August takes exception to many of the stated facts in the article "Phenomena of Immortality." He asserts, "If the only proof we had of there being a hereafter was dreams, hallucinations of the sick, and of overstrained imaginations, we might as well close our church doors and live only for our worldly gratifications." So we might say if all dreams were the result of things previously known, all visions "the hallucinations of the sick, and overstrained imaginations." The statement is mere assumption. Many of them can never be put in such a category, and can no more be classed with aberrations and fantasia than historic facts with fiction, prophetic insight with delirium, true religion with the many false, and good bills with counterfeits. The ignorance of some can never disprove the knowledge of others, and where there has been foresight embodied in subsequent events, it is vain for any sceptic to cry "Imagination! Delusion!"

Superstitious fancies do not disprove superhuman or supernatural disclosures. The Ethiopian may believe in his *fetich*, the negro of the South in his abnormal revelations, and the dancing Dervishes in their exalted mania, but all these do not disprove the realities revealed to a Daniel, a John, a Paul, or a William Tennent. The case of the lawyer rising at midnight and writing a speech in a state of somnambulism is not to be discredited because his wife did not speak to him; or other well-authenticated cases, because the spectators did not go and shake them into wakefulness.

This critic tries to disprove a case mentioned by himself, of a lady who had a dream of her dead son, woke up her husband and told him of it; and which was proved true by a telegram received the same night. The explanation, he says, was in the fact that the messenger-boy knocked at the door for several minutes before any one awoke, and cried out that he had a telegram that the son was dead; that the mother began to dream, and hearing the boy announce his message, fell asleep again, and thinking the dream real, awoke her husband and told him that Bob was dead. Now, this explanation involves more of the inexplicable than the published statement. Such a dream does not stand alone; there have been others too numerous for record. Are we to believe that the messenger, having knocked once or twice, shouted out his message at the door before he heard any sounds from within? Strange telegram-bearer! Who awoke first? The mother, and after hearing the news of her son's death, so startling, instead of waking up her husband, went to sleep and *dreamed* he was dead; awoke again and told her fancied vision to her husband. But is this *her* story? No, only the writer's conjecture. The imagination at work here must be that of our philosopher. He thinks it strange that the wife of the somnambulist lawyer did not, out of curiosity, wake him out of his sleep; but she was wise in comparison with this mother, who hears of her son's death, is not startled by it, goes to sleep over it, then dreams it is so, then arouses her husband, and tells him in pure honesty of her startling revelation! And the husband, in his soporiferous recumbency, hears neither knocking nor midnight cry, till his weaker vessel arouses him to the certain announcement of their son's demise. Well, this is as good as many other explanations of the superhuman that we have met with. ARGUMENTUM.

THE PRACTICAL SIDE OF LIFE.—Day by day we add to our experience facts that show us that this world is a reality rather than a region of fancy. Its never-ceasing activities call for the co-operation of our efforts; life's constantly recurring demands call for our never-ceasing activities in obedience to the Divine command, "In the sweat of thy face shalt thou eat bread." All the motives to industry and manly effort that can be brought to bear are presented under the idea of pleasure, profit, or usefulness; or all these combined may constitute an actuating motive. Self-preservation is the "first law" of our being, and it prompts to effort in life's pursuits. If a person labors for the maintenance of himself and his family he is worthy of respect, for this is what every one should do; but one should not stop at that, for man's duties extend beyond the limits of self-preservation. As intelligences in the world, as members of society, and as citizens of the country in which we live, we all should strive to promote the general interests of mankind. To do this well, labor in all departments of effort should be wisely distributed and intrusted to capable hands.

If a man can not wield an eloquent pen in the realm of thought, perhaps he can use a mechanic's skill for his own maintenance and the benefit of others. If another can not wake up the slumbering echoes that lie beneath the surface of ordinary things, and which none but the eloquent can bring into activity, he can find work to do in things that lie nearer to his hand; he may disseminate knowledge as a teacher, or he may till the soil. He should at any rate do something to promote the common interests by furnishing some help to the world.

Let every one try to improve and excel in the thing he does. There is room in the sphere of activity for all hands. If you aspire to a position of honor and trust, remember that, as a general rule, there is not much room at the bottom, but there is always room at the top, and the qualifications are competency and worthiness. These will in time insure public confidence and advance their possessor. Labor is a prerequisite of success, but that alone does not insure success; it must be guided by judgment and practical skill; these imply a knowledge of things, and show us what is possible under existing circumstances. Slow and steady gains effected by warrantable means are preferable to that far-reaching enthusiasm that would seize great results in a day.

If anything will pay for the labor it requires, it will pay for doing well. All our efforts should be systematized and conformed to the best standards; if we feel that Providence is on our side we may expect that our efforts will accomplish the result aimed at, and we can be hopeful and cheerful although obstacles meet us in the way. D. N. CURTIS.

FROM LETTERS.—A Tennessee Editor, L. C. B., writes: "I have this to say in favor of the PHRENOLOGICAL JOURNAL, that it has done more for me than anything I have ever come in contact with. It has made me all I am or expect to be. I praise you for it. Consider me a lifelong subscriber."

A Long Island, N. Y., subscriber, G. A. G., wrote: "I derive much information and get a great deal of comfort out of your JOURNAL. I believe in you, and could not well do without your works."

A Clergyman, E. W. D., writing from Wales, says: "Permit me to thank you for the really noble work done through the medium of the JOURNAL. I hope some day to visit America, and one of my first stopping-places there shall be 753 Broadway. I can bear testimony to the influence which Phrenological information has had upon me. In the words of a devotee of the science, 'I feel myself a thousand times more indebted to Phrenology than to any other of the sciences.'"

An Iowa farmer, T. M. C., says: "I must tell you I am so pleased with the PHRENOLOGICAL JOURNAL that I would not be without it in my family for twice its price. My daughters, both teachers, prize it highly."

PERSONAL.

VOLTAIRE'S NAME.—It does not seem to be generally known that the name "Voltaire" was but the *nom de plume* of the famous French writer, Francis Marie-Arouet. He was born in the year 1694.

HELEN HUNT JACKSON.—This gifted writer died at San Francisco, August 13th, after a painful illness of several months. Mrs. Jackson, better known by her initials, "H. H.," or "Helen Hunt," was born at Amherst, Mass., in 1831, and was a daughter of the late Prof. N. W. Fiske. Her first husband was Major E. B. Hunt, of the U. S. Engineers. He was killed at Fortress Monroe while experimenting with a new marine torpedo which he had invented. Her little volumes, like "Bits of Travel" and "Bits of Talk," proved very popular. After an extended tour through the far West she furnished several papers on the oppressions of the Indians, backing them up with letters to the Interior Department, persisting with such energy that a commission was sent out to investigate the charges, she herself being appointed special Indian Commissioner by President Arthur. She was also engaged by the Century Company, and wrote a series of letters on Southern California, Oregon, and Washington Territory. Her second husband was Mr. W. S. Jackson, a banker in Denver, Col.; and the past few years of her life were passed in Colorado Springs and Southern California, laboring to ameliorate the condition of the Indians and writing descriptive papers of life in the quaint Spanish towns of the latter quarter.

REUBEN E. FENTON, ex-Governor of New York, died suddenly at his home in Jamestown, N. Y., on the 25th of August. Mr. Fenton was born at Carroll, Chautauqua County, N. Y., in July, 1819. He received an academic education, studied law, and was afterward engaged in the lumber business on the Ohio and Alleghany Rivers. In 1843 he was elected Supervisor of his native town. In 1849 he was elected to the Assembly as a Democrat, and in 1852 was sent to Congress. He was in Congress when the fight occurred on the Kansas-Nebraska bill, on which issue he seceded from the Democratic party. In 1854 he was elected to Congress on the Know-Nothing ticket, and in 1856 was re-elected as a Republican candidate, he being a warm supporter of Gen. Fremont for President. In 1864 he was still a member of Congress when nominated and elected Governor of New York, was re-elected in 1866, and after serving four years as Governor was in 1869 elected United States Senator to succeed Edwin D. Morgan. His Senatorial term ended in 1875. We have a vivid remembrance of being pleasantly entertained by him a few years since at his charming residence in Jamestown.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

THE true work of art is but a shadow of the divine perfection.—MICHAEL ANGELO.

THE slow, patient, faithful best
Of some unknown tireless hand,
Shall rise at last, star-crowned and blessed.

To be happy, the passions must be cheerful and gay, not gloomy and melancholy. A propensity to hope and joy is real riches; one to fear and sorrow, real poverty.—HUME.

THERE is in our day a marvellous idolatry of talent. It is a strange and grievous thing to see how men bow down before genius and success. Let us draw the distinction sharp and firm between these two things: goodness is one thing, talent is another.—FREDERICK ROBERTSON.

HOLY character is one of the mighty forces by which the world is to be saved. It can not be imitated. If not genuine, forms and words will avail nothing. It must be divinely implanted, and hence can but be real. Profession without holy character is a dishonor; profession with holy character behind it is divine.—PHILLIPS BROOKS.

THE late President Lincoln had a vision thus described by himself: "On the evening of the day when I received news of my election, worn out by excitement and fatigue, I threw myself on a lounge in my bedroom to rest. Just opposite to me was a bureau with a swinging glass, and looking in it, I noticed two separate and distinct images of myself. A little bothered, perhaps startled, I got up and went to the glass, but the illusion vanished. Lying down, I saw it again, but noticed that one of the faces was paler than the other, and had a blood-stain on it. When my wife came in I told her of the vision, and she, who had great faith in signs, and generally attached some meaning to them, said, 'It means you will be elected to a second term, but will not live through it.'"

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

A PAPER that is always full of good points.—A paper of needles.

MENNY people are like an egg—too full of themselves to hold ennything else.

ALWAYS laugh at your own jokes. If you want anything done well, do it yourself.

A LESSON IN PHYSICS.—Teacher: "What is velocity?"

Pupil: "Velocity is what a man puts a hot plate down with."

"WHAT are the last teeth that come?" asked a Lynn teacher to her class in physiology. "False teeth, mum," replied a boy who had just waked up on the back seat.

A DOUBTFUL COMPLIMENT.—Mrs. Smith: "I fear I'm failing fast." Mrs. Jones: "Nonsense! I only hope I shall look as well when I am of your age." Mrs. Smith (*sotto voce*): "When she is of my age! The hateful old thing!"

AN Irish country doctor, conversing with a friend about the high rate of mortality then prevailing, remarked: "Bedad, there are people dying who never died before!"

A LIQUOR-SELLER presented his bill to the executor of a deceased customer's estate, asking, "Do you wish my bill sworn to?" "No," said the executor; "the death of the deceased is sufficient evidence that he had the liquor."

SAID an exasperated father at the family dinner: "You children turn up your noses at everything on the table. When I was a boy I was glad to get enough dry bread to eat." "I say, pa, you are having a much better time of it now you are living with us, ain't you?" remarked little Tom.

HILLS—BILLS.—A LAMENT.

Who'll pay the bills
If I go to the hills
For the cure of my ills,
Where nothing is cheap
And the prices are steep,
Quite as steep as the hills?
Who'll pay the bills?

The doctors declare
I must straightway repair
To the White Mountains, where
Relief I will find
For the body and mind.
But it gives me the chills
When I think of the bills!

Oh, gladly I'd go
Where the cool breezes blow,
But my funds are as low
As my health—don't you see?
So there's no chance for me
To be cured of my ills,
For who'll pay the bills?



In this department we give short reviews of such New Books as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

THE MANUAL OF PHONOGRAPHY. By Benn Pitman and Jerome B. Howard. 12mo, pp. 144. Price, \$1.00. Published at the Phonographic Institute, Cincinnati.

Thirty years have elapsed since Mr. Benn Pitman published his first edition of the "Manual"—a text-book in shorthand which, for simplicity of arrangement and practical adaptation to the needs of shorthand students, has not been surpassed. The edition we now refer to is a new one, in which new and useful features appear, while the general plan of the book is essentially the same as in the old work. Those changes and additions to phonography that have been adopted by the authors of the present work are believed by them to be of real importance, as they have stood the test of actual practice, and are generally approved by reporters who use the Pitman methods.

HEADS AND FACES: HOW TO STUDY THEM. By Nelson Sizer and H. S. Drayton. Octavo, pp. 185, paper. Price, 40 cts. Fowler & Wells Company, New York.

The demand for standard publications of low price has increased greatly with the tendency of many book-makers to meet it. Popular editions of the poets, historians, scientists have fallen in line with the hundreds and thousands of cheap editions of the better classes of novels; and now, in response to the often-expressed want of the studious and curious, we have a voluminous yet very low-priced treatise on "Heads and Faces" from the point of view of Phrenology, physiognomy, and physiology. Although so cheap as we have noted above, it is no flimsy, carelessly patched-up volume, but a careful, honest work, replete with instruction, fresh in thought, suggestive and inspiring. There are nearly two hundred illustrations, exhibiting a great variety of faces, human and animal, and many other interesting features of the much-sided subject that is considered. Taken at length it is one of the most complete books on face-study that has been issued by its publishers, and is the book that will create a demand wherever it is seen. The style in which it has been produced, the excellent paper, good press-work, numerous illustrations, and elegant, engaging cover, make it a phenomenon even in this cheap-book day.

THE BOOK OF PSALMS. Translated out of the Hebrew. Being the version set forth A.D. 1611, compared with the most ancient authorities and revised A.D. 1885, with the Readings and Renderings preferred by the American Committee of Revision incorporated into the text, those retained or adopted by the English Committee being specified in the Appendix. Edited by John G. Lansing, D.D., Prof. of Old Testament Languages, etc., New Brunswick, N. J. Published by Fords, Howard & Hulbert, New York.

Nothing need be added to the above full description of this neatly printed and bound edition of the Psalms, except to say that the arrangement of the lines is in accordance with the poetic or lyric character of the compositions, and that we believe this special publication to be warranted and desirable, since it is pretty generally conceded that the corrections and suggestions of the American Committee indicate a scholarship even advanced beyond that of the British Committee, and certainly in many cases not so hindered by the prejudices of history and old usage.

PUBLICATIONS RECEIVED.

ST. MATTHEW BEFORE THE COURT, is an attempt, on the part of a liberalist, signing himself "Secularist," to show, by reference to authorities, specious and otherwise, that the Gospel of Matthew is not a divinely inspired book, but "a spurious composition or forgery, and in many places a plagiarism of pre-existing heretical or condemned gospels." Published by the Truth-Seeker Company, New York.

STUDENTS' SONGS. Comprising the newest and most popular College Songs as now sung at Harvard, Yale, Columbia, Cornell, Dartmouth, Vassar, New York University, Wellesley, Williams, Trinity, and other Colleges. Compiled and edited by W. H. Hills. Folio, paper. Price, 50 cents. Moses King: Cambridge, Mass.

These songs carry us back to our student days; for with several of them we are familiar, and their memory has been refreshed by the pleasant renderings of many of them that we have heard at public halls by college glee-clubs. There are thousands of college men in the country who will be glad to possess this compilation of Mr. Hills.

THE NORTH AMERICAN REVIEW for September gives us, in connection with several well-known writers, a good table of contents. Two or three symposia form a marked feature, viz.: "Shall our National Banking System be Abolished?" and "Grant's Memorial." Other conspicuous topics are, "Tendencies of English Fiction," "Reminiscences of Famous Americans," "The Great Psychological Opportunity."

THE SIXTY-FIRST ANNUAL REPORT of the Officers of the Retreat for the Insane at Hartford, Conn. An interesting report, which shows an increasing tendency to make the asylum a home for

persons of advanced age, whose impaired mental faculties render them more or less troublesome or a charge to their friends.

TRANSACTIONS OF THE EIGHTH ANNUAL CONVENTION of the Wisconsin State Eclectic Medical Society, held in Kilbourn City, May 27th and 28th, 1885. This document not only shows the prosperous state of Eclectic medicine in Wisconsin, but the reason for it in the progressive character of the physicians who belong to that class. In the papers published with the report we find many sound and practical statements, and think a general circulation of the pamphlet would do American society much good.

THE POPULAR SCIENCE MONTHLY for September makes variety something of a specialty. It gives us a "View of the Relations of Railway Managers and Employés," "The Present Aspect of Medical Education," "Origin of Man and the other Vertebrates," "Siberia and the Exiles," "How Spelling Damages the Mind," "The Science of Morality," "The Primitive Ghost and his Relations," a Sketch of Dr. G. Nacktigul, with portrait, etc.

THE KNICKERBOCKER AND APPLETONS' NATIONAL RAILWAY AND STEAM NAVIGATION GUIDE is a consolidated publication, as its title shows, and the large, plump form in which its monthly issues appear augurs well for its utility and support. The arrangement is convenient for all classes of travellers. Price, 25 cents. Published by Knickerbocker Guide Company, New York.

HARPER'S MONTHLY for September is remarkably profuse in illustration, and both designer and engraver have done their work in most superb style. The first paper is on Labrador, and furnishes us with much unexpected information about a country we were wont to consider largely desolate. "The House of Murray" is the story of a great London bookstore. "The Earliest Settlement in Ohio" abounds in biographical interest. The richest art work is found in the article on "Antoine Louis Balyre," the celebrated sculptor of tigers and lions. American war history receives marked attention, and the department of fiction is well supplied.

WORLD TRAVEL GAZETTE is a very neat publication of the World Travel Company of New York, appearing monthly, and containing data of interest to travellers and tourists. Special routes of travel are sketched, with items of cost given, and very full lists of rates for excursions in all parts of the world. The beautiful maps included with each Number are valuable in themselves. The manager of the Company is Mr. C. A. Barattoni, well known to the excursionist public. Price of Gazette, \$1.00 a year.

THE CENTURY MAGAZINE for September is exceptionally plethoric with fine engravings. We think the specimens of wood-cutting in Mr. Howells' Italian sketch among the best we ever saw.

"Glimpses of England and Alaska" are given with the aid of the engraver, and Alaska claims a good share of attention also from pen and pencil. The war sketches are varied and interesting, Personal Memoirs of U. S. Grant, in relation to the siege of Vicksburg, being a leading feature.

LA REFORMA MEDICA. *Organo del Circulo Homeopatico, Mexicano*, is received, and it proves a well-printed expression of modern medicine and surgery, drawing for its columns from all sources, foreign and domestic. Senors Colin, Carranza, and others are the editors. Published at the City of Mexico.

THE FOOD REFORM MAGAZINE, which is published quarterly by the National Food and Health Society of London, "takes the cake," as it is vulgarly expressed, for cheapness among periodicals, to say nothing of the excellent character of its matter. Its province of course is Hygiene. We should like to have society at large well furnished with a publication of this character. Nothing would be more helpful morally and physically than the inculcation upon the masses of sound dietetic principles.

THE ARCHIVES OF DENTISTRY is a comparatively recent candidate for the notice of those professionals who care for the people's teeth, and is vigorous and progressive. It has been lately consolidated with the *New England Journal of Dentistry*. \$3 a year.

LEISURE HOURS, an illustrated magazine for the folks at home. Published at Rahway, N. J. \$1.50 per annum.

THE CRITIC continues to furnish its readers with notes and reviews on fresh literature. Published weekly. \$3 a year. Such a publication is of great value to those who would keep pace with the progress of literature.

THE MANUFACTURER AND BUILDER, a monthly devoted to the illustration of the mechanical arts, now in its seventeenth volume. Published in New York. \$2 a year.

THE CHICAGO POPULAR MONTHLY is a new candidate for notice among the literary adventures of the West. It is evidently gaining in circulation and improving with age. \$1.50 a year.

Ogilvie's POPULAR READING, No. 17, contains several stories of the sort common among our weeklies and monthlies, and all for thirty cents. J. S. Ogilvie & Co., N. Y.

Ogilvie's POPULAR READING, No. 21, contains several complete stories, with a series of well-selected pieces for recitation. Price, 30 cents. J. S. Ogilvie & Co., New York.

NEW BOOKS.

DICTIONARY OF NEW YORK AND VICINITY. Revised for 1885. With Maps. Paper. Price, 30 cents.—A.

THE GUARDSMAN HAND-BOOK. Compiled and arranged for the use of the Rank and File (Infantry) of the Militia Forces of the United States. By N. Hershler. 18mo, cloth, pp. 136. Price, 50 cents.—A.

THE LIFE AND TIMES OF ULYSSES S. GRANT. Comprising his early Training, Military Career, Presidential Administrations, Travels Round the World, Private Life, and Death. By Hon. J. T. Headley, author of "Washington and his Generals," "Napoleon and his Marshals." Illustrated. 8vo, pp. 700. Price, \$2.50.

THE TEN LAWS OF HEALTH; or, How Diseases are Produced and Prevented; a Guide to Protection against Epidemic Diseases and Other Dangerous Infections. By J. R. Black, M.D. 8vo, extra cloth. Price, \$2.00.

ERRORS IN THE USE OF ENGLISH. A Class-book compiled and edited by J. Douglas Christie, New York. Cloth. Price, 75 cents.—Ap.

THE FIRST THREE YEARS OF CHILDHOOD. A Study of Infant Psychology. By Bernard Perez. Edited and translated by Alice M. Christie, with an Introduction by James Sully, A.M. Cloth, pp. 292. Price, \$1.50.—H.

STORMONTH'S English Dictionary. Pronouncing, Etymological, and Explanatory; embracing scientific and other terms. pp. xlv, 1,234. Cloth, \$6.00. Half roan, \$7.00.

A STUDY OF ORIGINS, or the Problems of Being, of Knowledge and Duty. By E. Pressense, D.D. pp. 513. \$1.50. G. P. Putnam's Sons.

AMONG THE STARS. By Agnes Giberne. \$1.50.

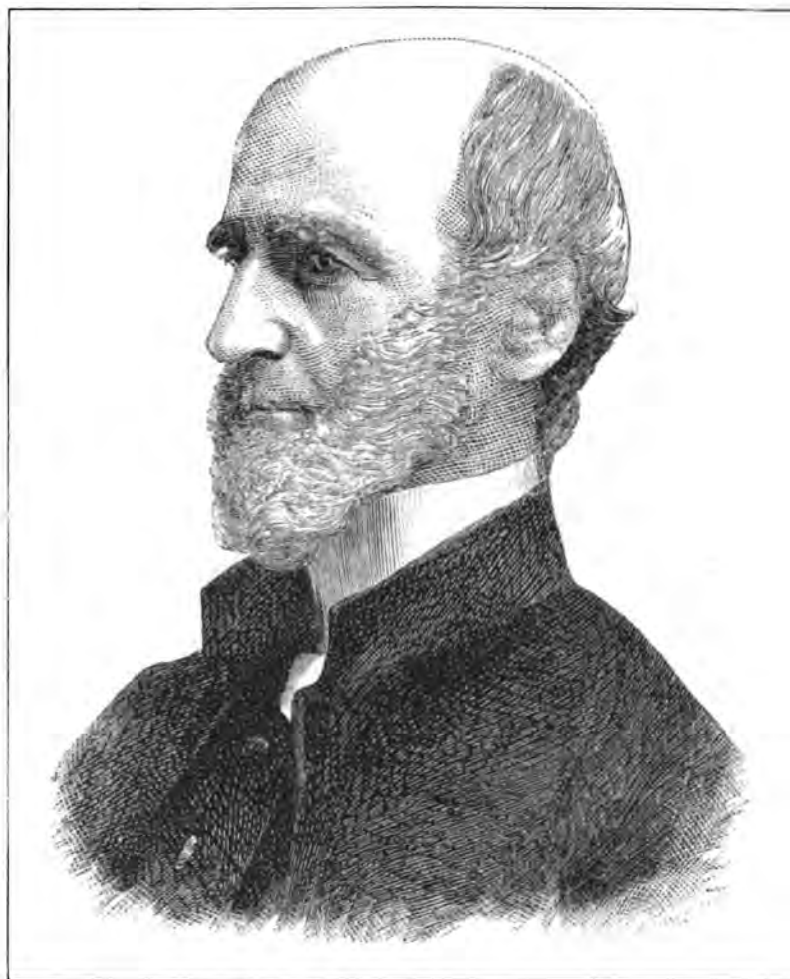
CURRENT PERIODICALS FOR SEPTEMBER.—The Editor would acknowledge the receipt of "The Sanitarian," New York; "The Therapeutic Gazette," Chicago; "The Homiletic Review," New York; "The Cincinnati Medical News"; "American Chemical Review," Chicago; "The Medical Advocate," New York; "The Missionary Review" (Sep. and Oct.), Princeton, N. J.; "The Household," Brattleboro, Vt.; "Building and Architectural Journal," New York; "The Hahnemannian Monthly," Philadelphia; "The Journal of Inebriety," Dr. T. D. Crothers, Hartford, Ct.; "The St. Nicholas," Century Co., New York; "Harper's Bazaar," current numbers, New York; "The Phrenological Magazine," L. N. Fowler, London; "The Medical Investigator," Ann Arbor, Mich.; "Kansas City Review of Science," etc., Kansas City, Mo.; "The Scientific American," New York, current numbers; "Le Progrès Medical," Paris, France; "Our Little Men and Women," Boston; "Good Health," Battle Creek, Mich.; "The American Medical Journal," St. Louis, Mo.; "The Woman's Magazine," Brattleboro, Vt.; "Godey's Lady's Book"; "Peterson's Magazine."



NUMBER 5.]

November, 1885.

[WHOLE No. 565.]



STEPHEN H. TYNG, D.D.

THE REV. DR. S. H. TYNG was one of the most commanding representatives of American Protestantism during the past forty years, and with his death, on the 3d of September, we record the disappearance of another of those power-

ful, aggressive spirits who imparted life and progress into evangelical Christianity. An earnest, positive nature, with a sensitive temperament that quickened every mental faculty into prompt action, Dr. Tyng became well known in the religious

affairs of New York very early in his ministerial career.

He was born in Newburyport, Mass., March 1, 1800, and the earlier years of his life were spent in that town. He studied at Harvard, where he was graduated in 1817, and for two years thereafter he was engaged in mercantile pursuits; but these were not in harmony with his nature, and in the latter part of 1819 he began the study of theology. It is said that his attention was drawn to the religious experiences of a humble colored woman who acted as laundress in his father's family. He followed her one day to her home, and listened as she read passages from the Bible, which so deeply impressed him that soon afterward he determined to become a preacher.

A part of his studies were pursued at Andover, but he subsequently placed himself under the tuition of Bishop Griswold, at Bristol, R. I., and was by him prepared for the ministry. On March 4, 1821, he was ordained a deacon of the Protestant Episcopal Church, and was first settled as a pastor at Georgetown, D. C., in 1823. Two years later he went to Prince George's County, Md., and in 1829 removed to Philadelphia. In 1832 the degree of D.D. was conferred on him by Jefferson College, and afterward by Harvard.

Up to the spring of 1845 Philadelphia continued to be the scene of his labors, and in that year the people of St. George's Church, New York City, invited him to become their minister, and he accepted the place. He here found room for his great abilities, both inside and outside of his parish.

Very few metropolitan clergymen have performed so much laborious service as Dr. Tyng. For more than forty years he was prominent as a leading Low-churchman, and one of the pioneers in the evangelical movements of the city. In the organization of the Evangelical Knowledge Society, the American Church Missionary Society, and the Evangelical Education Society, he took a leading part, and in everything pertaining to the spread of liberal and evangelical prin-

ciples he always evinced a deep and decided interest.

In 1870 he found it necessary to withdraw in a measure from active pulpit work on account of his age, but his people provided him with an assistant, and he continued his supervision of St. George's Parish. One of his last public appearances was at the meeting of the Evangelical Alliance in 1873, and five years later, on April 28, 1878, he preached his farewell sermon to his congregation. He was then 78 years old, and felt that he was too feeble to retain his position, and was appointed Pastor Emeritus, with a salary of \$5,000 a year until his death. The later years of his life were devoted to the preparation of a history of St. George's Parish from its earliest day to the present time.

Dr. Tyng's published writings were in the main amplifications of his pulpit efforts, and were widely read in their day. Among them are the following: "Lectures on the Law and Gospel," 1835; "Sermons preached in the Church of the Epiphany," 1839; "Recollections of England," 1847; "Christ is All," 1849-64; "The Captive Orphan," 1859; "Forty Years' Experience in Sunday-Schools," 1866; "The Prayer-Book Illustrated by Scripture," 1865-7; "The Feast Enjoyed," 1868. For several years he edited the *Episcopal Recorder* and the *Protestant Churchman*.

He was a thorough-going man in all his beliefs and knew no half-way measures in his Christian work. He hated sacerdotalism and Pharisaism, slavery, and the liquor-traffic, and against them all he was an unflinching apostle of reform. His sympathies were steadfast with the Evangelical party, and he believed in Sunday-schools, in revivals, in instantaneous conversion, and in the distinctive doctrines of the Calvinistic faith. It was not distasteful to him on occasion to use extemporaneous prayer in public, although the Prayer-Book, as he understood it, was so dear to his heart that the Reformed Episcopalians failed in their attempt to bring him over. His native

conservatism was strong, and he respected the methods of ancient days.

Dr. Tyng's fearlessness in the discharge of duty is illustrated in a story told by Assistant Bishop Potter. Several years before ceasing to be the rector of St. George's Church, Dr. Tyng was much annoyed by the receipt of threatening letters from a scoundrel whose wife had become converted under Dr. Tyng's ministrations, and was a constant attendant upon his preaching. At a late hour one night his door-bell was loudly rung, and the Doctor himself answered the summons. A man who looked like a vagabond stood outside in the dark, and addressed the Doctor in these words: "I have written you several notices that if you didn't stop trying to draw my wife into your church, it would be the worse for you. I have followed you through the streets many nights to take your life, but I could not get up the resolution to do it. I had a curiosity to see what kind of a preacher you were, and I went into your church. I could not stay. I am here now to ask you to kneel down and pray for me."

During the Native American riots in Philadelphia a Roman Catholic bishop was chased by the mob, and fled into Dr. Tyng's house. Standing before his own door, the Doctor shouted to the angry crowd who demanded the bishop's person, "Not one of you shall touch a hair of that good man's head unless you pass over my dead body." The mob withdrew. They felt, as did all who came into professional relations with him, the majesty of his resolute and self-sacrificing spirit. The edifice in which he preached so many years was built during his rectorship.

About twenty years ago its interior was completely destroyed by fire, but at once under his magnetic leadership its rehabilitation was set under way, and a more beautiful interior than before was constructed.

His head was a grand one, and in its contours manifested the nature of the man in a most striking manner. We regarded it as well as the whole physical

organization as a study of exceptional interest to the phrenologist. The great development of the crown and top-head showed the possession of extraordinary individuality, and very uncommon moral and religious faculties. Kindness, sympathy, devotion, assurance of faith with hope, steadfastness, self-reliance, independence, and ambition were associated. As we said on an occasion when called upon to deliver an opinion concerning his character: "Firmness is stayed up by Conscientiousness, while Spirituality is sufficiently indicated to give that undercurrent of calm resignation and patience which distinguishes the sincere and earnest Christian. Intellectually considered, Dr. Tyng possesses a refined mind, a depth and breadth of reflective ability equalled by few in his denomination. The heavy overhanging brows, the steady penetrating eyes, indicate firmness and force, earnestness and thoroughness. Order is a predominant perceptive, and gives tone and precision to the entire character. The organs of the side-head are well developed, particularly Ideality and Sublimity, and although Dr. Tyng possesses a superior degree of taste and sentiment, he is not the one to ignore the utilitarian." He was a man of precision as well as of excellent executive ability, believing in the virtues of order and promptness, as well as in the uses of kindness and personal responsibility.

The last time we saw Dr. Tyng was in his own pulpit. He was then about sixty-eight, and appeared very much as he is represented by the engraving. He spoke extemporaneously, and every sentence came clear and polished from his lips, yet full of meaning, earnestly expressed, and awakening. The finish of his diction made his church a school of rhetoric for the favored members of his congregation, but there was no affectation of style—he was natural, used few gestures and never tired the listener. Dr. Tyng was a student of character, and favored the phrenological method; and we doubt not it helped him to understand and develop his own mental nature.

D.

CONTRASTS OF HEADS AND FACES.

IT is startling to observe the striking differences between people; all observers will bear in mind that it is a rare



JULIA DOMNA.

thing to see a face or form, in respect to which no criticism will be suggested, and rarely the features are so harmonious as to balance each other and yet be expressive. Where all parts of the head are equal and fully developed, where nothing can be desired as to form of head and face and body, where the size of the head and that of the body indicate harmony and balance, so that health and strength and longevity may be reasonably inferred, the cases are so rare that one fails in his investigations; though he sees much to admire, he inclines to ask, "Where can perfection of organization be found?"

Julia Domna has a classical head and face; one is impressed favorably in respect to every feature; the head and face seem to harmonize, and each part appears to be well adapted to the other parts.

In Polly Bodine the reader may see opportunity for criticism. The head from the opening of the ear upward and backward, in the region of Self-esteem and Firmness, is enormously developed; the middle of the top-head seems depressed,

and there is not a line in the whole head that seems right. There is evidently a great deal of power, but it exists in the direction of pride and stubbornness and passion.

There is enough of intellect to show tact and ability to plan, but it would be supposed that such a head would work in the direction of selfishness. The face lacks a loving mouth; the lips look pinched, critical, fault-finding, unloving, and unlovable; the nose is long, sharp, inquisitive, inclined to interfere and disagree; and with that broad head and high crown she was not likely to make herself loving and agreeable. Many years ago she was accused of and tried for murder on Staten Island, but from some cause was acquitted. The head and face show a great contrast with those of Julia Domna.

A quick observer will notice anything



POLLY BODINE.

that is strange in the make-up of a person; and as one moves about a great city his attention will be called to people who

don't care for their appearance, on the one hand, and to those that are dressy, vain, and finical in all their composition on the other hand.

In the decayed politician we have the outline of a man "who has seen better days," and who has "hope for better things"; he has a pretty good face, originally he was good-looking; had good stature and good form; he belonged to a respectable family and attended to busi-



THE DECAYED POLITICIAN.

ness for years, dabbled in politics, but becoming dissipated, his business was neglected, and we find him on the shady side of a downward career. He seems to be in a bar-room discoursing to others on public affairs; the chances of the election of his candidate in the ward, for instance. He has a long, narrow head, with but little force of character; it is narrow between the ears and flattens his hat at the sides; each feature indicates dissipation, and yet the general make-up of the

man gives us a sense of his former respectability. He appears to have his enemy behind his back; the bottle and the glass, which he had just courted, and the bar, have been his bane, and it is evident but that for drink and unworthy associates he might have been a gentleman and a success in life.

"Mr. Turveydrop" is a startling contrast to the last named; in him is seen the dandy, from head to foot; care and pains and pride, sweetened with vanity, seem to prevail. See that wealth of hair piled up on a depressed forehead; how carefully it has been treated. The face and forehead indicate superficial and ready intelligence, while his fullness of head at the crown shows predominant Approbativeness; his dressing of the neck, the buttoned coat, the frilled front, the gaitered pants, the massive watch-chain, the style of coat, the way he holds his hands and the manuscript which he is evidently presenting to some dignitary in the form of an address; the whole make-up of that man indicates the dandy, the "Mr. Turveydrop" of his time; the pink of respectability, of style and fashion. "Deportment" with him is the dream and labor of his life; he is polite, refined, attentive to the amenities of life, but superficial, heartless, and largely insincere. If such men have money and do not become dissipated, their vanity will lead them to make life pleasant and acceptable to others, but they generally make themselves objects of good-natured and half contemptuous criticism.

Our next illustration represents a type of character which may be found in connection with seats of learning; he may be called the Profound Thinker; absorbed in his own reflections he dreams as he walks; his arms are crossed behind his back; his head bent forward in proportion as he is destitute of Firmness, Self-esteem, and Approbativeness, and, in general, weak passions.

The base and back region of his head is deficient; the great mass of his brain is forward and in the superior region of the head. A man of this character will be

inoffensive; he dwells in the realms of metaphysics and abstractions; he is fond of solitude and protracted meditation; he is inattentive and absent-minded, as he walks, he knows not and cares not where; is entirely absorbed in his own thoughts; sometimes goes astray, forgets the time, fails to recognize acquaintances, and scarcely perceives what is passing during his preoccupation. It is not Causality alone, but strong Spirituality and Ideality which give him his dreamy look and abstract condition of mind. Behold the contrast in almost every respect between him and the adjoining representation.

In this, what a sluggish, hard, coarse-grained organization! Not of the head and face merely, but extending to the very feet. Is there an outline, a feature of the feet, the legs, the hips, the arms, the trunk, the shoulders, the neck, or the head and face which seem easy, natural, and desirable? Here there is too much body for the head, and what he has of head or brain is all in the base, while in the former figure the upward and forward parts of the head are large, and the base and back-head are small; exactly the reverse. This we call a bad organization, defective in quality, rude in form, an animal in brain, without intelligence, morality, or dignity; he will use his intelligence only to pander to his propensities. Such a man given up to himself inclines to evil by the vileness of his propensities, and after great crime against nature and society he is liable to fall into the hands of repressive justice.

In the expression of this head and face one can hardly anticipate anything but propensity and passion, not guided or

regulated by intelligence or morality. The face has a greedy, stealthy look, and so far as he manifests intelligence, cupidity, cunning, brutality appear; such an organization, if traced, would be found the product of generations of people who have lived in poverty, ignorance, and



MR. DANDY "TURVEYDROP."

brutality. If we can cultivate such a person in any degree out of his debased condition, persons similar to this can be produced from better soil by adverse cultivation continued for generations.

Our profound thinker is the result of culture toward intelligence, refinement, and morality, to the neglect of bodily vigor and the homely virtues of energy

and industry. He has been so much refined as to amount to little of value to the solid working realities of daily life; the other has been cultivated away from morality and intelligence, and all that is

In the heads on page 248 how marked the contrast. When they were boys together in the academy and college they looked more alike than the pictures present them at the age of forty-five, yet of course they had differences of character and constitution, but their mode of living, their method of exercising the functions of the mind and body, have produced largely the modified expression.



THE PROFOUND THINKER.



A HUMAN BRUTE.

brutal has been developed. Each is an illustration of culture, but in opposite directions.

Habit and health do much to modify organization, and especially to build up or pull down physiognomical expression.

In the first we see excellent health, a harmonious face, as if it had been influenced by virtue, intelligence, and favorable surroundings; in fact, when he was in school, his parents being without extra pecuniary means, he was obliged to work

his way through the academy, making himself useful in the family of a physician who kept two horses, a cow, and had a few acres of ground. He had no idle time, had an abundance of exercise of a laudable kind in the work and care he was obliged to bestow as an equivalent for his board; his thoughts were concentrated on useful topics, not engaged in cogitating how he might have what young men sometimes call "a good time" at the expense of some farmer's cherry trees or watermelon patch, or how gates could be changed on door-yard fences, or a billy-goat taken to the belfry of the church and tied to the clapper of the bell. He used no tobacco, no liquor, ate wholesome food, sought his pillow because he

"went to bed mellow" and stupid in the head, and when he managed to graduate he considered himself a gentleman much superior in standing and prospect to the poor young man who had *worked* his way through college. In twenty years they meet, one stalwart, healthy, respected, happy, honored by his fellow-citizens with office and trust and emolument; the other having squandered his estate "with riotous living," is troubled now to get even the husks of charity to keep his demoralized soul and worthless body together. He drains lager-beer casks for his stimulus when no one treats him, because he is now too low to be treated often, and sneaks into the gutter to pick up cigar stubs with which to load his



RECTITUDE.

was weary and awoke in good season because he had something to do, and acquired an appetite for his breakfast while he earned it, and at the tap of the school-bell was ready and prompt in his attendance.

Now let us study the contrasting face and character of his proud classmate, "Dissipation," who had plenty of money. He knew every brand of cigars; the cigarette had not yet come to curse the youth of the land; he was familiar with the opera; knew about the rules of yachting and base-ball; visited the shooting-gallery and was accounted a good shot; was considered a good judge of every luxury that stimulates and excites; "talked horse" and devoted himself more to these topics than to his books; often



DISSIPATION.

black pipe; is glad to find an old hat that has been thrown into the ash-barrel, and his face shows the history of his downfall. We have seen men as low as he who have become reformed, well housed, and well fed; and in two years' time he would plump out in the face and have a new cast to the eye, new expression to all the features, and a new pose to the head; yet a careful observer would see lines and shadows which demoralization had left.

The physiognomy of virtue and vice startles us as we view the extent to which the features may be debased, and also the degree to which plain features may be illumined by virtuous success. These must be seen to be fully appreciated, and yet our fallen friend has never become

what the world calls criminal; he has simply been the victim of pride which scorned industry and worthy work of any sort, and was of that easy, pliant type, yielding to habits that have unmanned and unstrung his whole physical and moral make-up; he has not necessarily been vicious and outrageous, but has sat in a half-drunken mood and sung, "We won't go home till morning," and sometimes not even then; his life has become simply a worthless nuisance. There are

those so organized that they become fearfully depraved and outrageously wicked, a terror to all their acquaintances, if they indulge in drink and other demoralizing habits; but here is a son of respectable parents who were wealthy and brought him up with a sort of contempt for work and for people that had occasion to use endeavor for their own support, and his luxuries united with false pride made him a wreck.—*From "Heads and Faces."*

MENTAL ODDITIES OF GREAT PEOPLE.

THE lowest grade of mental disturbance is seen in that temporary appearance of irrationality which comes from an extreme state of "abstraction" or absence of mind. To the vulgar, as already hinted, all intense preoccupation with ideas, by calling off the attention from outer things and giving a dream-like appearance to the mental state, is apt to appear symptomatic of "queerness" in the head. But in order that it may find a place among distinctly abnormal features this absence of mind must attain a certain depth and persistence. The ancient story of Archimedes, and the amusing anecdotes of Newton's fits, if authentic, might be said, perhaps, to illustrate the border-line between a normal and an abnormal condition of mind. A more distinctly pathological case is that of Beethoven, who could not be made to understand why his standing in his night attire at an open window should attract the irreverent notice of the street boys. For in this case we have a temporary incapacity to perceive exterior objects and their relations; and a deeper incapacity of a like nature clearly shows itself in poor Johnson's standing before the town clock vainly trying to make out the hour.

This same aloofness of mind from the external world betrays itself in many of the eccentric habits attributed to men and women of genius. Here, again, Johnson serves as a good instance. His

inconvenient habit of suddenly breaking out with scraps of the Lord's Prayer in a fashionable assembly marks a distinctly dangerous drifting away of the inner life from the firm anchorage of external fact.

In the cases just considered we have to do with a kind of mental blindness to outer circumstances. A further advance along the line of intellectual degeneration is seen in the persistence of vivid ideas, commonly anticipations of evil of some kind, which have no basis in external reality. Johnson's dislike to particular alleys in his London walks, and Madame de Staël's *bizarre* idea that she would suffer from cold when buried, may be taken as examples of these painful delusions or *idées fixes*. A more serious stage of such delusions is seen in the case of Pascal, who is said to have been haunted by the fear of a gulf yawning just in front of him, which sometimes became so overmastering that he had to be fastened by a chain to keep him from leaping forward.—*Popular Science Monthly.*

"YOU are the dullest boy I ever saw!" crossly exclaimed a bald-headed old uncle to his nephew. "Well, uncle!" laughingly replied the youth, with a glance at the old gentleman's bald head, "you can't expect me to understand things as quick as you do, because you don't have the trouble of getting 'em through your hair!"

PRINCE FREDERICK CHARLES OF GERMANY.

THE death of this distinguished member of the German royal family has produced a strong sensation in Europe. Prince Charles was one of the very few notable men among the many scions of royalty that make the title, prince, more than a commonplace word in continental society. He won considerable reputation as a soldier when but twenty years of

military career. While the Franco-Italian war against Austria was in progress in 1859, he made a special study of the organization of the French army. In the following year the publication of his "Militarische Denkschrift" (military notes), showing how the Prussians could defeat the French, attracted much attention from military men, and later some



PRINCE FREDERICK CHARLES.

age, and in his later life more than confirmed the promise of his youth in martial achievement. He was the only son of Prince Charles of Prussia, second brother of the Emperor William, and was born in Berlin, March 20, 1828. He studied at the old University of Bonn, and obtained his military education under the guidance of Count Van Roon, who became afterward Minister of War. The Prince took part in the Schleswig-Holstein difficulty of 1848, where his conduct gave excellent promise of his subsequent

of his views at least had a realization. During the Schleswig-Holstein war of 1864 he again distinguished himself. In 1866, being placed at the head of the first army put in the field against Austria, he entered Bohemia through Saxony, and so managed his march through the latter country as to win the friendship of its people for Prussia. He drove the Austrians to Sadowa, and won the great victory of Koniggratz with the aid of the Crown Prince, who arrived with the Second Army at the crisis of the battle.

During the Franco-German war of 1870-71 he was one of the most conspicuous and brilliant figures in the contest. He was placed in command of the Second German Army, that comprised a force of 260,000 men and 500 cannon. This army was encamped on the Rhine frontier at the close of July, 1870, and on August 6th defeated General Froissart at Spelchern. On the 16th of the same month he attacked the right of the position held by Marshal Bazaine and drove the French forces back to Metz, which he closely invested. The siege of Metz resulted in its capitulation, when Marshal Bazaine surrendered with 150,000 prisoners (including the Imperial Guard, three Marshals of France, fifty generals, and 6,000 officers) and 20,000 sick and wounded. Prince Frederick Charles was on the following day created a Field-Marshal.

He was very popular with the people at large, and was known in German song and story as the "Red Prince." He married on November 29, 1854, Marie Anne, daughter of Leopold Frederick, reigning Duke of Anhalt, with whom he leaves four children.

It is said of him that when about to attack the Austrians he addressed his army, and said, after the manner of Crom-

well, "May your hearts beat toward God and your fists upon the enemy."

The expression of the portrait is emphatic, strong, imperious. The great comparative breadth of the head indicates unusual force, activity, and executiveness. With him to think must have been to act, and in the life of the soldier he found a field well suited to his organization. He was a thorough disciplinarian, and thoroughly informed in the details of his art. The perceptive faculties appear to have been very large. Order is finely shown in the portrait. The expression of the eyes indicates excitability, and the breadth of the face back of the eyes, high appreciation of good living, social cheer, music, and art. He died comparatively young, when we consider that his uncle, the emperor, is still in good health. And the report that he was "an ardent sportsman and man of the world," may suggest some of the causes of his death, the great activity and excitability of his nature leading him into excesses that finally broke down a constitution once remarkable for vigor and endurance. The life of a European prince is beset with dangers to moral and physical integrity that few can face with success.

THE WORLD WE USED TO KNOW.

THERE was never a thorn on the roses there,
And each day that fledged was sunny and fair;
No dark clouds arose on the blue of that sky,
And the winds as they passed were as soft as a sigh;
For the storms were held captive the bright lake
below;
And o'er them forever the clear waters flow,
In the beautiful world that we used to know.

There the gold that we gathered was free from
alloy,
And no bitterness lurked in each sweet cup of joy.
From Friendship's pure fount 'twas a pleasure to
drink,
And the heart's fervent flow never froze on its brink.
There the hand that clasped ours never thrust us
aside,
Nor wounded our hearts with the cold shaft of
pride;
For Love kept the portals where passions abide.

And the tall, stately ships that were launched with
such pride,
Never paused in their flight o'er the smooth silver
tide;
But freighted with all the ambitions of Youth
Sailed grandly and safe to the harbor of Truth.
There the hopes of our lives in the sunshine were
born,
And no blight fell upon them, no withering scorn,
Till they perished like dew on the mantle of morn.
But this mythical world that we used to know
Is the Ideal land that has passed long ago.
'Twas a creature of fancy most perfect and sweet;
But the clouds of reality, dark with deceit,
Have obscured all its treasures and shut out its
beams;
Yet anon through a rift in the shadows there gleams
The light from that beautiful region of dreams.

ALMEDA COSTELLO.

HOW MRS. SPURGEON'S WISHES WERE GRATIFIED.

A LONDON newspaper relates a singular incident that occurred to the Rev. Mr. and Mrs. Spurgeon not long ago: "During an illness of Mrs. Spurgeon, before Mr. Spurgeon left her room for the journey he was contemplating, she remarked that she hoped he would not be annoyed with her for telling him what had been passing through her mind. She made him, however, promise that he would not try to procure the objects, and told him she had been wishing for a piping bullfinch and an onyx ring. Of course Mr. Spurgeon expressed his willingness to get both, but she held him to his promise. He had to make a sick call on his way to the station as well as to call at the Tabernacle. Shortly after reaching the sick person's house, the mother of the patient, to his amusement, asked Mr. Spurgeon if Mrs. S. would like a piping bullfinch; that they had one, but that its music was trying to the invalid, and they would gladly part with it to one who would give it the requisite care. He then made his call at the Tabernacle, and after reading a voluminous correspondence, came at last to a letter and a parcel underlying the other letters. The letter was from a lady unknown to him, who had received benefit from his services in the Tabernacle, and as a slight token of her appreciation of these services asked his acceptance of the inclosed onyx ring, necklet, and bracelets, for which she had no further use. This intensified his surprise, and he hastened home with what had been so strangely sent, went up into his wife's sick-room, and placed the objects she had longed for before her. She met him with a look of pained reproach, as if he had allowed his regard to override his promise; but when he detailed the true circumstances of the case, she was filled with surprise, and asked Mr. Spurgeon what he thought of it? His reply was characteristic: 'I think you are one of your Heavenly Father's spoiled children, and He gives you whatever you ask for.'"

[Is this another of those "accidental"

coincidences that puzzle the savants? or shall we accept the more agreeable doctrine that it was *providential*?—ED.]

— ♦ — ♦ — ♦ —
 WASHING AND BEAUTY.—The special fascination of an actress who has by birth-right a pretty face, is said to be that she "looks so well washed and clean, just like a child out of a bath." Now, this is worthy of note, for a celebrated old beauty, whose complexion at sixty was fresher than that of our women at thirty, said that the secret of her preservation was a clean face and this was her method: First, she never used wash-rag or towel on her face, but washed it with her hands, rinsing it off with a soft sponge. She used clear water in the morning, but white castile soap, or very warm water at night, and, after drying it on a soft towel, she would take a flesh brush and rub her cheeks, chin, and forehead. Second, if she was going to be up late at night, she always slept as many hours in the day as she expected to be awake beyond her usual time. She insisted that "soft water and sound sleep keep off wrinkles and spots, and girls should give more attention to this than they do, for

"With the coming of the crows' feet
 Is the going of the beaux feet."

— ♦ — ♦ — ♦ —
 ADVANTAGE OF YEARS.—You are getting into years. Yes, but years are getting into you—the ripe, rich years; the genial, mellow years; the lusty, luscious years. One by one the crudities of your youth are falling off from you. Nearer and nearer you are approaching yourself; you are becoming master of your situation. Your broken hopes, your thwarted purposes, your defeated aspirations, become a staff of strength by which you mount to a sublimer height. With self-possession and self-command of all things, the title deed of creation, forfeited, is reclaimed. Earth and sea and sky pour out their largess of love. All the crowds pass down to lay their treasure at your feet.

IMMORTAL OBLIGATIONS.

IT is not only the man who lends us a dollar, recommends us to a situation, raises our salary, waits for a bill, indorses our note, or does any of the countless things we are accustomed to consider kindnesses, to whom we are under obligation. In all the wide universe there is no independent soul. The savage on his desert island must eat the fruit of the earth or the fish of the sea, in order to sustain life. From the naked man in his solitude, tearing his food with his teeth, to the scholar-reading Plato at his library-table, what a vast difference in development, what a close similarity in certain conditions. To the savage, life consists in the supply of the physical wants, few and easily satisfied; to the civilized man, it means society, art, and literature, and for all of these, from the lowest up, we are utterly dependent beings.

It is only by considering what our world would be without these things, that we can form any adequate idea of what they represent to us. Their very commonness makes us undervalue them. Books, for instance, are produced so constantly and cheaply, that heaped upon the centre-table, we regard them with almost as little appreciation as the blades of grass upon the lawn outside. Yet the book which helps divert a dreary day, which gives us the most congenial companionship, which stirs us to new ambition, which rouses into activity the noblest impulses of our nature, to the writers of such books we are grateful beyond the power of words to express. How many thousands owe—how many more thousands will owe—to Walter Scott and Charles Dickens a debt which can never be measured, and which it is not in the power of man or money to repay. The days of delight spent over their pages! Among them are some of the most enjoyable of our lives. We could much more easily dispense with the acquaintance of some of our neighbors in the next block than with the men and women these authors have made us love, and whom

we shall remember as long as we remember anything. Yet they are but two out of a vast multitude of writers who have given us a world of fiction, filled with pleasant pictures and charming companions to add to our "workaday world," our world of hard, inevitable fact.

And what have earth's poets done for us in setting to music our monotonous days and deeds? Poetry has made our rough places smooth and our crooked paths straight. It has made life's discordant tones harmonious; brought serenity into the midst of its storms; soothed and sanctified its sorrows. The sweet singers, though caroling often in loneliness and hardship, out of heartache, desolation, and despair, have given "songs in the night" to watchers as sad and lonely as themselves. Home-sick souls have been cheered, the dying comforted, the mourner almost reconciled by the lines of some old hymn, written, perhaps, a century ago. Lovers have found in some impassioned lines the only language in which they could voice their affection and their faith; while household fires have burned the brighter when around them have been read the poems of Longfellow and Whittier.

The mission of music! Who can define or limit it? If Handel or Beethoven, working out their sublime harmonies, felt one-half the thrill which stirs our souls in listening to them, what a glorious existence must theirs have been! What is hunger or cold or nakedness or peril or sword to those who can find within themselves such powers and possibilities? For through them is the divine voice of the universe speaking to its people. And what can the people care for the trivialities or the trials of life when hearing those heavenly harmonies, and through them realizing the infinite capabilities for development and enjoyment lying just beyond this mortal existence?

The beauty of the world is multiplied and reflected a thousand times by its sculptors and painters. Art is one of the

doors standing perpetually wide open for the escape of the soul from its earthly bondage to its heavenly inheritance. It learns in brief intervals of transport, of what elevated pleasures and emotions it is capable when raised above narrow aims and sordid considerations. A fine picture or statue is a silent but eloquent expression of the best that lies within mortal reach, and failing to reach it ourselves we are grateful to those, our Raphaels and Angelos, who lead us to it.

Great patriots and statesmen whose country was dearer to them than fame or fortune, or even life itself, have laid us under obligation for the peace of this very hour, for the security of our homes and property, for freedom of opinion and of the press, for the education of our children, and the countless blessings of a free and prosperous republic. What thought do we give to those heroic souls of a past generation who embraced war, persecution, and famine for the sake of patriotism? By their stripes we are healed. They died that we might have life more abundantly. Such an obligation can be discharged only by greatly appreciating the results of their mighty sacrifices and sufferings. The representatives of our greatest wealth and highest culture are too little conscious of the duty laid upon them when such wealth and culture were made possible and put within such easy reach. Our millionaires go oftener to Europe for a pleasure trip than to the primaries or the polls for a political duty. They complain of "machines" run by money and knavery which bind burdens grievous to be borne upon the necks of the people, but they themselves will not lift them with so much as one of their fingers. It is proof that such a thing as "poetic justice" actually exists when the machine catches—as it occasionally does—one of these delinquents and grinds him, or his business, or his reputation with the same mercilessness used toward his poorer and more helpless neighbor.

Orators, with "lips touched with a live coal from off the altar"; martyrs, who

have glorified death and the grave,—these have held up before men ideals of the greatest usefulness, the mightiest reforms, the highest happiness. Explanation, reason, and argument; the clear logical line of inference and application; the creation and encouragement of the best ambitions; examples of the most sublime heroism and endurance,—all these have been given to us without our asking. Thousands of lives have been enlarged and enriched by the patient, unrequited labor of such men, often discouraged, oftener misunderstood, misrepresented, ridiculed, and despised. The soul of old John Brown still goes marching on wherever human freedom advances, and the stirring sentences of Wendell Phillips still echo and re-echo wherever men sit in council concerning human rights.

But we can not all be poets, musicians, or leaders among men. Though we owe to them an immeasurable debt, we can not repay in kind. Shall then the debt remain forever undischarged? In what degree are we better in nature or richer in possession for what we appropriate if it is to be unshared and unpaid for? Even in the simplest and most prosaic lines of life there must needs be a constant interchange of kindness and consideration. But it takes only a short time for us to discover that the kindness received can not often be returned to the same hands. The good Samaritan sets the injured man upon his own horse and cares for him at his own expense, but goes on his journey beyond the power of the man whom he has helped to help him if he needs it in return. But the man who fell among thieves will, doubtless, in his turn find others as destitute and helpless as himself. To them he must pay the debt, so far as in him lies, and the account will stand balanced in that ledger wherein are recorded all such transactions. It is Emerson who says: "Benefit is the end of nature. He is great who confers the most benefits. He is base—and that is the one base thing in the universe—to receive favors and ren-

der none. In the order of nature we can not render benefits to those from whom we receive them, or only seldom. But the benefit we receive must be rendered again, line for line, deed for deed, cent for cent, to somebody."

It is only as we are faithful in the least that we can be faithful in much. The wisdom that we have been taught, the culture we have received, the charity shown our faults, the pity for our weaknesses and follies, the help, comfort, and

sympathy, the encouragement, generosity, and forgiveness, as freely as we have received, so freely should we give in our turn to those who need as we ourselves have needed. Those who taught and helped and cheered us may, perhaps, have passed on ahead where no recognition or recompense can reach them, but even on heavenly heights they may not be wholly unconscious that their efforts and influence live after them, vital, helpful, and humanizing.

C. B. LE ROW.

CORNELL UNIVERSITY.

THIS institution, which has within the last half-year passed its sixteenth birthday, is destined to a great future. Never did so fine a youth fall to the lot of any American educational establishment. It had its being through the persistent wisdom and liberality of a few noble-minded men, chief among whom were Ezra Cornell, John McGraw, and Hon. Andrew D. White, late President of the University, then Chairman of the Committee on Public Instruction in the Legislature of New York.

Its primary endowment was New York's share of the Public Lands (990,000 acres), which came in accordance with the provisions of the Morrill bill of 1862, "having as its purpose to create and maintain colleges in the various States, having as their object instruction in the sciences applicable to the great industries of the country, including military instruction, and not excluding instruction in science and literature in general."

There was a long struggle between partisans of various colleges, who demanded that the sum derived from the sale of the land-scrip should be divided among existing institutions, none of which were of the highest rank. Senator White steadfastly maintained that the fund ought not thus to be dissipated, but should become the foundation of a university of the ultimate character of the best old-world models. That Legislature adjourned without any definite

action upon the matter. The Comptroller valued the land-grant at \$600,000.

Mr. Cornell now proposed to give \$500,000 if the State would locate a new institution at Ithaca. Mr. Charles J. Folger, Mr. White, and Mr. Cornell drew up a bill for a University. This was fiercely opposed in both Houses, and the most bitter epithets were heaped upon Mr. Cornell by the friends of the denominational schools, who wished the funds divided. The project fortunately found friends in Horace Greeley, G. W. Curtis, and others connected with the New York press. After months of waiting and struggle, a bill was passed authorizing the new University, upon condition of \$25,000 being given to found a professorship of Agriculture in Genesee College.

The market was soon filled with land-scrip from various States, and some land was sold at thirty cents per acre. At this rate New York would not realize more than \$300,000, and Mr. Cornell, after some New York scrip had been sold at sixty cents an acre, came forward and offered to locate the remainder for the benefit of Cornell University, paying, meantime, the market value of the lands into the State Treasury. A law was passed allowing this to be done, and Mr. Cornell went out through far Western forests, locating here and there, Cornell's future fortune, a half-million acres of land.

Mr. White drew up a scheme for the organization of the University; this was

read at a meeting of the trustees in Ithaca, and so greatly pleased all, that its author was at once chosen President. But Mr. White held a professorship in the University of Michigan, had been elected to a professorship in Yale, and liked his position in the State Senate, all which he must resign if he accepted this new responsibility. However, he accept-

There was a very bitter feeling shown toward the University in many quarters, but students came and have continued to come. There are now 563 in attendance, and 958 have been graduated during the past sixteen years.

The Campus, which comprises 250 acres, was originally a hill-side farm, lying upon the eastern bank of Cayuga Lake. It is



CHAS. K. ADAMS.

ed in order to help to a temporary organization, and happily for Cornell, retained the Presidency until recently. He went to Europe to purchase books and apparatus, and to visit other institutions. He engaged Goldwin Smith, of Oxford, for the Department of English History, and Dr. James Law, of London College, for the Department of Agriculture. Scientific and technical studies were provided for especially, as well as classical studies.

now finely graded, well arranged, planted with trees and ornamental shrubs, and contains sixteen University buildings, costing \$700,000. Many of these buildings have been the gift of public-spirited men; and Mrs. Jennie McGraw Fiske proposed to give her elegant mansion and grounds to Cornell, but there is a suit pending in regard to the disposal of her fortune, and as yet it is not certain that this gift may be retained.

But it is not buildings that constitute a University; it is rather the masters, the facilities for higher education, through libraries, collections in natural history, and a scholastic atmosphere. And for an institution in its teens, it is wonderful that so much has been done. There are forty-two professors and twelve instructors. There are seventeen courses that lead to degrees. There are superior advantages in Germanic, Romance, and Oriental languages; this latter department, under the instruction of Prof. Roehrig, a most accomplished linguist, includes Arabic, Persian, Sanskrit, Turkish, and Turanian Philology.

Anglo-Saxon and English Literature is represented by Prof. Hiram Corson, a well-known scholar and author.

American History is expounded by Prof. M. Coit Tyler, the author of a valuable work upon American Literature.

Dr. Wm. D. Wilson, Professor of Moral and Intellectual Philosophy, is a man of fine attainments, and author of an excellent book used in his department.

Prof. Crane, and his assistant, Prof. S. J. Brun, have recently issued a volume of selections from the history of the French Revolution, which is excellently edited, and both gentlemen are admirable instructors.

Prof. B. G. Wilder is also author of a scholarly book connected with his work in Anatomy and Physiology.

The professors in other departments are men of fine attainments, and have good methods of conveying knowledge and cultivating a spirit of research.

The library of the University contains about fifty thousand volumes, besides thousands of pamphlets. There is a fine collection of illustrated works on Architecture, presented by Mr. White, besides also a collection of photographs of European art and architectural views.

Sage Chapel and Sage College were built by Hon. Henry W. Sage and presented to the University. Religious services are held in the chapel every Sunday. The sermons offered there are from

the most celebrated divines in the land, who are invited here from week to week by the authorities.

Sage College is a home for the young ladies of the institution, now about forty in number; there is a lady-principal, who acts as chaperon and adviser of the ladies. There are large conservatories connected with this building, which contain many rare and curious plants in a fine state of growth, showing excellent methods of culture. There is a large and varied collection of minerals, of botanical specimens, of entomological and zoological specimens, and a museum of a rich and varied character.

There has hitherto been no instruction in art, save in architectural drawing and crayon studies. Photography has lately been added. There has never been any attention given to music until the last fall term, when a series of excellent organ recitals were given in Sage Chapel, which introduced many fine works by the old masters. Doubtless art and music will receive greater attention in the near future. With every year some new and excellent feature is added, and by these means Cornell is taking a front rank with the oldest and best institutions in America.

We have not spoken of the incomparable position in the midst of beautiful natural scenery which the University has. The Campus overlooks the head-waters of Cayuga Lake, a fine sheet of water, and is bounded north by Fall Creek, an unfailing stream, which rushes and roars and falls again and again until it plunges into the lake. The stream has cut its way down and down so that vast walls of rock rear their dark stones far above its bed even hundreds of feet. This gorge presents many strange and beautiful features, with cascade succeeding cascade, overhung by dark cedars, all pouring their foaming waters continually under sunlight and starlight, or through the black night of storms. The great heart of our mother Nature never ceases to beat here. Upon the south boundary of the Campus a smaller stream, called Cascadilla Creek,

ripples and roars over and down lesser heights to the lake.

Besides those streams and cascades, there are a half-dozen others within a few miles of Ithaca, which present many charming views to the lover of fine scenery. There is beauty everywhere we turn our eyes here, in landscape, hill, sky, and stream. It seems scarcely possible to find so many things profitable to mental growth and improvement in a small, plain country village as are gathered here.

The new president, Charles Kendall Adams, was for many years Professor of History in Cornell, succeeding Professor White in that position, who had been elected to the presidency. And now on the withdrawal of Dr. White he has been selected to fill the place made vacant. Prof. Adams was born in Vermont in 1833, and owes his advancement in life mainly to his own industry. It was not until he was twenty-five that he was able to enter upon the course of collegiate training to which he aspired, and 1861 before he was graduated, when he at once became a teacher, and later a professor in Michigan University. He is also an author of volumes related to the department which he has made a special study. His "Manual of Historical Literature" comprises descriptions of the most important histories in English, French, and German, together with prac-

tical suggestions as to methods and courses of historical study. This treatise has given him high standing as an author. At the meeting of the trustees numerous tributes were received, speaking in strongest terms of testimony to his executive ability and his thorough knowledge of educational systems both in this country and in Europe. The new president, indeed, is generally conceded by scholars to possess qualities of a sterling and lasting kind. He has really been the responsible promoter of most of the successful plans of higher education at Michigan University, though others have received the larger share of credit.

The mould of head and face in Prof. Adams is of the true Vermont type; the strong motive temperament, large perceptive faculties, breadth in the temples, show the industrious, clear-sighted, practical man. He is a natural scientist, or investigator, desirous of learning and accumulating information, and rarely thinks that he has exhausted a subject. He is a man of details with ability to analyze and arrange them for efficient application. In engineering or the higher walks of mechanical industry he would have made his mark. We think that in selecting him for her president Cornell University has obtained a gentleman who will show care, practical judgment, and financial economy in his management.

AMELIE V. PETIT.

ÖSTERSJÖN—TO THE BALTIC.

BY OSCAR FREDRIK, KING OF NORWAY AND SWEDEN.

[Translated from the Swedish by Lydia M. Millard.]

THOU blue-growing sea, for thousands of years
The rocks of old Skandia beating,
And bursting thy chains a seach green Spring appears
Earth's glories a far-away greeting;
I sing thee a song, for I long to be where
Thy waves on the brave rocks are beating.

How charmingly cool, how lovely 'tis there,
The balmy winds breathe thee their blessing!
From blue unto green thy waves change so fair,
The sunbeams their tall crests caressing!
The breakers, what glowing white beauty they wear,
Where gray rocks the blue waves are breasting.

But shakes the tornado his wings with a roar,
The cheek of the mermaid is paling;
To the straining boom can my sail cling no more,
In thousands of tatters fast trailing;
Then my heart thrills anew with pride swelling o'er
Those wild waves, the wild tempest braving.

There cometh a steel ring so clear unto me,
So changing and yet so untiring,
With life and delight it floats o'er the sea,
Its key-note so loud and inspiring;
Now high and now low, with the wind's music free,
Those waves round the noble rock quiring.

Ah ! hard is his fight with the storm-beaten waves,
The sailor his brave bark commanding.

And they only see all the danger he braves,
Those waves round the noble rock banding.

ON THE NORTHERN COAST OF THE BALTIC.



Behind his frail wall, while the wild tempest raves,
On a blue-bordered grave is he standing.

Yet still for the sea his longing soul yearns,
Where danger his friend is the nearest ;

Forever afar his weary heart turns
 Away from earth's green valleys dearest.
 A wonderful charm in those blue billows burns
 That breast all the wild rocks so fearless.

So ever I sing with my heart all aflame,
 My song all those brave billows praising,
 That wreath their bright runes around Skandia's
 name
 Through the path of her glory a-blazing ;
 Like thousands of sagas our storied fame
 With the waves round the rocks upraising.

Thou free, thou proud, thou far-rolling sea,
 Thou beauty so radiant beaming,
 Sing thy victorious strifes unto me,

To me their rich saga revealing ;
 Erewhile their glorious harmony
 The waves round the wild rocks are pealing.

Dost thou see the foe invade our land,
 The fleets of the enemy nearing ;
 Like a hunter's horn from strand to strand—
 To arms ! sound thy song so cheering,
 Till every heart rise at thy voice so grand
 As the waves round the rocks unfearing.

A race dwells there, forever the same,
 In our Northland's hills and valleys ;
 That on their steel and in God's great name,
 To their fathers' watchword rallies.
 The foe that dares them finds a grave
 'Neath the rock where the wild wave dallies.

OUR COLORED BRETHREN.

THERE is no race of people on earth, probably, that enjoys life and society better than "the darkies" of the South. No people are prouder of fine clothing and elegant jewelry, and yet, when they can not get these coveted adornments, instead of turning blue over it, their ebony countenances shine and sparkle just as brightly, bedecked in mock ostentation, or even in rags. Highly emotional in their natures, they are inclined to look upon the funny side of things, and not to fret and worry over troubles that may never come. If you want to see a picture of happiness, all over, go to one of these Southern, colored camp-meetings, and witness their dramatic performances and hearty acts of devotion.

Their songs and prayers are surely full of *the Spirit*, though it may be inferred somewhat lacking in *the understanding*. They mark time with the whole soul and body, and let out their voices to the full capacity of their lungs, thus making melody—negro melody—in their hearts. Their songs consist largely of repeats, similar to the following favorite

CAMP-MEETING HYMN.

O whar am ye gwine, my brudder,
 Whar am ye gwine dis night ?
 Am ye 'gaged in a sarbin ob de debble
 Or a sarbin ob de Lawd wid yer might ?
 O good Lawd, come, send down de powah,
 Lawd, send down de powah,
 Come send down de powah :

O good Lawd, now send down de powah
 Fer ter guide dis brudder aright.

O whar am ye gwine, my sistah,
 Whar am ye gwine dis night ?
 Am ye 'gaged in a sarbin ob de debble
 Or a sarbin ob de Lawd wid yer might ?
 O good Lawd, come, send down de powah,
 Lawd, send down de powah,
 Come send down de powah ;
 O good Lawd, now send down de powah,
 Fer ter guide dis sistah aright.

Then "fader," "mudder," "chillen and stranger, all come in turn.

They are quite apt at manufacturing words and sentences to fill out the tune ; and in the application of big words and rhetorical flourishes to "allucidate a pint" in a sermon. These learned efforts invariably call forth hearty amens.

Notwithstanding their seemingly unalloyed happiness, the more ignorant, especially, are harassed with superstition and fears.

"I reckons, boss," said a communicative ex-slave, "dat all de culled people ob de Souf war mighty bad skeered on a hearin dat dis Clebeland bin elected. We s'posed, shuah enuff, dat all de darkies gwine to be sole again inter slavery."

Some of the ex-slaveholders tell us that the freeing of these people was not only a curse to the country, but to the colored race—that they were much better cared for in slavery than they can care for themselves. This is true in part.

There were humane and Christian masters who did all that the laws and customs of the Slave States would permit them to do for the well-being and happiness of their slaves; and there are some freemen who manage poorly enough. Those who still regret the abolition of slavery do it from other motives perhaps than the mere lack of success among some freedmen. The ex-slaves have just as true friends, however, among their old masters as among the politicians of the North, who are so gravely exercised over their sufferings.

We have heard grand old ex-rebels who fought like tigers to keep intact the shackles that secured to them, under the Constitution, their human chattels—men who lost tens of thousands by the freeing of the slaves—we have heard such men exclaim, in the fullness of their hearts, "Thank God that slavery has been abolished! It was the curse of our country—the ruin of our children. They are now thrown upon their own resources, and have learned that they must do something for themselves, and for the general good, as God designed that all should, instead of being pampered in idleness, and living only to be waited on by others."

They say that they are fully convinced that "the arm of the Lord overruled in the overthrow of this evil."

These good people desire to see the freedmen accomplish something worthy of the great sacrifice that has taken place in their behalf.

Some of the colored people are doing fairly well—better than their former masters in a few instances; yet many of them foolishly spend all their earnings for whiskey, or at "gay and festive frolics," failing to lay in store anything for "a wet day."

And some of the intelligent, well-to-do colored men, instead of manifesting gratitude for what has been done for them as a people, are complaining and whining because they do not get a full share of the offices under the Government.

No man, black or white, has any just

claims on the Government for office, unless he is better fitted than any one else that can be found to perform the duties of that office. When such men are hunted up for rulers and officers, instead of the offices being filled by croakers and complainers—chronic office-seekers—then we will have a pure government.

It is not presumable that Providence had no higher motive in view in permitting rivers of blood to flow that the black man might be free, and that he might fill a certain proportion of the offices of the Government. No, the finger of Providence clearly points to a higher and holier mission for the freedmen. A continent, almost three times as large as the United States, is stretching out her hands for help. A population larger than that of the United States, composed of men and women of their own flesh and blood, sunk in ignorance, barbarism, and idolatry, are groping for the light. The black men of the South know how to build houses, to raise corn and sweet potatoes, and he who teaches his benighted countrymen to raise two stalks of corn where but one now grows will be a benefactor to his race.

Africa abounds in natural resources capable of unlimited development in agriculture, mining, stock raising, and commerce; States and governments to be founded there; cities and railroads to be built, and education, science, and religion to be disseminated among the people. Truly she presents a field broad enough for the ambition of a Cæsar, a Romulus, an Oakes Ames, a Cadmus, and a Moody; and here the black man would have the inside track. Instead of playing the part of a petty politician, with little show of success, and nothing to win, let him aim at the higher and more ennobling work of exalting his brother-men. By so doing he will inscribe his name on banners of living light that will wave high above the great pyramids of Egypt, so wonderful in structure. If he refuses to push his way through this great door, now ajar, others will go in and deprive him of the honors and renown in store

for him. Africa is the next country to be subdued.

Stanley has excited the curiosity of the world, and the enterprising of more than one nation are casting longing glances at her great sources of wealth.

No people are so well calculated to till her virgin soil, and build up cities and roads as the strong-armed colored men of the South. Will not some modern Moses step to the front and lead forth his redeemed brethren to this promised

land where they can enjoy full freedom of rights, with nothing to blast a laudable ambition?

It is pitiable, indeed, to see freedmen selling their votes for bad whiskey, or being led or driven by the dictum of unscrupulous politicians. Let them be men and aspire for something higher than "the flesh-pots of Egypt," or they will fail to reach the glorious goal that awaits them through manly aim and effort.

OB SERVER.

A HOME PICTURE.

GLANCING backward along memory's picture gallery, one home scene of most attractive coloring arrests my roaming thoughts. There is about it a lovely blending of softened colors which seems to infiltrate the atmosphere with so happy a restfulness that I stop and linger there, wondering at the artist's fairy-like touches that could so marvellously beautify this living canvas.

With this scene I contrast other home pictures; some of them wrought in the richest of hues; but from them all I turn and come back to the one so harmoniously tinted. In this home were the father, mother, a daughter, and two sons. One of the latter of these was a cripple and a great sufferer. The boy had some spinal ailment, and was frequently placed in a wooden frame constructed for the purpose of aiding in stretching out his bent body.

Yes, even with a crooked little sufferer in it, this was the most delightful household of all. I marvelled that it should be so, and determined to find wherein lay the power of its beautifying charm. Upon table and shelf lay a profusion of books, magazines, and papers of a kind to interest and instruct the peruser. At one side of a room was a piano, and in the corner near by leaned a guitar. These under skilled fingers often gave forth their sweetest tones. The two instruments appeared to be company for each other, and didn't look at all lonesome as

I have sometimes seen them in gloomy, dismal houses.

But surely the secret was not to be found in books and music alone, for these could be seen in many dwelling-places that were not all pleasurable. I closely watched to discover the charm; for if every family only knew the secret what beautiful homes might there be all over the land! Then I seemed to hear part of an old song and it was like this:

" Home's not merely roof and room ;
It needs something to endear it.
Home is where the heart can bloom ;
Where there's some kind lip to cheer it.

" Home's not merely four square walls,
Though with pictures hung and gilded.
Home is where affection calls,
Filled with shrines the heart hath builded."

I looked again and the secret was detected. Upon every object I discerned finely engraven one little word that did it all. Even upon the lips, and in fine lines about the mouth of each inmate was it delicately traced. This magic word was Love.

And then I saw how it all was. The crippled boy had been the household blessing; for his sufferings had called out the sympathy and made manifest the love dwelling in each heart.

He was a brave, cheerful little fellow, very considerate about troubling others. And their tenderness for him had softened the tongue's accent, and made gentle the step until a sweet voice and kind-

ly manner had become a habit with them all; and in thus constantly evincing their good-will toward one another in every act; the always "preferring one another" with real heart politeness was what had so adorned the home. And I learned that from manifested love come the sweetest joys in life; that this was the genuine key-note of home happiness.

We sometimes hear of a husband's affectionate care and watchfulness over an invalid wife, seeming to be most content when in her society. Such admirable instances were seen in the lives of Wendell Phillips and Mr. Burdette, of the *Hawkeye*. The constant appeal to the sympathy and thoughtfulness of a person has a tendency to call into action the finer and nobler qualities of his nature, causing him to grow more and more unselfish until he finds it of a truth to be more blessed to give than to receive.

It surely can not be that we do not truly love those nearest us; that often the feeling is not made more apparent until there comes a time of sorrow and separation. Herein is wise counsel:

"If you have a friend worth loving,
Love him. Yes, and let him know

That you love him, ere life's evening
Tinge his brow with sunset glow.
Why should good words ne'er be said
Of a friend—till he is dead?"

Why should we ever permit "sorrow to be the only furnace to melt our selfish hearts together in love"? Rather let every day show forth in word and deed each soul's well-meaning for a fellow-creature, not hiding the gracious sentiment, nor yet with the expectancy of always receiving as much in return; but as some one has beautifully expressed it: "Go through the world as you would walk through a gallery of pictures, loving and admiring and expecting no return."

Goethe says: "There is a courtesy of the heart; it is allied to love; from it springs the purest courtesy in the outward behavior." It is more of this heart courtesy that we want about our firesides to make happy homes. Most persons are both human and humane enough to have a common hungering for the heart's responsive tenderness, and to such

"Home is sweet—and only sweet—
When there's one we love to meet us."

LISSA B.

GEORGE ELIOT'S PRIVATE LIFE.

E. P. WHIPPLE, in the *North American Review* for October, has an article on the private life of George Eliot. George Eliot said of a previous essay of Mr. Whipple in this review that it was the best criticism of her "Daniel Deronda" that had been written in any language. Mr. Whipple thus describes her union with Mr. Lewes:

"What some liberal critics would call the great mistake of her life, if not, as both English and American matronhood assert, the great blot on her character, was her marriage to George H. Lewes. According to English law the marriage was illegal. The wife of Mr. Lewes abandoned him after committing adultery; she felt, or pretended to feel, remorse for her conduct, and was received back into the household she had dishonored. Then

some new seducer tempted her to fly away from her husband and children. The home became homeless. By a technicality of English law, Lewes had forfeited his right to be divorced from his faithless partner, because, in a moment of compassion, he had received her back as his 'lawfully' wedded wife. In this condition, as a twice-dishonored husband, he met with Miss Evans. He was fascinated by her, and she gradually became fascinated by him. There was no outward beauty on either side; Lewes was one of the homeliest men in Great Britain, and Miss Evans had no personal attraction, if we except the sweetness of her voice and the singular beauty of expression in her eyes. Each saw the visage of the other 'in the mind.' Miss Evans, repudiating the technicality of

the English law, consented to be united to Mr. Lewes, went abroad with him, was married to him, we think, in some foreign city, and returned to England a kind of social rebel, frowned upon by all women except those intimate friends who knew her motives and never faltered in their friendship. As she never sought 'society,' and rather disliked it, she bore with exemplary patience all the social disadvantages of her illegal rather than immoral conduct. Seven years before her union we find in one of her letters this remark about the novel of 'Jane Eyre,' then the literary sensation of the season: 'All self-sacrifice is good, but one would like it to be a somewhat nobler cause than that of a diabolical law which chains a man, soul and body, to a putrefying carcass.' After her marriage, she wrote to her friend Mrs. Bray, that 'any unworldly, unsuperstitious woman who is sufficiently acquainted with the realities of life can pronounce my relations to Mr. Lewes immoral; I can only understand by remem-

bering how subtle and complex are the influences which mould opinion.'

"Whatever may be thought of the legality or morality of the connection, there can be no doubt it led to the happiest results to both parties. Lewes had been practically homeless for two years. There was danger that his children would grow up uneducated and uncared for. He was fast drifting into Bohemian habits. Four years after his new marriage, Mrs. Lewes states in her journal that their 'double life is more and more blessed—more and more complete.' A few weeks after, Lewes writes in his journal that he owes an intellectual debt of gratitude to Herbert Spencer. He says:

"My acquaintance with him was the brightest ray in a very dreary, wasted period of my life. . . . I owe him another and deeper debt. It was through him that I learned to know Marion—to know her was to love her—and since then my life has been a new birth. To her I owe all my prosperity and happiness. God bless her!"

NOTES FROM A TEACHER'S DIARY.—No. 2.

JULY 10th.—Mary's mother sent for me yesterday to ask my advice. She is greatly troubled lest she give to the world another child like Mary, and tells me that when she kept the hotel from which she came to this one, she used to get so weary in mind and body that she nearly died. There came a day she could not count the money to pay her servants. She tried and tried, but her overcharged mind gave out and refused to do its work. She had often wondered if this had shadowed Mary's mind. She had in her school days stood very high in mathematics. Ah! here was the solution of the mystery! She did not recover that faculty for weeks. It came too late to save the little life to be, or rather to endow it with her own gifts. "Now you must have less care," I said; "be cheerful, and trust in God and all will be well. Take rides daily, read good things, books of science, art, listen to music, but don't

under any circumstances overwork either by thought, care, or effort."

I looked forward with great interest to the opening of a new day in this disappointed home. It came at last. I was ushered into a beautiful room where lay a sweet-faced woman by whose side sat a gentleman rocking and holding a tiny bit of humanity in his hands before him. The kisses fell on a little round face that was charming enough for a queen's daughter. How plump were its limbs and shapely its head. "Plenty of mathematics here," I said, half laughing, half crying, "and everything else one wants in a child. Doesn't it pay to be kind, Mr. B., and considerate?"

"Oh, yes; but my business has suffered terribly without her guiding hand."

"Oh, never mind about the hotel business," I said encouragingly, "there's no failure here," pointing to baby. Though this is a reminiscence of the past, I wish

to add something about that baby. I did not follow it through babyhood to childhood, for I became ill and left the city not many months after, but through a friend I learned that it was very interesting and very smart both with books and hands, showing a very desirable quality of brain when quite young, and was loving and happy, dancing about, full of song and the delight of the house.

Feb. 4th.—The wind blows very chill, and the snow falls, but my school has been full—only one vacant seat; one hundred and thirty-nine out of one hundred and forty. We were singing just after recess, when our Freddy raised his hand and shook it, frowning sadly. I motioned him near, but mistaking my meaning, he spoke quite loud, "Please, sha'n't Sammy Lunenburg stop his noise? he makes my head ache." This, of course, stopped the verse of music from being finished; every voice was still. Freddy is one of the finest lads I ever knew. He has never before been disorderly. But his seatmate's unmusical voice, and his great attempt at noise instead of melody, were too much for Freddy's acutely sensitive ear. I called the lad to me. Sammy felt very much aggrieved. "I've done him nothing a bit, at all," he said. "I just sang as loud as I could, and no more did I do." Sammy had wholly mistaken his seatmate's meaning. "Well, sing that verse alone for me, Sammy, and I'll decide the case." So the dear, honest little fellow piped it up as loud as he could, expecting my approval. What *could* I say? I mustn't grieve him or reprove him, but I advised him to sing very softly in future so as not to drown my alto, and I looked down the long line of musical boys to find a new seat for Sammy where one wouldn't mind his bad notes; but alas, there wasn't a place anywhere for him if he sang, and how could I deprive a good boy of the full benefit of my teaching. Freddy came to the rescue without my saying a word. "Please, Johnny Hunter doesn't sing better than Sammy; let them sing to each other." And so it was decided that they be seatmates, it being

satisfactory to both boys. This brought Sammy so near that I readily detected the trouble that had so vexed his friend. He could not quite reach the high notes. I kept him after school for several days to train his voice. He understood at last the difference himself, and rounds out the sounds with hearty good-will.

Freddy is the quickest to catch a tune of any one in school. His ear is so well attuned to melody, I have only to sing one verse of a new tune, and write the words on the blackboard, for him to carry it right along. And what wonder? His father is the leader of a band that bears his name, and composes for it much of its music. He is a German, and received in the fatherland a thorough musical education under famous masters. It is said that he teaches how to play every instrument in the band, which meets in his hall right under Freddy's room. His son is already learning to use the violin and piano, and evinces his father's skill. "I shall yet play them all," he says, "even the little thing father made, and that has no name." I am glad that he and Sammy are the best of friends, notwithstanding this little trouble. Freddy is too benevolent to carry any such difficulty to a great length, and Sammy too forbearing. Poor Sammy has no amount of home comforts. His father is a dealer in "second-hand clothing," and the child sleeps under the counter. He lies awake as long as possible listening to the jokes and stories of the loungers in his father's store, while Freddy listens to the band below him. No wonder I can read a great moral difference in the very expression of their faces. Freddy's thoughts have been turned into a better channel by his love of sweet sounds. He despises anything that is low or mean, and is so positive a character he leads his German friends right along. A few such boys in the school, or even one, makes teaching charming.

June 20th, 18—. A lad near the door threw his book angrily down into the aisle. "Master Reynolds," I said, "please bring that *bad book* to me." He rose with a smile, for he at once saw the ludicrous

side, and, picking up the arithmetic, marched up to my desk. I looked the book all over to find the bad place in it, or on it, and asked what was the matter. He was wholly unused to such treatment, although that arithmetic showed unmistakable marks of violence from my first acquaintance with it—it having then just been picked up from the muddy pavement. "I can't get the plaguy thing right!" "What plaguy thing?" He laid the example before me, which I read slowly. "That isn't hard," he said, "I can do it now." After school I called him to my side and told him the consequences of indulging in a hasty temper, and how to make his will-power serve a good purpose by obliging it to do his bidding by conquering for him this evil way that rules his whole being. He is fond of conquests, and was greatly delighted with my way of dealing with his strong Combativeness and Destructiveness. He says he will cultivate Caution, and give reason a better chance to take the lead whenever he can think. I shall not let him forget. He is a very loving, beautiful boy, as smart and quick as one could desire, but always into something he should let alone. One day I discovered his hand passing over his desk as if in it was something that moved of itself. He isn't a bit sly, and wouldn't deny the truth to me on any account. "Well, let me see too, please, Master Reynolds," I said, smilingly, after he had amused the girls across the division for some seconds. He rose very reluctantly and brought to me a turtle. "What a pretty fellow," I said, opening an empty drawer in my desk, and spreading out a paper. "We'll carpet a room for him." I judged if Reynolds had a turtle he was not alone

in this. So I kept peeping into the drawer as if interested in its welfare, as indeed I was. I wanted it to live and give my pupil pleasure after school, as he had begged for it then. So I said: "I think my turtle is quite lonely in his house. Hasn't some one got one to keep him company?" Instantly five hands were raised, and five turtles were dropped into my drawer. The boys all remained in at recess to claim their possessions, and promised to carry them out to a pond near and leave them until school was over. These lads will do anything for me in consideration of the favor shown their turtles. It is better to err on the loving side, if at all, but this did not at all detract from the order of my school. They brought into school what interested them, and perhaps to see what I knew *about turtles*, as I had taught them some curious things in natural history. But instead of knowing for them, they taught me what I was pleased to learn from them.

July 15th.—Reynolds really improves in behavior, and is learning to control his quick temper. Of course he often fails, but I am ready to overlook that when I see such unmistakable signs of attempt at self-control. The pupils all notice it too, and frequently speak of it. He is much beloved by them all, he is so very kind and generous. No one can pick up a fallen child with sweeter grace or forgive an insult quicker than he. I have just received a note of thanks from his mother, who assures me it is nothing to control her son now to what it was a few months ago. This is very cheering indeed. It shows how a large organ can do duty for one in defeating itself where one has other organs of moral worth to lead the way. L. R. DE WOLF.

LOCALIZATION OF THE FUNCTIONS OF THE BRAIN.—A REVIEW.—No. 2.

WE now come to the most difficult of all Ferrier's investigations, and from which it seems as if nothing could be obtained by the experimental method—his investigations into the functions of

the cerebrum. According to Ferrier, destruction of the cerebral hemispheres reduces the animal to a complex machine, deprived of sensation, ideation, volition, and intelligence in general. The cere-

brum can not be stimulated by mechanical means. This is proved by the case when a bullet passed through a man's brain without stimulating it, and also by the famous "crowbar case," in which a tamping-iron, three feet seven inches long, weighing $13\frac{1}{4}$ lbs., was driven, by the premature explosion of a blast, through the brain of Phineas P. Gage, at Caven-dish, Vt., Sept. 13, 1848. The bar, how-ever, was round and smooth, and tapered to a point at one end; hence, like a bod-kin or skewer thrust into a sack of wool, it separated the brain matter. He re-covered in a month, and lived fifteen years longer, but with impaired intellect.

The brain does not feel any pain when touched, but when pressed upon, con-sciousness is suspended, and on removing the pressure consciousness is again re-stored. Parts of the cerebrum can be stimulated by means of galvanism, but uniformity in the experiments can not be produced on account of the difficulty of exciting the brain. The degree of excitement which would cause intense activity in the natural state, has but little effect when the animal is partly anæsthetic, and no effect at all when the animal is deeply anæsthetic. Dupuy, Carville, and Duret hold that the excitement of the cerebrum which is produced is caused by the stimulation being conducted through the mass of the brain to the basal ganglia, and that the responses really come from these ganglia. Ferrier, in reply to this, acknowledges that the stimulation may be conducted in that way, but says results are produced when the cerebrum is stimulated, which can not be produced by stimulation of the basal ganglia them-selves, and stimulation of the Island of Reil in the cerebrum produces no move-ments whatever. Carville and Duret ac-knowledge that stimulation is partly pos-sible in the cerebrum if the current is not too strong.

Ferrier made some experiments on monkeys by touching different parts of the cerebrum with the electrodes, and the following was the result. (See figure

(1) for the regions of the brain in which the locations are made). (1) (On the posterior parietal lobe), Advance of the opposite hind leg as in walking. (2, 3, 4) (On the convolution round the upper part of the fissure of Rolando), Complex movements of the opposite leg, arm, and trunk as in swimming. (3) Wagging of the tail. (5) (At the posterior extremity of the superior frontal convolution), Ex-tension forward of the opposite arm and hand. (6) (On the upper part of the as-cending frontal convolution), Supination and flexion of the opposite fore-arm. (7, 8) (On the middle of the ascending frontal convolution), Centres for elevating and depressing the angle of the mouth. (9, 10.) (On lower part of the ascending frontal convolution), Related to opening



FERRIER'S CENTRES OF MOTOR EXCITABILITY.

of the mouth, with protrusion (9) and contraction (10) of the tongue, according as the electrodes are on (9) or (10). (11) (near 10), Retraction of the angle of the mouth. (12) (On the posterior portions of the superior and middle frontal convo-lutions), The eyes open widely, the pupils dilate, and the head and eyes turn to-ward the opposite side. (13, 13')* (On the supra-marginal lobule and angular gyrus), The eyes move toward the opposite side with an upward (13) or downward (13') deviation; the pupils generally contract, and this is supposed to be the centre of vision. (14) (On the superior (first) tem-pero-sphenoidal convolution), Pricking

* The outer row of centres numbered 13 should be 13', the engraver having omitted the exponent.

up of the opposite ear, the head and eyes turn to the opposite side, and the pupils dilate largely. This is the centre of vision. (15) (At the base of the brain), Torsion of the lip and nostrils on the same side, so as to cause a closure of the nostrils. (a, b, c, d) (On the postero-parietal convolution), Centre for movements of the hand and wrist.

Ferrier admits that there is great difficulty in obtaining responses that agree with each other, and those which he can not explain he accounts for by conduction of the current to the basal ganglia. The results in different animals have been in many cases different, and in some cases similar, but he has been able to map out a few centres, as follows: He locates sight in the angular gyrus (13, 13'); for, when the angular gyrus is destroyed, sight is lost. If the right gyrus is destroyed, the left eye becomes blind; and if the left gyrus is destroyed, the right eye becomes blind. Ferrier destroyed both in a rabbit which was very fond of tea, and would always drink it when shown to it; but when they were removed, he placed the tea before the rabbit, but it would not drink, and did not seem to see it till he put its nose in the tea, and then it drank it. Why did not Ferrier locate smell also in the angular gyrus? for the rabbit did not seem to smell the tea, and we know that animals when blindfolded will eat food from the smell when they can not see it. There is, therefore, some reason for doubting his conclusions in the above, as in other cases, since other conclusions can be drawn from his experiments. He locates the brain centre of hearing in the upper temporal convolution, because when that part was removed from a monkey, which had been accustomed to turn round when Ferrier made a shrill sound behind him, did not turn round at the usual sound, but would turn round when he attracted him through his other senses. Ferrier is not certain about this location, however; for in electric stimulation the centre (12) gave the same responses. Touch he locates in

the gyrus uncinatus and hippocampus major, because destruction of this region causes loss of sensibility in the opposite half of the body.

When the tip of the temporal lobe was cut out a rapid stimulus could be placed on the tongue without its being perceived by the animal; hence, Ferrier locates taste in this region, yet is doubtful about it. The appetite for food he places in the occipital lobes. Speech he locates in the lower part of the ascending frontal convolution (9, 10), just overlapping the Island of Reil; for destruction of this part destroys articulate speech.

Experiments on the frontal region of the brain gave negative results, but movements of the eyes were seen. The monkey, deprived of this region, appeared dull or dazed, and dozed off to sleep. Ferrier concludes that the functions of this region are not known, but says, "The Phrenologists have good reasons for placing the intellectual powers in the frontal lobes, for the man with the greatest frontal region has the greatest intelligence."

Briefly recapitulating Ferrier's conclusions, we have:—Reflex action in the spinal chord, compound reflex action in the medulla oblongata: Co-ordination of a complex form of activity, as locomotion, emotional expressions, etc., in the mesencephal; functions of equilibrium, co-ordination, locomotion, etc., in the cerebellum, mixed with the mesencephal; secondary reflex or automatic action in the basal ganglia; mental, motor, and sensory action in the cerebral hemispheres.

About the time that these results of Ferrier's experiments were made known, Dr. Logan, an American phrenologist, was asked what he thought of them and their bearing on Phrenology; he replied: "If we throw aside the conclusions Ferrier has come to without sufficient grounds, and correct the mistakes he has made, his experiments are a strong proof of Phrenology, and I would gladly accept them as true if I felt they would last; but I think Ferrier did not let the

animals live long enough after removing the centres to form a just estimate, and I think if they had been permitted to live long enough to recover from the effects of the lesions, the functions which Ferrier thought were destroyed would have been restored." This expression of Logan's seems almost prophetic, in the light of the more recent investigations of Goltz and Munk in the same field. These physiologists performed the same experiments as Ferrier, and reached altogether different results. They found that those animals from whom they removed Ferrier's centres, when permitted to live long enough, had the functions injured by the removal restored to them. Ferrier seems to have kept his animals alive for a few days only, and to have closed his observations before sufficient recovery took place. Goltz removed parts of the cerebral surface by washing the nervous substance away with a stream of water, which is less dangerous than the other method and causes but little bleeding. He found that the operation was followed by more or less paralysis of the designated motor functions, but the paralysis of the functions in a short time wholly disappeared, no matter what portion of the brain he removed. The amount of mischief done depended not on the locality operated upon, but upon the quantity of brain matter removed, and after a recovery from one lesion another mutilation produced the same phenomena, more or less as the case might be. In one case, in which he removed the greater part of both hemispheres, the dog lived for months and gave no signs of muscular weakness. The muscles of the body were firm and well, and the only permanent failure was a certain clumsiness in the movements. Goltz considers that his experiments do not warrant him in marking out any motor centres in the hemispheres of the cerebrum. He comes to the same results in his experiments on the sensory centres; but he noticed an imperfection of vision in his experiments, which was not a failure of sight, but a failure to recognize things as what they

were before. A dog, from which portions of the cerebral hemispheres were removed, failed to recognize his food by sight. When threatened with the whip, he was not cowed; when the hand was held out for his paw (although he had been accustomed to give his paw before the removal), yet he made no response, and although before the operation he became violently excited when the laboratory servant in a fantastic dress appeared, yet, after the operation, he was perfectly indifferent to the same image. This might be mistaken for lack of sight, but Goltz discovered that the animal saw the objects, but did not recognize them in the same light, and could be educated afterward to understand what they were.

This accounts for Ferrier's example of the rabbit which did not seem to see the tea, and from which he came to the conclusion that sight was destroyed. The results of the experiments of Goltz and Munk may be stated as follows:

1. After destruction of any extent of any part of the cerebral cortex, the animal, if it survives, still has the power of conscious willing over all the muscles of the body. No lesion confined to the cortex can produce permanent paralysis of any muscle. Each part of the cortex seems to have independent connection with the excentric bodily members. There are no special motor centres exclusively concerned in particular voluntary movements.

2. It is not possible by destruction of any part of the cortex to produce total loss of touch in any part of the body, or total loss of any of the other senses. The animal can always be brought, by every one of the senses, to perform movements that may be considered signs of conscious sensation.

3. Any considerable destruction of the same part in both hemispheres has its effect on intelligence. If more than the eighth of an ounce is removed from the surface of each hemisphere the animal becomes stupid, and complete imbecility follows extensive destruction.

4. Whether all parts of the cortex

are perfectly equivalent is not clear. So far the experiments indicate a certain difference between the occipital and parietal lobes, vision being more affected by destruction of the occipital lobes, while the skin sensibility and the connected power of definite movements is injured more by destruction of the parietal lobes; but it may be that in the latter case the basal ganglia are more likely to be implicated in the experiment.

In an article, in *Mind* for 1880, on the experiments of Goltz and Munk, the author ventures the assertion that Goltz's experiments have overthrown the conclusions of Ferrier, and that the experimental localization of functions in the brain will soon be as completely forgotten as Phrenology is to-day. "The brain," says the author, "is a unit, and the work of Ferrier will soon be forgotten." It is strange what foolish assertions men make, and the ignorance they exhibit when anything interferes with their prejudices. In this author's assertion we have an example of that sort; for to consider the brain as a unit, we must deny that it is an organ of the mind, and unless we admit it to be an organ of the mind, and composed of different functions, we can not explain the phenomenon of sleep and dreams. Mental diseases and injuries to the brain prove it to be a congeries of organs, and on no other principle can they be explained. There is no anatomist who denies that the brain is an organ of the mind, and that it may be composed of different functions. Goltz does not consider that he has proved the brain to be a unit; he simply states that Ferrier has been too hasty in his conclusions, and that before local centres can be mapped out, we must first discover what are the functions of the occipital, parietal, and middle lobes, and when we have decided these we can then proceed to more local mapping.

Ferrier's experiments will not soon be forgotten, but will be esteemed for what they are worth, just as those of Flourens are to-day, and if the author meant by his remarks to say that Phrenology is

forgotten, he only showed his own ignorance of the subject and its conditions at the present time.

It will be seen from the account now given that there is a great deal of discussion among the experimentalists themselves, and the next twenty years may contradict even the experiments of Goltz and Munk, but leaving that let us now turn to the fifth and last method.

Willis is called the father of Phrenology, but the founder of the present system was Dr. Gall, a physician of Vienna, who was early attracted to the study of the brain and its functions. His method, as I have already stated, includes all the others. Gall was early drawn to observe individuals who had a particular talent in a high degree, as music, or a gift of language. After observing people of this description for years, he noticed that they were all characterized by a prominence of the head at a particular spot. He then observed that persons who did not possess these qualities in a high degree, or were entirely destitute of them, did not have the prominences. He therefore concluded that the prominences had something to do with the peculiar talent these persons possessed. Having come to this conclusion, when he observed any mechanic, musician, sculptor, draughtsman, or mathematician eminently gifted, and who displayed his talent from birth, he examined his head to see if he could discover a peculiar development of any cerebral part. Proceeding in this way, he soon detected peculiar developments in musicians, mechanics, and other individuals. He observed that a certain part of the head was always highly developed when a peculiar talent was strongly manifested, while the rest of the head was differently shaped in each individual case. At first he confined his investigations to men of partial genius, and such individuals were his best subjects, because the developments were more easily observed in them.

As Gall was physician to the institution for the deaf and dumb at Vienna, and a friend of Dr. Nord, physician to

the director of the schools in Vienna, also professionally acquainted with many families, he had great facilities for observation, and he did not fail to use them. He went through families, schools, asylums for orphans, foundling hospitals, houses of correction, etc., and particularly observed those who had certain qualities marked, and particular parts of the head developed. He procured the heads of some of these individuals at death, and on removing the skull from the brain he found that the brain conformed to the skull in its shape, and wherever there was a prominence on the skull there was a like prominence on the brain filling the place forming the prominence on the skull, showing that the prominence was caused by the development of that particular part of the brain. In this way Gall was able to associate certain talents or faculties with particular parts of the brain and head, from the fact that when the talent was possessed in an eminent degree, a particular part of the brain was highly developed, and when the talent was small the same part of the head and brain was small, thus proving by double means the correctness of his inductions.

Whenever he met any one who possessed in an eminent degree any talent or faculty, he took a cast of his head if permitted, and to get the exact form of it he shaved off the hair, to which many submitted gladly; but when they did not, he obtained the configuration by careful measurements. His custom was to take a mould of the whole head and face by applying plaster over it in two or three pieces, and from this mould an accurate cast of the individual's head was made. He found it very easy to get permission to make these moulds; for he often gave to the person or his family a bust of the individual, and they willingly submitted, for by this means they obtained a perfect likeness, the size of life, of the one operated on. In this way in a few years Gall obtained over 400 casts of individuals, from the beggar to the prince; the deaf, the dumb, idiots, children of every age, boys, girls, women, etc. He laid schools,

houses of correction, hospitals for the insane and other institutions, under contribution for this purpose. He put casts of the individuals in whom he had seen a faculty highly developed, side by side, and if the external sign of any talent was already known to him, he looked for it in the casts, and if not known, he endeavored to find an external prominence in those in whom he had observed the talent. As the persons from whom he had taken the casts were still living, he could resort to them whenever he was in doubt about any talent. He met with many difficulties in his investigations, and it is one proof of his genius to see the ingenuity he displayed in overcoming these difficulties. That he might more easily observe the peculiar shapes and developments of heads, and more accurately locate the functions, he found it necessary to make a collection of human crania. He gathered together skulls from hospitals and institutions of every description. When any individual of a peculiar development was executed for crime, or died, he procured that person's head, examined it carefully, and noted the agreement of the brain with the conformation of the head, and preserved the skull. He even procured the skulls of noted persons from the graveyards, and it became a common thing for people to think that Gall was seeking their skulls, and some were afraid of him on that account. He succeeded, however, in making a very large collection of skulls of all kinds, many hundred in number, and at great expense. Indeed he spent more money in his investigations than he ever earned by them; but as he had no children, and gave himself up almost wholly to them, he was able to do a vast amount of work. It was his custom to mark each organ on the cranium as he discovered it, and when he examined the cerebral parts beneath these markings, he found that they corresponded in shape and development with the development on the skull, as indeed they must, since the brain is formed first, and the skull assumes the form of the brain. When the protuber-

ance was the segment of a sphere, the convolutions under it were spirally rolled upon each other, as in the organ of Constructiveness. When the sign was conical or pyramidal there were conical or pyramidal convolutions underneath it, as in the organ of Tune. If they were elevated, prominent, and broad, so likewise were the convolutions.

Gall and Spurzheim never found any exceptions to this rule in sound brains or those of middle age, and where the forehead was low and contracted they found that it covered convolutions which were always small. In cases where any faculty was manifested with much energy, they found the cerebral parts more developed and prominent than those in the neighboring parts. Working on in this way, Gall was able to discover a large number of the functions of the brain. He did not come hastily to conclusions, but spent years of patient investigation. He did not, as most of the later experimentalists have done, form his opinions from a few isolated cases, but his instances were numbered by the thousand.

Before he gave his conclusions to the world he examined everything by Anatomy and Comparative Anatomy, which I have called the first and second methods of discovering brain functions. He found that the anatomy of the brain confirmed him in his establishment of the organs; for, first, the bundles that constitute them are distinct, and their plurality is as evident as the plurality of the faculties themselves; second, some faculties are very potent, and have a great sphere of activity, while others are weak, and the size of the respective organs harmonizes with this fact. It is also known that the feelings act with greater energy than the intellectual faculties, and Gall found that anatomy exhibited a corresponding difference in the quantity of brain apportioned to each sort of function. Anatomy also shows that the various cerebral parts are not simultaneously developed, just as the manifestations of the mind do not start at the same time into action.

He found that the animals nearest related to man were but fragments of man, as they lacked those parts of the brain in which were located those powers in man that the animal was destitute of, and possessed only those parts of the brain in which he had located powers common to both.

It requires considerable skill to trace the corresponding parts of the brain in man and the lower animals, but those who understand the matter can readily do so. If it is desired to ascertain the intellectual faculties of man, compare the brain or head of the dog, the horse, or the ox with that of man, and see how the heads of the animals recede above the orbits; how they are flattened. They never form a vault extending beyond the eyes; but look at man with his forehead elevated three inches above the eyes, and often arched in front. The more the dog's forehead is elevated above the orbits, the more does he resemble man. Compare the external inferior angles of the forehead of a great musician with that of the dog, the ape, or the ox, and it will be seen that the parts of the cranium indicating the musical talent, and consequently the parts of the brain underneath that prominence, do not exist in them. Compare a singing-bird, as the canary, the blackbird, the thrush, the nightingale, or the mocking-bird, with the sparrow, the hawkfinch, the grosbeak, or the owl, and notice the difference between them in that part of the head in which Gall located the musical talent, and you have a strong proof from comparative anatomy of the correctness of the location of Tune; and so it is with many other organs. The proofs that might be gathered in this way to support Gall's conclusions are numberless, and he did not fail to collect them, and although by themselves they could not establish the functions of the brain, yet combined with Gall's other methods they ought to be convincing.

The clinical and pathological method was also used by Gall. He travelled through the hospitals and asylums examining every case of injury or disease of

the brain he could find, and discovering what faculty or faculties were impaired. He found in some cases where a bullet had passed through the organ of Number that calculation was destroyed. Mental alienations, and especially partial insanities, monomania, and idiocy, were much more available than accidental injuries of the brain in proving his locations. In idiots from birth the brain is either small or distended by water. In partial insanities the organs whose functions were most deranged were commonly more developed than the others. Those who were insane from pride had great development of the organ of Self-esteem. In many cases of monomania, the part of the head in which was situated the diseased organ was found by Gall to be hot, and others have confirmed his observations since then. Many cases might be mentioned where injuries to parts of the brain have been found to agree with the location given by Gall of the function impaired or affected by the injury, but we have not time to dwell on them. The effects from the injury of a portion of the brain are of two aspects: either the power located in that part of the brain is stimulated to increased activity, or it is destroyed altogether, according to the extent of the injury. The same results are found to take place in lesions by the experimental method. Gall collected many proofs of this and other sorts, which proved the correctness of his location of each organ; but it is impossible for me to give a just estimate in this sketch of the multitude of these proofs; for adding to the proofs of Gall those collected by later investigators, volumes could be written on each organ.

Gall had no idea of any system when he commenced his investigations, but he marked each organ on the skull as he discovered it, but what was his surprise when his work was nearly finished to discover that the result itself had a system in it. Thus the faculties which were common to man and the animals were located in those parts of the brain which were common to both, and their seats

were in the lower part of the brain. The faculties which man exclusively enjoyed, and which distinguished him from the brute, were located in those cerebral parts that were wanting in the brutes, the superior or upper part of the brain. Also, that the more indispensable the functions were, the nearer they were placed to the base of the brain or the medial line of the brain, and that those faculties which aid each other were placed near together. The wisdom of this arrangement itself, and the fact that it was not prearranged by Gall, but grew up from the investigations he made, and the marking of the organs as they were discovered, is a strong proof of the correctness of the phrenological method. Dr. Dalton, speaking in his "Human Physiology" of the different methods of discovering the functions of the brain, says that the method used by Gall is the only one by which they can be discovered.

Dr. Gall by his investigations not only proved that the brain is the organ of the mind, and a congeries of organs, but he succeeded in discovering many of the functions of the brain, and by means of these functions and their manifestations he succeeded in analyzing and establishing many of the fundamental powers of the mind, and locating them in their proper brain parts. In this way he formed a science of mind and an art of reading character. His system was improved by Spurzheim, Combe, and others, and although it was never claimed to be perfect or complete by Gall or any of his followers, yet it seems to me that it is the most complete system of mental philosophy that has appeared.

Gall discovered twenty-seven organs; Spurzheim, Combe, and others increased these to thirty-seven, and they have since been increased to forty. Some of these are given in phrenological works as doubtful; for although the proofs in their favor are very many, yet there is a difference of opinion among phrenologists as to whether the proofs are sufficient, and the analysis sufficiently clear.

I have already stated that Gall and

Spurzheim pursued the fourth or experimental method also. After Gall's investigations were made known to the world, the experimentalists endeavored to discover the functions in their own way, rather than believe in Gall's method and accept his conclusions. They tried to prove Gall's discoveries false by their experiments, but without success. Gall and Spurzheim examined all the investigations of contemporary experimentalists; but finding them to be contradictory, one disagreeing with another, they determined to try experiments for themselves, and so they cautiously and carefully went through them on rabbits, pigeons, dogs, and other animals with varying success and different results. Gall even went so far as to go to some of the most distinguished of the experimenters, and to make sure that he made no mistakes, he witnessed and took part in some of their experiments; but finding that nothing satisfactory could be obtained in that way, he gave it up as insufficient to discover the functions of the brain. His account of this is given in the first volume of the large edition of his works, and it is alluded to in the sixth volume of the edition in the library of Harvard College.

The experiments as performed in our day are improved, however, as the means of applying electricity to the brain is no doubt superior to what was used in the days of Gall, Spurzheim, and Flourens; but after reading all that has been done in this department, I have come to the conclusion that as far as discovering the functions of the brain is concerned it is a failure. To discover the functions of the brain in this way, it is necessary for the operator to know the exact seats of the functions themselves, so as to cut out or stimulate just one particular organ, and no more; but this they do not know, and as the exact borders and limits of the organs are unknown to the experimenters it is impossible for them to limit their work to just one organ. Then, again, if they did not know the seats and boundaries of the organs, it would be impossible to cut out one organ without in-

juring or affecting the organs adjacent to it. Besides this it is acknowledged by the experimentalists themselves, and even by Ferrier, that part if not all the responses are due to the conduction of the electric current through the cerebrum to the medulla oblongata and lower ganglia. The proof of this is, that not only do the phenomena continue when the animal is under opium and chloroform if the anesthesia is not too profound (in which case there is no response), but the results are the same when the surface of the convolutions operated on is congested, and even when it has become completely dried up or has been washed with strong nitric acid. When the corpus striatum is stimulated it produces the same results as when the cerebral surface with which it is connected is stimulated, and so with other parts of the lower ganglia. All this proves that the responses are due to the escape of the current to the lower part of the brain. Ferrier takes advantage of this fact to account for a complication of responses, which he can not explain in any other way, but states that he came to his conclusions with due allowance for this conduction. Of the sufficiency of his allowance we may well have doubts; but taking it for granted that he did make sufficient allowance, are we to accept his conclusions as the only ones to be drawn from his experiments? By no means; for is it not absurd to say that nearly the whole brain should be taken up with mere physical movements, while none or only a small part should be reserved for mentality?

Prof. Rutherford, of King's College, London, at a meeting of the British Association, speaking of Ferrier's discoveries lauds them very highly, and says, "We now have a scientific exposition of the functions of the brain entirely different from the ridiculous and absurd exposition of Gall and the Phrenologists." It is strange the ignorance and prejudice some men show about Phrenology, as if anything could be more ridiculous than making a special centre for wagging the

tail, another for cocking the ears, another for closing the eyes, another for extending the jaws, another for moving the right leg, and still another for moving the head to one side. In this way they use up the cerebrum with motor centres, which might just as well be performed by the lower ganglia. There are insects with brains no larger than a pea, yet they are able to make all these motions and others, and are we to use up the mass of the brain with such movements when they can be done by a brain mass the size of a pea? If they make a centre for wagging the tail, why do they not make one for drawing the tail between the legs? the one has just as good a right to have a centre as the other. What is to be done with tailless animals, as Manx cats?

The experimentalists seem to think they have done wonders, but they have still a long way to go before they overtake the Phrenologists. If they would use a little Phrenology in their investigation they would not make some of the mistakes they have made.

Let us consider their experiments as correct for a moment that we may see how they can be interpreted on phrenological principles. We all know that each particular quality or emotion has its method of expression in the movements of the body. In elocution we are taught to make certain gestures to indicate anger, fear, surprise, confusion, entreaty, or any other feeling, and in nature itself these motions are made when we have those feelings, and the motions are, therefore, indications of the mental feelings. What can be more natural than to interpret Ferrier's responses then as the indications of the feelings they represent. When Ferrier applied the electrode to the parts of the brain marked 13, the eyes moved to the opposite side with an upward or downward deviation. Now this part of the brain is the exact spot where Gall locates the organs of Caution and Secretiveness, and the responses, if they indicate anything, suggest watchfulness, caution, and slyness, the very qualities of those organs. When

he placed them on 9 and 10, there was opening of the mouth with protrusion and retraction of the tongue, and this is in the region where the Phrenologists locate the organ of Language, but in this case Ferrier has been right in his interpretations, although it was only by the aid of mutilations that he came to the conclusion. When he touched the part, 12, which coincides with the phrenological location of Hope and Marvellousness, there was wide opening of the eyes, dilatation of the pupils, and moving of the head and eyes to the side; could there be any better expression of wonder, marvellousness, and hope? When Ferrier stimulated the cerebellum there were movements of the eyes and limbs, hence he concluded that the organ of the generative instinct can not be in the cerebellum. Does Amativeness never express itself in the eyes or motions of the limbs? Indeed there is scarcely any place where Amativeness shows itself more than in the eyes and limbs. Upon the above principles all his responses could be explained, and they would not conflict with Phrenology either, but rather confirm it. WILLIAM HYDE.

(To be continued.)

TWO WAYS OF ASKING FAVORS.—
"Mag, go in the other room and get my new banjo string, can't you? It's on top of the bureau; hunt it up."

"No! What made you break that one? Careless boy, wait on yourself. I'm busy doing examples," came the impatient reply from sister Mag.

Now here were two children, brother and sister, who loved each other, and were usually willing to favor each the other, but they both feel cross this morning and speak accordingly.

Two hours later Mag had finished her lesson, and comes tripping down the steps where Harry is sitting with his banjo newly strung. He looks up, smiles, and calls out as she passed him:

"Mag, bring me home some blue-bells, please."

"Yes, dear, if I can find any."



INFLUENCE OF INEBRIETY ON CIVILIZATION.

CIVILIZATION has been aptly termed the organized march of humanity from lower to higher levels. It is the measure of the progress from stage to stage. It describes the development of man, and his knowledge of the forces of nature, and capacity to make them contribute to his welfare.

The rapidity and slowness of this march depend on many and varied causes, some of which may be recognized and studied. Thus the student of Social Science may trace the presence of wars, pestilences, famines, and other great social disturbances, which change and "slow up" the race march, leaving great wave marks and ridges on the shores of humanity. Civilization and the race-history is covered with traces of revolutions, of upheavals, of the rise and fall of the human race, and of evolutions long and painful, or sudden and startling.

The progress and development of which we are proud are simply the outgrowth of the past, the result of conditions which grew up slowly from many and varied causes. Had these conditions and causes varied, the evolutionary race-march would also have changed, and civilization would have been altered. The historian will find all along the paths of history signs of switch points, where slight deviations in the conditions have modified all the future. How often the most momentous events in politics,

religion, and science have turned on the most insignificant causes. Thus, states of the weather, the variations of the seasons, the health of individuals or communities, the mental vigor or weakness manifested at certain times, etc., have been actual switch forces turning the destinies of civilization and the race. A child is driven into youth and manhood by the laws of his being, yet the perfection and completeness of that manhood depend on a variety of causes which may be changed. So the race-march from stage to stage along an upward line of development is also turned and modified by causes that are known and controllable.

The more this generation comprehends and adapts itself to the laws of its organization, the more rapid the progress of evolution upwards. Every step forward in the progress of the race reveals new laws and new forces, the use of which increases all perfection and development. Insanity, inebriety, pauperism, idiocy, and other degenerative states, are departures from the laws of nature; they are penalties for violation, side-tracks upon which the victims are pushed down to extinction. Wherever these dying individuals and families are found in great numbers progress and civilization change. Increase the destructive forces, and the evolution of the race upward is retarded and diverted. Diminish them, and the brakes are removed, and the laws of

growth come into full activity, and the advance from the lower to the higher levels is rapid and permanent.

These facts open up a wide view of the possibilities within the power of this generation to control. The object of this inquiry is to indicate that our civilization bears the marks of these degenerative conditions, which are preventable; and also to suggest that a clearer knowledge of these evils will be felt through all the future, in the larger and more rapid growth of the race.

In selecting inebriety to illustrate the facts, it is chosen as one of the most prominent evils of our times, and also the one least known, and most often discussed. Some idea of its prevalence may be formed from the following facts.

The most reliable comparative estimate places the number of inebriates in this country at 500,000. The mortality, stated as 60,000 yearly, is not considered an over-estimate. In reality the most appalling array of figures presented by temperance men, which are usually mere surmises, are often found to be under-estimates, and in all probability only outline the real facts. If the disease, disability, and loss following are considered, also the entailments from heredity of suffering, incapacity, and misery, we have a sum total of degeneration that can not be measured by figures or expressed in words.

As an illustration, the results of the most preliminary inquiries show that inebriety is the cause of from fifteen to fifty per cent. of all insanity, from thirty to eighty per cent. of all idiocy, from sixty to ninety per cent. of all pauperism, from fifty to eighty per cent. of all crime. These are only the first hints from an exact study, and they show in some measure the extent and disastrous character of this disorder.

The problem growing out of these facts and which confronts civilization to-day is this: a vast army of inebriates practically unknown, misrepresented, and neglected, are encamped over all the world, on the very front lines of civilization, and in the

shadowy realms of barbarism: an army that is hurrying to extinction; that is on the line of evolution downward from higher to lower levels, from civilization to barbarism, from vigorous manhood to disability, dementia, and death;—an army that not only antagonizes all growth outward to higher conditions of life, but leaves recruiting grounds from which other more degenerate armies come. Inebriety is literally a switch point on the line of the race-march where thousands are switched from the main track, where producers and workers who are enlarging and widening the fields of progress are turned off and become burdens, dwarfing and crushing all the best individualities of life. Thus the evolution of the race and the hope of a nobler humanity are threatened by this open switch and side-track which leads to final extinction. The evidence of this is seen in every community, in inebriates and their families, in the mental and physical degradation which surrounds and radiates from them like a cloud.

Looking at this subject higher up we are startled by the fact that inebriety is a physical evil, springing from certain definite causes and conditions, which can be traced and prevented; that like yellow fever, small-pox, cholera, and a host of other diseases, its nature and the laws of its growth and the means of its prevention, can be known, and will be fully understood in the progress of science.

Already exact study has outlined this field and pointed out some of the possible results which will be attained in the future. The presence of inebriety and its immediate effects on individuals are apparent, but going a little farther we shall be able to trace its influence on civilization and the race-march of to-day.

A century farther on the student of science looking backward will see what to-day is only a dim outline. As students of anthropology these outlines of causes that are shaping civilization demand our recognition and study.

In particularizing some of them, we begin with *politics* and *the science of gov-*

ernment. How far can we trace the presence of inebriety in the laws, law-makers, and to the rulers of this age? How far are the events of history the direct or indirect result of inebriates? How many of those strange, unaccountable acts of public men date from this source? . . . How many bad laws grow out of this state? How much tyranny and injustice come from this mental disorder in men who hold places of power? In this country the inebriates who control the primaries make themselves felt in the legislative hall. Students of psychology can often trace in the laws of the land, signs of this condition. As an illustration take one enactment, the abolition of prison labor in New York, on which so much discussion has turned. This was most obviously the result of inebriate primaries, and can be traced to the cause apparently indirect, but literally direct.

Everywhere the potentiality of so-called moderate drinkers, but really inebriates, will be seen. The alliance of politics with inebriety, or what is termed the *rum power*, suggests to every one the influence it exerts on government, from the pot-house primaries to the highest law-maker and office-holder. The fears for the stability of government come from this influence. Many of the evils of politics and government which are so prominent to-day would undoubtedly disappear with an emancipation from all influence of inebriates and inebriety.

The true science of government, where the greatest good of all is sought, can only be obtained by placing the most vigorous men in power, men who are best adapted to the work and its duties. Like the vigor of the plant, and the soil in which it grows, the law-maker and ruler must be the best types of the race and have the best conditions to administer justice and maintain law and order.

The influence of inebriety on commerce and trade is also apparent. It is estimated that one-fourth of all the failures in business come from inebriety. As a result, uncertainty, loss and prospect of loss from this source increase the cost

of all products, and the burdens of the great struggling middle classes. Trade is rendered uncertain, the profits of products are lessened, their cost to consumers is increased. Take away inebriety and the interests of commerce would settle into a degree of permanence unknown to modern times. This is also confirmed by common observation, and is most strikingly illustrated in the many failures and wide-spread disasters traceable to the inebriety of leading business men.

In religion and society the influence of inebriety is most painfully apparent. Who can tell how far it destroys that grand underlying principle of faith, hope, and charity?—how far it destroys the higher moral sentiments and capacity to distinguish right from wrong?—how far it weakens religious faith, and estranges men from cultivating the higher moral sentiments, brings in new theories, new faiths and practices, with superstitions and fetichism? The slow, faltering progress of religion, and much of its wasted energies and inconsistencies are due largely to the inebriety of members, or to the children of inebriates, who with defective brains have been foolish leaders and unwise managers. As an example we could name a most eccentric yet gifted clergyman whose utterances have attracted great attention, and been a source of wonder and surprise, who was the son of inebriate ancestors. Here the inebriety of the parents was felt in the half-insane utterances of the child. In this way religion is influenced by the defective children, who while they are temperate are often extremists and blind leaders of the blind.

The progress of religion can never be very active among diseased and defective persons who are inebriates or children of such parents. The more the race is pauperized physically and mentally, the less the growth of that faith which is pure, elevating, and undefiled.

In science the same degenerative forces are traced, particularly in the misconceptions, the incapacities, the credulities, and the failures to see the facts of na-

ture and their meaning. The enthusiasts who mistake subjective for objective truths; the cross-brained observer, the impulsive, incapable reasoner, and in brief, the entire army of defective, dishonest workers, who are found like the squatters in a new territory, all unsettled, uncertain, changeable supporters of every new theory, no matter what it is or where it may lead. Science suffers from this class; the facts of nature are obscured; controversies with religion, conflicts with education and with public opinion grow out of it, and great "fog-banks" come up through which the truths of nature are very slowly discovered and made practical. Thus every discovery in science and nature has been retarded and held back by these squatter scientists, who are incapable of seeing the truth themselves, and so become obstacles to prevent others from discovering it. This class of men are largely recruited from inebriates, and belong to that doomed generation rapidly descending to physical and mental extinction.

Thus on these advance lines of politics, science, religion, and commerce can be seen the footprints of this defective army of inebriates, and their presence can be felt in all directions, and like brakes on the wheels of progress they "slow-up" the race-march, and change the motion with great smoke and heat and loss.

The principle is true of civilization as of the individual. Blunt or destroy the higher brain-force and you reduce the capacity to realize the true end and object of life. Make the individual weak by disability and imperfect growth, and he is placed on the line to dissolution and barbarism. Reverse this, and his development and perfection become a march upward.

Thus from a general survey we know that the projection of this vast army of inebriates into the civilization of this nineteenth century, not only changes the race-march and lessens its degree of perfection in the present, but plants the seed and germs of a great tide of defective brain-growth and disease in the com-

ing century,—in the same way that bad culture and influences which surround a child will reappear in manhood, in perversions and inabilities to fulfil its destiny. No fact is more certain than this, that the civilization of the coming centuries will be hampered and checked by our failure to recognize and prevent the evils of inebriety in this century.

It is the partial recognition of this fact which explains the present temperance agitation and its growing intensity. It is literally the protests of thousands of suffering homes and families, the awakening to a dim consciousness that somewhere, somehow, means of prevention and cure may be found. The Church, ever quick to recognize the cries of humanity, comes to the rescue with spiritual aid; politics with a halting zeal calls for redress, and offers the law as a remedy. But these means are found insufficient, and the cry for help has gone on widening and spreading until it has become a great undercurrent of public opinion. The necessity for relief has risen far beyond the knowledge of the subject. Wild impulsive agitations are breaking out here and there. Societies, churches, communities are in agitation, and the temperance topic is discussed in ever-widening circles.

The scientists hear above all this noise of reformers, of legislative enactments, of societies, of pledges, the still, small voice of science and truth pointing to the laws which *control* inebriety and its growth.

In the meantime the race-march goes on as before, like the movements of the solar system out into space toward some unknown centre, ever onward, and the processes of evolution slowly or rapidly continue. The 60,000 persons who die yearly from inebriety are the unfit, the defective, the worn out, crowded out, crushed out. They are victims of their own and ancestors' ignorance or inability to comprehend and live along the line of Nature's laws. Like the millions of persons who have died in the great epidemics (which are now happily robbed of most of their terrors), they are the vic-

tims offered in sacrifice to the barbarous elements of humanity still with us.

Barbarism, ignorance, disease, and other evils are obstructions, which, while they may divert the course, are finally in themselves crushed out; like some of the great glaciers of the Alps, beginning far up the mountain side, they are thrown into a tortuous track by the obstructions of rock and mountain, but as the ages roll on these obstacles are crushed away and the ice-river becomes straighter, and its former slow motion is accelerated. To-day we can see on this river of civilization, bends, curves, and sharp points from inebriety and other great obstructions.

We turn from this point to some practical considerations. The effects of inebriety on civilization extend to us individually; our business and social interests are in constant jeopardy; all our business faith and confidence may be suddenly destroyed by the inebriety and failure of some one in our trust. Recently a secret inebriate, who was the confidential clerk of a private banker, proved a defaulter, and the banker was ruined, and with him a professional man, whose savings had been placed in his hands in perfect trust. Another instance is that of an editor who pledged his paper and home to help a friend; the bankruptcy of a New York merchant from inebriety pauperized them both.

Our social interests are threatened in many ways. The future of our children often turns on the presence of inebriety in their surroundings and associates. All our plans and purposes for the future are frequently thwarted by inebriety both directly and indirectly. Gen. Grant called on Gen McClellan in the early part of the war to solicit an appointment on his staff. Through the inebriety of an aide he failed to meet the General, and who can say what events may have turned on this act. Incidents of this kind are common, and can be seen in all circles of society, showing how intimately the events of our lives are bound up and influenced by inebriety.

It is not so of criminality, insanity, or

pauperism; they stand out clear and well-defined in all circles, but inebriety is a border-land disease. For the most part hidden, unknown, and masked under a guise of health, it is more dangerous and insidious until it has grown to chronic stages. Scientifically it is a great polar region of mystery, which is yet to be explored.

The object of this study is to call attention to this realm of facts under the rule of law, and to indicate that civilization depends very largely upon our recognition of the nature and character of inebriety, and the use of the means for its prevention and cure. As students of anthropology we come to the confines of this almost unknown world of inebriety, and looking over into the darkness and confusion before us, where tidal forces gather and break on the shores, crushing out individuals, families, and changing the race destinies we pause and ask, Is this a new continent to be explored by prayer and spirit forces alone? The answer is clear from a higher view, and we can realize that the same eternal reign of law, of cause and effect, of circumstances and conditions, of physical forces, exists here.

Some of the facts we have presented may be grouped as follows:

1. Civilization is the measure of the race-march. It is the evolution from the lower to the higher levels.

2. This race evolution varies largely from many and divergent causes, which can be seen and traced in the history of nations and governments.

3. The forces which shape and modify human progress begin in slight causes long before, like switch points on a railway; a change of a few inches may send the train down the side track to destruction. Thus the triumphs of this generation began in the past, and the future progress of the race will depend on the present.

4. The two processes of evolution and dissolution control all events of life and civilization. All growth which develops and perfects the race-march is along the

line of Nature's laws. All destruction and degeneration breaks up and diverts the normal growth of man and in this way affects civilization and is always on the line of dissolution.

5. The more we understand the laws of our being and adapt ourselves to them, the more rapidly perfection is approximated. The less we know of these forces the more suffering and degeneration follows.

6. Inebriety is a disease of degeneration and extinction. It is the most widely spread evil of our times. It is a preventable disease; beginning from certain definite causes, it follows a regular line on to death.

7. Inebriety changes the civilization of the race by destroying and rendering incapable a large number of persons who would otherwise be producers.

8. Inebriety prevents the science and practice of government, makes commerce and trade unstable, obstructs science, disorganizes religion, by incapacitating men from acting honestly and truthfully and fulfilling the duties of their positions.

9. This is preventable from a scientific study of their subject and fuller knowledge of the laws which govern inebriety.

10. The need of such study is apparent when we consider that our failure or ability to meet this want affects the entire civilization of the future.

11. As anthropologists we must study inebriety by the same rigid inductive methods, by which every truth of nature is established. It is not a question of morals and ethics for clergymen and reformers, but it is one of science, of hygiene, concerning our every interest.

12. The empiric stage of this subject should speedily end in the demand for the facts by every scientific man in the country. Then we can know clearly how far the civilization of to-day is to be damaged and destroyed by that which we can prevent.

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A STRAIGHT DIAGNOSIS.

WITH this title a contributor publishes in the *Bazaar* the following pleasant story of the tendency of fashionable folly:

"The doctor says it is malaria."

"How did you get malaria?"

"Oh, Aunt Mary, just as if any one could tell anything about malaria! It is like the wind. It cometh from no one knows where, and bloweth where it listeth," and the invalid turned her pretty, flushed face on the pillow with a movement of unmistakable irritation.

"Blanche, dear, have the kindness to look at me a minute," said Miss Mary Harrington firmly, but kindly. "We don't want to make any mistake to start with. You know that I am very blunt, and you know that I have opinions——"

And I know there is nobody in all the world like you when one is ill," the young

lady interrupted, "and that is why I begged and prayed mamma to send for you."

"That is very pleasant and encouraging as far as it goes," said the lady, "but I can remain, Blanche, as your nurse, only on the condition that you obey me. I am ready to unpack and stay, or put on my hat and go."

Miss Harrington's gray eyes were tender and smiling, and her whole face was aglow with active benevolence, but the broad brow and firm mouth had also much to say of careful study and strength of character.

"Why, auntie, I should give up entirely if you disappointed me now," the invalid replied, with quivering lips. "I have just lived on the thought of your coming."

"Well, will you obey me?"

"Yes, auntie, but I hope you'll remem-

ber that obedience is not my strong point."

"But I have your promise, and that will do," said the nurse, cheerfully, "and now we'll see."

"Nineteen years old," Miss Harrington said to herself, "and confined to her bed eight weeks with malaria? Nonsense! A bad tongue, feverish, more emaciated than I had expected to find her, pain in her side, intermittent pulse, constant oppression of the chest, backache, acute headaches, cold extremities, and no appetite. And this is malaria? Nonsense, again! I wonder what the doctors did before the word 'malaria' came into use? I must ask this physician his reasons for calling this a malarial attack."

Miss Harrington was as good as her word, and forcing her opinions and her doubts quite into the background she started on a tour of investigation with an appearance of implicit faith in the ability of the medical man to answer her questions.

"Is there anything the matter with the plumbing?" the lady inquired.

"There isn't a sanitary precaution that your brother hasn't taken," the doctor replied.

"Do you know of other cases of malaria in this locality?"

"Oh, yes; malaria is by no means a rare product in this neighborhood."

"But it is very high and dry, and constantly swept by the sea breezes."

"Yes; very high and dry."

"And very gay," Aunt Mary suggested demurely.

"Yes; exceptionally gay."

There was a comical twinkle in the gentleman's eye that told of a quick appreciation of his companion's remark.

"And late hours, and thin shoes, and low necks, and salads, and souffles, sometimes induce malaria, I suppose?"

"Without doubt."

"Well, why don't you say so, then?"

Aunt Mary had kept her claws sheathed just about as long as was possible.

"A physician can not safely meddle with the private life of his patients, ex-

cept in extreme cases," was the unruffled response. "If I were to take the broad platform which you recommend," the gentleman added, "I should not only not do the least bit of good, but I should not have a patient left. My reputation would be simply that of an old busybody and old fool. But, madam, this is an excellent field for you, and I am sure we can work together with the utmost harmony."

"Perhaps you are right," said Miss Harrington, thoughtfully, "but I don't exactly see it. Of course, if your patients are all idiots, that settles it."

"You would scarcely call your niece an idiot," said the doctor, "and she is as fair a representative of the class as I could name."

After a few days of Aunt Mary's efficient nursing, her patient felt able to sit up, and her maid was directed to get together the necessary articles of wardrobe. Among the first things presented were a pair of black silk stockings and a pair of kid slippers.

"What are these?" Miss Harrington asked.

"Why, they are the newest style of slippers, auntie," said her niece.

"Paper soles and three-inch heels tapered down to a cherry pit in the middle of the foot. I presume you wear these all the time you are in the house."

"Why, of course, auntie."

"In the dead of winter as well as in the dog days?"

The young lady laughed merrily at her companion's old-fogyism. "Certainly. Just see how pretty they look with silk stockings."

"How many corns have you, Blanche?"

"Oh, only two or three little bits of ones. I send for a chiropodist once in a while, and then I'm all right for ever so long."

"A girl of nineteen with her feet in a chiropodist's hands!" said auntie, with a wry face.

"That isn't anything. Why, almost all the girls——"

"Not the slightest doubt of it," the lady interrupted. "You have nothing

else, I suppose, to put on your feet but these things?"

"No, auntie, and I wouldn't wear any others if I had."

"I have now accounted for your back-aches, Blanche," said Miss Harrington, "and we will proceed to eliminate the spinal column from the charge of malaria; it is perfectly innocent." And now the nurse examined the other articles laid out for use. There wasn't an inch of flannel to be seen; nothing but the finest and most elaborately beruffled and embroidered linen.

"And you do not own a flannel petticoat, Blanche?"

"What in the world do I want of flannels? You know I always go out in the carriage, and there are lots of warm robes."

"It is about as I supposed," said Miss Harrington, sadly. "Your break-down is due to perfectly plain and natural causes. There is nothing in the least mysterious about it. You have deformed your feet, weakened your spine, and consequently your whole nervous system, by the shoes you have worn. By a series of exposures you have reduced your vital force to such an extent that reaction was impossible without further prostration, and a complete cessation of irritating causes. Here are your corsets. How much do they measure, please?"

"Nineteen inches, auntie." The young lady was almost ready to cry now. "And they are a whole inch larger than most girls of my size wear."

"What is your size? Here is a tape-measure, and I will soon tell you. You have lost considerable flesh, and I shall have to allow for shrinkage. Twenty-three inches just as you are, Blanche. Think of it! A twenty-four-inch waist

squeezed into nineteen-inch corsets! We will now clear the heart and lungs from the charge of malaria. Your irregular pulse, the cutting pain in your side, your uneven and most inadequate respiration can be traced directly to tight-lacing. Now I have this to say, my child: I shall not permit you to wear one of these articles as long as you are under my care. If you will accept a pair of my quilted slippers, and allow me to wrap you up in blankets until you have some clothes suitable for a convalescent to wear, all right. If not, you must find some one else to take care of you. My time is altogether too precious to throw away. This may seem very cruel, Blanche, but I really think it would be far better for you to die now than to be nursed back to the old shameful conditions. There is nothing before you but a life of invalidism, if you decide to go on as you have begun."

"But how can I wear horrid old shoes and old scratchy flannels, and have a waist like a washerwoman's?" the girl asked, between laughing and crying. "You have not said anything about galoshes and leggings yet, but perhaps you'd like me to wear those?"

"Shall I get the blankets and my quilted slippers, Blanche?" Aunt Mary inquired.

"Yes; bring the gun-boats and the flannels," her companion replied; "and if you can find a few hen's feathers to stick in my hair, the resemblance to a Sioux squaw will be still more striking."

After this Miss Blanche had some lessons in physiology and hygiene, and very interesting and profitable topics they proved to be. She learned the reasons of things, and had sense enough to accept and utilize them.

BRONCHITIS.

A FEW hints on this common disease, now that we are on the eve of winter, may prove of service to the reader. Bronchus is a Latin word that literally means the windpipe. In the plural form bronchi denotes not only the windpipe,

but also all the branching passages through which air is conveyed to the air-cells at their numerous terminations. These bronchial tubes are lined—except the very finest portions—with a membrane whose office it is to secrete a thin

fluid mucus, whereby their walls are kept moist and soft.

Bronchitis is an inflammation in this mucous membrane, and while it may occur in any part, that most usually affected is the portion external to the lungs or the large tubes. Occasionally its seat is the small tubes, when, especially in the case of children and the aged, it is a serious malady, and has the name capillary bronchitis.

It has, like other diseases, two general forms, acute and chronic. The most fruitful cause is a sudden cooling of the body after it has been heated by exercise or sitting in a warm room. The exposures that produce colds cause bronchitis, and there is but a narrow bridge of separation between the two affections, so that the transition from a "common cold" to acute bronchitis is easy. We think that colds and bronchial disorders are as easily contracted by sudden changes from cold to warm as from warm to cold, and would caution people against going from a keen, wintry air after having been out in it for some time, into a highly warmed room. It is very common for people, especially women, who have been out on the street in winter, to rush immediately to the stove or hot flue as soon as they are indoors. It is always best in such cases for one to remain for some time in a room moderately heated. Susceptibility to "catch" cold is increased by rapid changes from heat to cold; but by avoiding these a sensitive person may take exercise in the coldest atmosphere without injury, provided he is well clothed so that the body and feet are kept warm.

In its acute form bronchitis commonly originates in a cold which affects the nasal passages, and then travels downward, giving rise to a dry cough, and causing a sense of tightness, a stopping of the nose, a slight fever, and a feeling of soreness in the chest. This lasts a few days, and constitutes the first stage. Then the expectoration, instead of being transparent and scanty as at first, becomes thick, yellow (or greenish), and abundant. The soreness gradually ceases

with the disappearance of congestion, and the person feels greatly relieved.

It is frequently accompanied with a cold in the head, but in the mild form bronchitis requires very little treatment aside from abstinence, and ablutions for breaking up the congestion promptly, and terminates in recovery within ten or twelve days.

If the acute attack is frequently repeated, and the general health is low, chronic bronchitis may result—which is, of course, a much more serious ailment. This is most common in old age. It inclines to persist for years, and even for life. Its characteristic is frequent fits of coughing, and an expectoration more or less abundant. If the smaller tubes are affected, the matter expectorated is more solid and tenacious, and is raised with much difficulty. The appetite may remain good (though it is often otherwise), and there may be no marked loss of flesh. It does not increase the liability to consumption, but, as Dr. Flint says, "perhaps the reverse." It is, however, mistaken sometime for consumption, just as consumption is sometimes mistaken for chronic bronchitis, as the general symptoms of cough, poor appetite, paleness, debility, and night-sweats are common to both maladies. A physician skilful in auscultation with the use of a stethoscope can usually determine with precision which of these a patient has, and as bronchitis seldom terminates in a sudden death, unless complicated with other diseases, the patient may hope to recover or be much relieved by the adoption of a careful system of habits founded on hygienic principles. Endeavor should be made to strengthen the system by nutritious food, and daily applications of water, and manipulations to throat and chest should be made to break up the congestions, free the air passages of morbid accumulations, and to reduce the inflammatory state of the bronchial membrane. The thousand and one "specifics," the expectorants so loudly advertised for bronchitis, are entirely uncertain if not for the most part arrant humbugs. A

celebrated allopathist says: "As a rule, the remedies which are given as expectorants are not indicated. The nauseant

expectorants do harm by their depressing effects, and by disturbing the appetite and digestion." D.

CHEAP ICE-CREAM.

VERY many lovers of the frozen sweet called ice-cream are not aware, and many will not believe, that lard and lard oil are extensively used by some popular manufacturers of the article to give it solidity and "staying" qualities. One feature, its cheapness nowadays, should make people suspicious. A Chicago druggist, in reply to an observation by an acquaintance to the effect that cotton-seed oil is much used, said: "Worse than that, they use lard oil, which is nothing else than the 'oleo oil' of the butterine trade. Contrary to the butter-making, though, the oil is not chilled by being run into tanks of cracked ice, but is warmed in steam jacket kettles to nearly the boiling point—200° Fahr. The milk—which is purchased from the creameries, is what might be called skimmed on both sides and partially in the middle—is also heated to about 175° Fahr., thus nearly equalizing the specific gravity of the two principal ingredients. To every five gallons of milk, costing 20 cents, is added eight ounces of oleo oil. After this is thoroughly mixed, there is an addition of 16 ounces of potato starch, which is cheaper than corn starch, and one-half ounce of gelatine. This whole delectable matter is then boiled in copper vacuum pans. The ingredients unite chemically much better in a vacuum than under atmospheric pressure, as would be the case in open vessels. Again the boiling point is lowered, and thus is prevented what has proved such an annoyance in butter-making—the suet flavor. Whatever should remain of that nasty flavor in the so-called ice-cream is killed by the flavoring extracts, mostly vanilla. Then the mess is congealed in ordinary freezers, and your

modern ice-cream is ready for the market. The average vanilla extract is made from the sprouts of the spruce pine, and a better kind is made from the tonka bean."

[We don't wish to disgust our readers, but will permit them to digest the above nauseating counsel at their leisure.—ED.]

GRAHAM STICKS.—Who that has eaten the long, spicy, crisp "sticks" that are placed by your breakfast plate by the attentive waiter of a Swiss hotel, will know the tempting character of well-made Graham "sticks." And this is the way to prepare them. One who knows thus humorously writes of her experience: "Mix together, and knead very thoroughly, not making the dough too hard, graham flour, sifted or not, as you choose, and cold water. Roll into pipe stems, and bake in a hot oven. That is all. The presiding genius of the kitchen looked on in wondering amusement. She said they could not be light without yeast, or soda, or baking-powder, or something to *make* them light; and they could not be good without salt or sugar, or something to flavor them. But they were light, and they were good, and every one was eaten with pleasure by the members of the family. They needed good chewing, but that gave us a chance to discover their full sweetness. No doubt they would be improved by the use of sweet milk as 'mixing,' instead of water, like the graham crackers we make. After feasting on these 'sticks'—I know how absurd this sounds to people who dote on 'good living'—I could not go back contentedly to yeast bread."

THE DEVELOPMENT OF THE HEART.

THE *Hamburger Nachrichten* has recorded the observations made on the above subject by the late Dr. Benecke, of Marburg. According to these investigations, the greatest and most rapid growth of the heart takes place during the first and second years of human life. By the end of the second year its bulk is said to be exactly double what it originally was. Between the second and seventh years it is again almost doubled. A slower rate of growth now sets in until about the fifteenth year, the augmentation of volume during the intervening seven or eight years being only about two-thirds. In the period of maturity which now approaches, the growth of the heart again makes progress, the increase keeping pace with the advance toward maturity of the other portions of the system. Thus, as compared with its size at the age of fifteen, two-thirds have been

added by the age of twenty. After the twentieth year the rate of development again becomes slower, but an increase in volume is perceptible up to the fiftieth year. The annual gain in bulk during that period is supposed to be about .061 of a cubic inch, and the maximum volume thus attained is estimated at from sixteen to seventeen cubic inches. Growth ceases after the fiftieth year is passed, and a slight diminution in the size of the heart ensues. This is regarded as a part of the general effects of approaching old age. As to the comparative size of the heart in males and females, it is stated that in childhood there is no difference of any note. When maturity sets in, the male heart develops more than that of the female, and the difference of from one and a half to two cubic inches thus established is said to be maintained throughout the remainder of life.

NOTES IN SCIENCE AND AGRICULTURE.

Sugar Production in the United States.—The statistician of the Agricultural Department, Washington, makes a statement on this subject that may surprise many. He says:

"We boast of our exports of products of agriculture. We foolishly talk of feeding the nations of the world. We do not feed ourselves. In 1883 we paid \$240,000,000 for food and drink imported, and the freights, commissions, and customs duties in addition; and our food exports, at prices on the farm and in the packing-house, scarcely sufficed to pay the bill of costs of such imports. A large item of this was sugar. Thirty years ago half the sugar used in the United States was produced in Louisiana. Is it possible that European agriculture can be threatened with paralysis by American competition, and that this country can not produce sugar on account of European competition? Less than a century ago it cost \$1 a pound to produce it there; now three cents. While we do not expect to manufacture it from sorghum at a cost of one cent per pound, or flood the markets of the world with our surplus of production in five years, it is fair to assume that the great maize-producing country of the world will ultimately obtain much of its sugar from sorghum.

"The cane regions of Louisiana, Florida, and Texas, by the aid of some process which shall not allow a waste of 40 per cent. of un-

expressed sugar, should aid materially in the home supply for the wants of consumption. In addition to the cane in the southern belt, and to sorghum in the great central zone, there is a belt along the northern frontier suited to beet sugar, and there has been no test that throws a shadow of doubt of success on the experiment. The Maine experiment was a successful manufacture, except that the farmers would supply the beets only from garden patches in insufficient quantities for economic manufacture. They lacked land in proper condition, rotation, fertilization, and high culture necessary to success; with all these requisites, experience in the cultivation of sugar-beets would be essential to full success. In California a single factory produced two to three million pounds of sugar last year, and has made it at a profit, for several consecutive years. If one can do it, so also can one thousand."

Economy in Extracting Gold.—

Two useful inventions are described in a London journal as promising largely to increase the quantity of gold extracted from minerals. One of these is an improved mercury amalgamating machine, by which the yield of gold is notably augmented, and most of the "float" or "flower" gold hitherto lost under the best processes is saved. What is regarded as still more important in this line is a very ingenious application of elec-

tricity with quick-lime and common salt, by which, as is claimed, the most intractable of auriferous ores are compelled to yield up their whole charge of precious metal. The rate of production, as proved by exhaustive tests made at London, shows about one ton per hour of ore for one small dynamo machine, and while the certified cost amounts to but a few shillings per ton, the value of the gold gained is said to average ninety-five per cent. of all that the ore contains—a most remarkable result, as compared with other methods. Here is encouragement for owners of Eastern mines, who have not been able thus far to make the product of reduction equal the cost. Let our Hudson River and Georgia friends be hopeful.

The Wages of Labor Higher.—

From the *American Inventor* we take this: "The following statistics were gathered from published statements of Mr. J. Schoenhof, the well-known free trade writer. In 1860 the average yearly wages of a farm laborer with board were \$130, which would buy 173 bushels of corn or ninety-three bushels of wheat. In 1884 the wages of such a laborer were \$150, which would buy 300 bushels of corn or 134 bushels of wheat.

"In 1840 the average yearly wages of a cotton factory operative were \$175, or four and one-half cents per hour (thirteen hours per day), which would purchase 1,936 yards of standard sheeting. In 1883 the average annual wages of such an operative were \$287, or eight and three-fourths cents per hour, which would purchase 4,097 yards of standard sheeting. In 1884 the annual wages declined to \$270, but would purchase 4,154 yards of standard sheeting. According to the census, the average annual earnings of employes in all manufacturing industries in 1850 was \$247; in 1860 they were \$290; and in 1880 they were \$346.

"These and similar figures establish conclusively that the earnings of labor, whether computed in money or by their purchasing power, have been increasing during the last half century; and that, contrary to what many thoughtlessly assert, the poor are growing better and better off—this improvement being shown by better living, better clothing, more of the comforts, conveniences, and even luxuries of life, and larger savings for those who practice self-denial. In periods of commercial depression there is a temporary recession, but on the whole there is a decided advance from decade to decade. It is noticeable that not only has this improvement of wages been secured in the last fifty years, but at the same time reduced hours of labor have followed. In the early part of the century American and English cotton factories run thirteen hours per day. Now English factories run ten hours per day, and in Massachusetts and Rhode Island the time has also been reduced to ten hours per day, and in most other States to eleven hours."

Unsettled Geography.—The world is hardly half discovered yet. An astonishing number of disputed questions in geography are awaiting settlement, and discovery seems to increase rather than diminish—a larger number of facts coming to light every year. Among unsettled and disputed questions is the source of the Irrawaddy, or rather whether it or the Brahmapootra receives the waters of the Sanpo. In the May Number of the Proceedings of the Royal Geographical Society is an elaborate argument by Mr. Robert Gordon in favor of the Irrawaddy view. He gives two important points of fact, as well as several arguments from accepted data. One fact is that the Salween is now known to drain the country formerly supposed to furnish the water in the upper Irrawaddy. Another fact is that the Chinese geographers, for twelve hundred years back, make the Sanpo the same stream as the Irrawaddy, and French missionaries and official Chinese maps confirm the statement. Strong as this argument seems to be, there are Royal Geographers who still reject it. Another disputed question is the size of Lake Mistassini in northeastern Canada. Estimates vary from a body of water as large as Lake Superior down to a sheet of water 120 miles long and 20 miles wide. These are samples of large questions in dispute. There are a large number of smaller ones. It would seem that geography should be the simplest of sciences, and that at this day maps should change only in political features; but in fact half the area of the globe is subject to geographical revision by the studious traveller. We have but scratched the surface of the earth, and do not yet know that much of it.

The Bridgeport (Conn.) Hand-Sewing Machine Co. is a new corporation now engaged in bringing out a novel and cheap sewing-machine. It consists of a pair of handles, pivoted like scissors, but carrying a needle, shuttle, and feed motion, forming a complete sewing-machine. By working the handles with the fingers the cloth is sewed with the lock-stitch in a very effective manner. These sewing-machines are to be supplied by the million at popular prices, say five dollars.

Fragments of Ancient Records FOUND IN EGYPT.—More than 30,000 fragments of ancient records have been dug up from the sands of Egypt, where they have rested embalmed during nine centuries, not very much the worse for their interment. The history of these venerable documents is remarkable. Prof. Karabacek supposes that they must at one time have formed part of the public archives of El Fayoum, and that the bulk of these archives perished in a great conflagration, such as destroyed the great library at Alexandria. The fellaheen of those days seem to have risen in revolt against their natural enemy, the tax-gatherer, and possibly they associated together the tax-collector and

the archives as emblems of the same extortion.

If Prof. Karabacek is right, they set fire to El Fayoum and its documentary treasures without compunction, and these 30,000 papyri and parchments, some of them charred by the fire, alone remain of the collection. Prof. Karabacek and his coadjutors will have their hands full of work for some time to come in classifying what has come to their hands. The Professor makes a preliminary division of the manuscripts into groups comprising eleven different languages, more than one of which will be absolutely new to the well-educated reader. It is not surprising to learn that the key for deciphering those of the manuscripts which are styled Meroitic-Ethiopian has yet to be discovered. Merely to decipher those fragments which are written in the more familiar tongues of Coptic, Hebrew, Syriac, Persian, and Arabian requires polyglot accomplishments far from common even among German scholars.

The very papyri on which most of these records are written are standing evidence of the oppression to which the fellah was subjected. The manufacture and sale of papyrus was a State monopoly, and it ended, as monopolies often do, in driving trade elsewhere. The day when paper began to take the place of the papyrus plant was perhaps the seal of the commercial decline of Egypt. But that all refinement was not crushed out of the Egyptians who peopled El Fayoum, may be inferred from the numerous fragments of manuscripts of authors comprised in the collection. Among them is a unique specimen of ancient manuscript—a fragment of Thucydides, supposed to be earlier by seven centuries than the earliest extant manuscript of that author. Altogether, the El Fayoum archives may be expected to prove one of the most wonderful discoveries in this age of discoveries.—*London Times*.

Cotton-Batting for Fruit Cans.

—It is stated that experiments have been made in keeping fruit in jars covered only with cotton-batting, and that at the end of two years the fruit was sound. The following directions are given for the process: Use crocks, stone butter-jars, or any other convenient dishes. Prepare and cook the fruit precisely as for canning in glass jars, fill your dishes with the fruit while it is yet hot, and immediately cover with cotton-batting securely tied on. Remember that all putrefaction is caused by the invisible creatures in the air. Cooking the fruit expels all these; and, as they can not pass through cotton-batting, the fruit thus protected will keep an indefinite period. It will be remembered that Tyndall has proved that atmospheric germs can not pass through a layer of cotton.

The Vaccination Controversy.

—At the Anti-Vaccination Congress in Belgium a very animated discussion took place

on the compulsory vaccination of immigrants into the United States. Great effect was produced by the exhibition of photographs forwarded by Dr. Dwight Stow, of this city, showing the terrible injuries thus inflicted on English immigrants into the United States. In one instance five immigrants, arriving in the same ship and vaccinated from the same lymph, were afterward affected with diseases which totally ruined their health and prospects in life. The Congress adopted unanimously a resolution directing the serious attention of the United States Government to this question, and calling upon it, in the interests of justice and freedom, to abolish the compulsory vaccination of immigrants.

Some Historical Facts about

GAS.—In the year 1798 William Murdock invented gas-light. During that year it was used to light some of the offices of the Soho Foundry, which had been completed by Messrs. Boulton, Watt & Sons, in 1796, and somewhat heathenishly christened "in the name of Vulcan and all the gods of fire and water." In 1802, at the Peace of Amiens, the front of this famous foundry was illuminated with William Murdock's gas. In 1809 Mr. Murdock was examined by a Parliamentary Committee, when a member asked the question, "Do you mean to tell us that it will be possible to have a light without a wick?" "Yes, I do, indeed," said Mr. Murdock. "Ah! my friend," said the legislator, "you are trying to prove too much." This is about a fair specimen of the fate of the men who have introduced light into this prejudiced world.

Spontaneous Fire—How Caused.

—Some peculiar instances of spontaneous ignition of various substances, with attendant losses of property, would appear to have been due to simple ignorance of the relations of animal, vegetable, and mineral oils to combustion. Prof. Attfeld points out that the two former are much safer than the latter, since they do not ignite at low temperatures nor give off vapor which, when mixed with a certain portion of air, explodes in contact with flame; on the other hand, in their liability to spontaneous ignition, when freely exposed to the air, under certain conditions, they possess a dangerous property from which the mineral oils are free. Then, too, the animal and vegetable oils differ considerably among themselves, in the rate at which they cause the generation of heat on being exposed to air, upon the surface of fabrics, shavings, or other materials, though all are more or less liable to this result when spread out in thin films, or in any other state of minute division. What are known as drying oils are particularly susceptible to such atmospheric influences, the drying itself consisting in the conversion of the oil into a kind of resin by the action of the air.



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AN AMERICAN BOTANY BAY.

CRIME and pauperism are increasing; the statistics of all our seaboard States, with the one exception of Maine, show a large advance upon the proportionate increase of population during the past ten years. In many of these States, and elsewhere in the Union, the necessity of providing further accommodation for the vice-bound, insane, homeless, destitute, incapable, and criminal, is a topic of annual discussion by county or State authorities, and adds fresh weight to the vexatious burden already pressing upon the tax-paying community in the city; and in the country imposing structures attract the eye of the stranger, and he is so often told that they are prisons or reformatories, or asylums, or poor-houses, or "homes," that if a reflecting man he is led to believe that half of American society is composed of the criminal, vicious, the unsound in mind or body, and paupers. That some of these public institutions are overcrowded in spite of the large appropriations made for building new or extending old structures, to meet the increasing demands of criminal courts, is shown by a report lately made of the conduct of a well-known reforma-

tory in New York. In that single place are over 1,700 persons, young men.

Every day fresh candidates for the prison-cell and its restricted food and severe discipline, are taken into custody by police authority. The newspaper reports of offences against civil and moral law form the most conspicuous items of "news" that they present to the public. It is common enough for the city man who skims his *Times* or *Tribune* while taking his breakfast to note three murders reported of the previous twenty-four hours, and he mentions them, if he makes any mention of them at all, with indifference, so common have the most revolting phases of homicide become through the agency of modern journalism.

Economists are ready with different plans for checking crime and for regulating prison management; all sorts of counsel and suggestion are proffered by the philanthropic. And it is probable that if some of these plans and suggestions were practically applied, they would prove beneficial to society and the criminal. Only a systematic, reformatory process that strikes at the origin of the evils under which society labors will accomplish permanent good; but such is the condition of public morality, and public sentiment in our large cities and more populous States, such the dominant type of political influence, that to attempt to carry into effect any measure of a radical character would be abortive. Half-way measures would prove worse than useless and expose their advocates to ridicule.

There are organizations at work with more or less energy that aim at fundamental changes in our social and political habits, but their principles, though excellent, are antagonistic to the ideas of personal liberty entertained by the dema-

gogues who control the masses, and consequently their efforts are vain so far as practical effect is concerned. Philanthropy is chiefly occupied in offices of kindness to the feeble and suffering ones who are victims of prevalent evils. Yet we find many tender-hearted, forbearing people ministering to the crime-hardened subjects of judicial sentence. In New York City and Brooklyn there are over three hundred and fifty societies and institutions for dispensing aid to the sick and poor, and sustaining reformatories for the vicious and those who have come under the ban of the laws. These charities do much good in individual cases, but they do not stem the rising tide, and their increasing number does not meet the demand that rises from the growing ranks of the miserable.

Albeit the tendency of sentimentalism, well marked in the work of many of these benevolent associations, is to regard the criminal as an unfortunate victim of circumstances, not a vindictive, cruel, brutal enemy to law and social convention; and if their gentle motives were carried into full effect the prison would become "a flowery bed of ease," and a place greatly to be desired by the citizen, who would not object to being delicately fed and housed at the expense of the community. How the sentiment of flower missions, and the visits of tender ladies with fruit and cakes, stimulate the ambition of the beetle-browed champions of the jimmy and pistol, was illustrated recently when eighty convicts of the Kings County Penitentiary struck and stood out several days, not exactly for higher wages, but for a better bill of fare and more leisure. The ringleader, according to the statement of Keeper William Smith before the

committee of Charities Commissioners, "demanded chicken, fruit, cake, and other delicacies as articles for frequent diet, and no work."

Among the influences that generate and perpetuate vice and crime, a very important one that is not sufficiently regarded by the average observer, is due to the convict class itself. Let one examine the motley throng at any sporting rendezvous on an occasion of special interest to the patrons of muscular prowess, a boat race between champion rowers, a ball match, a walking contest, and he would find through the courtesy of some experienced detective that many of those present whose opinions commanded the subservient adulation of the crowd, have served their terms in the penitentiary or State prison for felonious acts; and he will be informed that it is necessary to keep them under surveillance, as they are just as ripe and ready for the commission of crime as ever, and that the most of them live on the profits of villainy. The organized, deliberate attempts to steal and defraud that at times come to light, and furnish racy material for the newspaper reporter, are largely the work of ex-convicts, whose prison experience developed no moral check upon their propensity to wrong, but rather confirmed the evil bias of their minds, so that when free once more they were more ready than before to prey upon the peaceful and law-abiding.

While much has been done in some States in the way of improving the management of prisons, the discipline of very few of American penal institutions is of a character calculated to bring about a radical change in the morals of their inmates. A writer in a Brooklyn newspaper thus speaks of what he saw when visiting re-

cently the New York State prison at Sing Sing:

"It is enough to sadden any man to look at the fifteen hundred desperate-looking wretches at Sing Sing. They are close shaven, down-trodden, apparently hopeless, and utterly discouraged. They are not allowed to speak a word to one another under the severest penalties, and they work away with a dogged discontent that a man who has once seen them never forgets. It was rather impressive in itself to be among fifteen hundred men for hours, and not hear a single one of their voices.

"The abuses of Sing Sing have often been exposed and investigated, but there is still room for improvement. While I was there a poor, round-shouldered, sallow, and unhealthy-looking convict was brought in from the iron-foundry. He held a cloth, which was liberally stained with blood, to his left eye. The doctor pushed him over by the window, opened the eye, wiped out the spark with a steel instrument, and sent the man out into the yard again. His keeper ordered him off to the foundry. The convict fairly cried as he begged to be allowed to bathe his eye, or return to his cell for an hour; but he was sternly sent back to his work as pitiful, bloody, and unfortunate a specimen of mankind as I have ever yet seen."

It is possible that there may be a vein of exaggeration in this, as Sing Sing prison is considered well managed as prisons go, but if the treatment described were more severe seemingly than it really was, the inference reasonably drawn would be that the discipline at Sing Sing is in accordance with the common idea that prison life is one of servitude and punishment for crime. In the punishment of offenders society retaliates upon them for the wrong they have done; for so much crime so many years of confinement and such and such service. The culprit must not expect kindness and

comfort; he disregarded his duty as a man and a member of society, he trampled ruthlessly upon every moral principle, he became a human wolf despoiling his fellow-men of their property, and putting them in fear of their lives; he must be dealt with rigorously, rigidly punished. In some prisons there are stated times for religious service, but a little Bible-reading, a few hymns and prayers once a week, done often in a perfunctory manner, can have little effect upon a body of sullen, cowed, discontented wretches who go from the chapel to the place of labor or confinement subject to the exacting, if not abusive keepers.

As prisons are generally managed, the great majority of felons emerge from them at the expiration of their terms as bad as when they entered. Seventy-five per cent. of our convicts are men under forty. So when they are released the great majority are capable of as much mischief as before, and being hailed as veterans by their fellows their influence is stronger than ever, even to the extent of hindering the administration of justice and corrupting legislation.

We echo the wish of philanthropists when we say that the convict while in prison should be the object of well-organized moral teaching, but the experienced prison officer will reply that to combine such a system of punishment with a system of beneficence, that the proper moral instruction of the crime-stained involves, is a matter of great difficulty, and requires men of rare mental constitution to understand and apply. Such a man as Mr. Brockway at Elmira has been exceptionally successful, but Mr. Brockway's work is notably of the reformatory character, and he deals with young men, many of whom are not fully developed in char-

acter and capacity. And even with his experience and the best agencies at command, upward of thirty-five per cent. of those who come under his charge are considered incorrigible.

It is urged by some observers that the promotion of such institutions as this is antagonistic to the principle involved in imprisonment, that of punishing for crime. One writer says of the Elmira Reformatory that it is "a great educational institution, the entrance to which is through the door of crime"; and another who believes that the prison should be maintained as a place having an influence for the repression of lawlessness, asks, with sarcastic accent: "Which is the wiser policy, to let five thousand children of tender years and pliant minds run wild without instruction, and give a classical education to five hundred full-grown thieves, or to educate and care for the children and let the thieves take care of themselves?"

We have briefly reviewed the following points:

1. The increase of crime.
2. The rapid increase of the cost for the confinement and maintenance of convicts with its vexatious oppression of the tax-payer.
3. The inadequacy of the means for the reform of convicts while in prison.
4. Their favoring influence upon the growth and tendency of vice and crime in society at large.

In view of these points, the question arises, What shall be done with the criminal? The industrious, law-abiding tax-payer demands of government adequate protection against the malicious and reckless desperado and receives it not. Criminal courts and police authorities in large cities are unequal to the task

of suppressing acts of individual lawlessness. The necessity arises for a measure that shall be summary in its general effect upon the criminal classes and upon society, and be fundamentally conducive to good order and moral progress.

We believe that a system of transportation, incorporating the best features of the English and French methods, and including such provisions as are consistent with the spirit of our institutions, would prove of great utility. Alaska furnishes abundant territory for the purpose. Among her numerous islands are several large enough to accommodate all the convicts now in prison and five times as many more. One such island as Nounivah, with its temperate climate, good soil, fisheries, mines, and other resources, made the home of the convicted criminal, and properly officered and guarded, would ere long be studded with settlements, and the enforced industry for the necessities of life would promote the development of a better character in thousands who at home were regarded with terror. There religious and moral agencies could be established, communities and parishes organized, and much more effective work done for the reformation of the people than is possible in the close, constrained atmosphere of a State prison, or while they are free amid the licensed immoralities that prevail in our cities.

In a short time a small commonwealth would be formed, in great part self-supporting, and the expense of transportation and police supervision would be the chief items of audit; and they, as compared with the expenditures now annually made for the maintenance of prisons in the country, would scarcely exceed those of a single State. The relief that would be obtained by such a measure would be

incalculable. Society would breathe freer, moral influences would be less obstructed, the industrious poor would be less oppressed, the wages of labor would be more adequate to the labor, the instrumentalities of vice would have far less support, the returned convict would not find the old atmosphere and the old companions to inspire fresh deeds of villainy, but rather incentives and helps toward honesty.

Some of the sentimental goody-goodies, so common nowadays, may break out with a protest against sending the "poor creatures" to a far-away island, and compelling them to work for their own support. It would be "so cruel." In answer we would merely say that the men and women who first settled on the shores of New England, and who gave our country its best blood, encountered greater hardships than it would be the lot of the convict to meet on an island of Alaska. In labor for his own support the criminal will find the best school for his mental faculties, and wholesome exercise and restraint for those physical propensities that had taken on a corrupt and overmastering growth in the vicious surroundings of his youth. New purposes and impulses born of necessity will then have place in his life, and usefulness instead of idleness and self-indulgence will become a principle in his conduct.

We believe this proposition to be practicable and humanitarian, and invite its consideration. Alaska for the criminal.

RACE IN PORTRAITURE.

THE general interest shown in the death of General Grant, brought out in a striking manner the principle, which was discussed in an editorial of the last

Number, of the proneness to judge others according to self. The New York *Sun* describes the varied appearance of General Grant as shown by pictures of him, so very numerous displayed by store-keepers with mourning symbols. For instance:

"In a deep black frame in a shop window of an East-side Hebrew, there is a portrait of a bearded man in the prime of life, dressed in civilian's attire; his face is Jewish, and nothing but a pronounced wart on the right side of the nose, and a squarely-trimmed beard, indicate to the passer-by that it is intended to represent General Grant. . . . This style of portrait is very popular on the east side, and in Essex and Ludlow Streets, where the Polish Jews chiefly reside, very few others are seen.

"Further down town in the German quarter another portrait is displayed; it represents a German gentleman of middle age, clad in general's uniform, with a distinct Teutonic feature in every line of it. . . . In the windows of an Irish liquor-saloon there is shown a portrait of a middle-aged Irishman with a square beard, and the wart, short-cropped hair, and an expression of real Hibernian pluck about the corners of his tightly shut lips. . . .

"In the window of an Italian restaurant in Mulberry Street, a passer-by sees a picture of a young and dashing Italian officer whose moustache is waxed and hair trimmed in the prevailing military style of that nation."

The racial impression given in each case, as above shown, was an unconscious performance on the part of the artist. As a Hebrew he could scarcely be otherwise than Hebrew in his estimate of proportion in feature; and however much his method might have been modified by culture, still the Hebrew peculiarity of mind, which is as marked as the physiognomy of the race, would penetrate the

physiognomy of his portraiture. So, too, with the Italian, and perhaps in his case the fact that the Italian style has long been in the ascendancy among artists, would render the relative expression of the physiognomy more pronounced than in the work of artists having other blood than Italian.

The visitor to those collections of mediæval art that abound on the continent of Europe is always struck by the racial impression given to ideal forms. The representations of Christ, of the Saints, of Mary, of the Magdalenes, etc., always show the nativity of the artist. Take those old Flemish portraits found in the collections of Belgium and Holland, the features of Hebrew apostles and the Italian saints are all strongly Dutch, and sometimes the association of costume is grotesquely so.

In Italy the religious symbolism in portraiture is distinctly Italian; the features of the Disciples and of the Saints are regular, pyriform, soft and ideal, with few or none of the characteristics belonging to the strong motive temperament of the Hebrew type.

The artists drew their portraits of General Grant from the penciling of the sunlight, because his photographs by the thousand were scattered through the city, and while they handled the crayon or the brush the irrepressible personality of race would ooze from their finger ends and modify the tracings of the artist of nature.

It is probable that to the Hebrew such a portrait as has been described as prevalent in the Jewish quarter was the most acceptable, and in the saloons of the Bowery the Teutonic gentleman of middle age in uniform with the wart and beard was acceptable to the German fre-

quenters of the neighborhood; and so on with the others.

Each race has its ideal type of beauty and perfection in face and form, and in the last analysis each individual has his impressions of the perfect that may differ in some respect from those entertained by others. Therefore perfection is for the most part a term of comparison, and the standard raised on it must accord with the thought and sentiment of the individual and the community, the latter, be it Hebrew, German, Irish, Italian, English, or French, being the leading factor in formulating the type.

A WORTHY CLASS.

THERE are some people whose service to the community is of the very first importance. They are not learned as a class; they are not remarkable for brilliancy in conversation, or for any particular skill in vocations that are lucrative; they do not pose for anything that commands popular admiration, usually preferring to be among the spectators of a play and not of the actors. Wherever they are found their conduct is orderly, gentle, agreeable. They do not assert or contradict, but express their opinions on disputed matters clearly and kindly when it is necessary. As a rule they avoid controversies and oppositions, and their good-natured remarks soothe those who are inclined to take offence when opposed. They talk about things that do not arouse personal feelings; have little to say about themselves or their belongings, and touch very lightly on their personal grievances and tribulations, even when friendly solicitude inquires about such things. They appear to live mostly in the sunshine of life; although we may know them to be

the subjects of misfortune, we rarely hear of any allusion to loss or affliction, and then it is in such a cheerful, hopeful vein that we feel ashamed of our own proneness to the "blues" when events are not to our liking. In the society of these people we find ourselves drawn out of ourselves, or somehow we are led to take different and encouraging views of our surroundings, and to think that we have a calling or election to what we are doing. They treat us as if we were doing what we could; never criticise or blame us, although they may intimate pleasantly that in certain ways we can improve our work and be more successful. We do not feel in the presence of such people that they are superior to us, however much may be the help we receive from them; the help is for the most part almost indescribable and comes from them unconsciously, for it is the stimulus or

inspiration of their good-natured, kindly, cheerful, even temperament. They adapt themselves to us, talk about things we like to hear, and put out of sight the unpleasant and annoying, even if things occur in their presence that are vexing to us. These are the people who give to society its real light, joy, and happiness. As we have said, they are not as a class known for education, brilliancy, or genius, but they are happily organized and well balanced mentally. They possess that true culture that represses selfish tendencies, that is courteous, accommodating, and charitable at all times; and although no great exploits find place in the newspapers to give them fame in the estimation of the world, their quiet, steady influence does more positive and enduring good among men than much of the teaching heard from pulpit, desk, and platform.



To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE CONTRIBUTIONS unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

HUMBUG.—H. A. S.—The story derived from German sources, that the origin of the word *humbug* is due to a quack doctor by the name of Von Homborg, who acquired a brief reputation many years ago for wonderful skill in Philadelphia, does not appear altogether satisfactory. Authorities in orthography refer the origin of the term to the association of *hum* and *bug*; *bug* meaning the beetle, or rather an insect that hums and buzzes. So the word was employed to typify sound without sense, and is traced to about 1735, and occurs on the title-page of a jest-book published in about 1750.

WEAK NERVES.—C. F. S.—The best way to strengthen weak nerves is to adopt such habits as tend to nourish and build up the body. If

your life is much indoors, modify it so that you can be a great deal in the open air and sunlight. Eat food that is rich in solid nutriment; don't dissipate in any way, keep clear of all excitement, and get plenty of sleep. The different cereal foods are among the best for supplying constituents of bone, muscle, and nerve. Whole meal, whether it be barley, wheat, or oatmeal, will make good blood, suited to your purposes. The unhygienic habits of American people lie at the bottom of their prevalent nervousness.

COMBINATIONS OF ORGANS VERSUS PHRENOLOGY.—P. E. K.—The objection you quote as coming from one who knows something of mathematics, has a pertinent application. It is true that forty or more organs of the brain, by their incalculable combinations, are productive of an almost infinite variety of character and disposition; therefore, no two persons are altogether alike. The intricacy and extent of these combinations force the possession of much experience and study upon one who would be a scientific character-reader. This, you know, is altogether in accordance with the frequent assurances given in our pages, that no man can learn much of Phrenological science in a month or two and be a safe adviser. But it must be understood that people can be divided into a comparatively few classes, in accordance with the classification of the faculties: Social, Selfish, Moral, Intellectual, Æsthetic; and it is the predominance of the several groups of organs which constitutes these classes and so differentiates people. The marked and salient character of a man is dependent upon the predominance in his organism of a few organs, and give him his known individuality; they color his conduct; this fact makes the reading of character comparatively easy to the experienced. There are a few observers who are endowed with rare psychical powers, and these exercised with their scientific abilities, make them appear to be able to read the inner life of their subjects, to detect the "hidden purpose." Their power is indeed something above mere scientific ability, for that in itself has not reached the point of splitting up capabilities and detecting small biases of character, so that nice and delicate variations may be clearly defined. If the earnest student of Phrenology be endowed with unusual power of intuition, he will be successful in reading people very thoroughly; but the examiner who depends simply upon positive physical indications for the application of scientific principles, will not be able to go very much beneath the surface, although he can show clearly the practical bearings of character, and give advice of great value to his subject.

HEADS WITH UNEQUAL SIDES.—F.E.E.—When the inequality of the hemispheres of the brain is considerable the character is likely to be unbalanced, for the reason that in such cases the inequality is usually due to abnormal conditions. As we have stated before, it is frequently due to sick-

ness in infancy. Rickets or dropsy usually leaves an impression which the child will carry to his grave. We do not wonder, then, that the young men you have described were peculiarly marked in trait and conduct; they were one-sided, irregular, and unfortunate.

CALCULATION.—G. A. W.—Some examiners find a difficulty in the estimate of the development of a few organs in the lower range of the intellect. We think that so far as Calculation is concerned, there is no doubt about the location; the more experience one has in the observation of character, the more nearly perfect is his conviction that it is well placed. Cultivate your powers of observation, and with their improvement you will find yourself more capable of judging development.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

THE WORLD IN WHICH WE LIVE.—

These words, in this arrangement, are very significant; they are reminders to many of a varied experience, that is fraught alternately with joy and hope, and the woes and sorrows of life; such, in fact, as constitute the common realities of life.

Upon the world's grand stage the generations come and go, like a mighty army marching on to victory or death, with little apparent reason for their coming or departure. To-day, while we are so eager in our pursuits, we are walking swiftly in the tracks of gone-by generations. All the chambers of life are hung with tapestry wrought by their fingers, while the cadences of their last farewell still faintly echo in every passing breeze, and linger on every distant hill and wave. The mighty stream of time is swiftly bearing us on to a common destination; we may be wrecked, but we can not be delayed. At every pulsation of the heart a human being is called from the shores of time to the realm of evermore. Nor do they go alone; high hopes of human hearts have gone with them. Many a rapturous theme has perished with its author. The fresh dust is cold on many a breast that burned with fires that seemed immortal.

While I now write and turn to view our brief sojourn here, mighty movements are agitating the society of nations. The mechanism of human industries is no less active than it was when moved by the hands that lie nerveless in the shades of gone-by years. The movement of terrestrial affairs, gathering all the forces of life through natural agencies, and sending them through millions of living beings of every order, carries within itself the origin and destiny of nations as counterparts of a grand universal whole.

From the experience of mankind we are furnished with a record of failures and successes; from it we learn that all the doors of the world do not open into success and happiness, but many are the entrances into the avenues of crime and wretchedness, and the careless and unwary will naturally and unconsciously enter them. It takes no effort to enter the wrong road of life. All along are thousands of wrecks, that with precaution and timely effort might have been avoided, and the unfortunate thus wrecked might have been blessings to the world. All knowledge that would enrich the mind and make us useful, all those higher mental qualities that would refine our lives, and all those spiritual attainments that would give equilibrium to our powers—an equilibrium that constitutes happiness—are set forth as prizes to be obtained by earnest and unremitting effort. By all the motives that can be brought to bear our engagement in this effort is solicited. By the woes and wrecks of life we are warned of the many dangers that attend its pathway. Let us imitate the wise who have taken advantage of the favoring tide, and have been borne to success and happiness.

D. N. CURTIS.

WHICH?—"I differ *with* you in opinion; I differ *from* you in appearance."—*Handbook of Blunders.*

Wrong!—People differ *from* each other, not only in their appearances, but in their opinions also. We *agree with*, and differ *from*, others.

CRITIC A.

PERSONAL.

KING ALFONSO of Spain is described off-hand as a monarch who is "neither liked nor respected by any considerable portion of his people. He is a pleasure-loving king, brave, but narrow-minded, with a certain shallow brilliancy which impressed the Emperor Wilhelm of Germany, though it did not deceive Prince Bismarck."

EMERY A. STORRS, who died a month or so ago, was a remarkable character in the social life and politics of the West. He was small in body, quite round-shouldered and emaciated, and had a large head. As an orator Mr. Storrs was invariably interesting. Perhaps his worst fault was smoking. It is said that he burned frequently fifteen cigars in a day. No wonder he died.

Mlle. ROSA BONHEUR, whose pictures of cattle and horses are well known to the world, is short in stature, but robustly and broadly built, and she carries her head proudly. Her face is full of health and vigor, though her hair is fast turning gray. She still wears the latter cut and parted like a man's. In the studio and at home she wears the masculine costume; but it is said "her face restores a perfect womanliness to the whole figure—small, regular features, soft hazel eyes, and a dignified benignity

of expression. When she goes to Paris she dresses in the uniform of her own sex; but she never assumes petticoats without deprecating the custom, and complaining of their interfering with the freedom of the limbs, and thereby impeding the power of locomotion.

MARTIN FARQUHAR TUPPER, sometimes called "Proverbial Philosophy" Tupper, suffers the burden of age, broken health, and poverty in cheerful spirit, and occasionally contributes characteristic effusions in rhyme on current political topics to the daily press of London. Mr. Walt Whitman is a sort of American analogue to him, if what they say be true.

MISS MARY CALDWELL, who has given three hundred thousand dollars toward the establishment of a national Roman Catholic university, is a member, on her mother's side, of the Breckenridge family of Kentucky. We are waiting for a good bequest to establish our still more catholic Phrenological Institute on a permanent basis.

MR. JAMES WILLIAM DE FOE, the great-great-grandson of Daniel De Foe, is said by an English paper to be paralyzed, nearly blind, and in urgent need. Let all who have ever read "Robinson Crusoe" contribute a penny to the poor man, and he'll be put into comfortable circumstances.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

A SMALL-MINDED man looks at the sky through a reed.—*From the Japanese.*

A SERVANT thinks a man's house is principally kitchen; a guest, that it is principally parlor.

TRUTH is but a conformity to nature, and to follow nature can not be to combat truth.—*Wollaston.*

VIRTUE does not give talents, but supplies their place. Talents neither give virtue nor supply the place of it.

WHEN a man has no desire but to speak plain truth, he may say a great deal in a very narrow space.—*Steele.*

To become an able man in any profession, there are three things necessary—nature, study, and practice.—*Aristotle.*

HE submits himself to be seen through a microscope who suffers himself to be caught in a fit of passion.—*J. C. Lavater.*

OF all vanities of fopperies the vanity of high birth is the greatest. True nobility is derived from virtue, not from birth. Titles, indeed, may be purchased, but virtue is the only coin that makes the bargain valid.—*Burton.*

YET the resolute, the indomitable will of man can achieve much,—at times, even this victory over himself; being persuaded that fame comes only when deserved, and then is as inevitable as destiny, for it is destiny.—*Longfellow.*

THERE is evil enough in man, God knows. But it is not the mission of every young man and woman to detail and report it all. Keep the atmosphere as pure as possible, and fragrant with gentleness and charity.—*Dr. John Hall.*

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

EAT hash washing days, and be thankphull, if you have to shut yure eyes to do it.

DE quick man ain't allus de bes' han' ter do er piece o' work. De bes' rain comes from de slow cloud.

A LITTLE girl, busy in making a pair of worsted slippers, said to a young companion near her: "You are very lucky, you are; your papa has only got one leg."

"THERE's something in this cigar that makes me sick," said a pale little boy to his sister. "I know what it is," responded the little girl, "it's tobacco!" Hit it that time.

THE Texan editor and father who penned the following paragraph must have had a tough time: "If in proportion to size, a man could holler as loud as a baby, there would be no telephones needed in this country."

MRS. BROWN (in country post-office)—"Any letters for me this morning?"

Postmistress—"Nothing but a postal-card, Mrs.

Brown. I see your daughter expects to start for home next week."

FASHIONABLE lady on entering a railroad car—"Is this a smoking-car?"

Unconventional Traveller—"No, ma'am. The smoking-car is next to the engine. You can get there by going through the train."

"OUR children cry for bread!" was the motto on a banner carried by the Chicago socialists in a procession prior to a picnic a few days ago. At the picnic 300 kegs of beer were consumed. Yet they say the labor problem is unsolvable.

"I'm going to a masquerade ball this evening, and I want an appropriate dress," he said to the costumer. "What is your business?" "Oh, I'm a milkman." "Ah! then you'd better put on a pair of pumps and disguise as a waterfall."

MAUD—"Isn't this a queer title for a book, mother? 'Not Like Other Girls.' I wonder what she can be if she is not like other girls?"

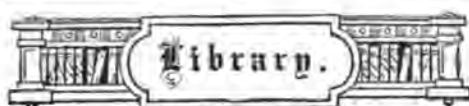
Mother—"I don't know, unless she goes into the kitchen and helps her mother instead of staying in the parlor to read novels."

A FEW days ago two men were in Smith's barber-shop. One had red hair and the other was bald-headed. Red-hair to Baldhead—"You were not around when they were giving out hair?" Baldhead—"Yes, I was there, but they only had a little red hair and I wouldn't take that."

WHEN Brown broke one of his wife's china tea-cups, she bewailed the loss in doleful strain. She was so sorry, she said; she had had that cup so many years. A day or two later a new lamp globe was broken. Then Mrs. B. was so sorry, because it was brand-new. If it wasn't for that, she wouldn't have cared one bit. Women are wonderful creatures, but their logic is more wonderful than they.



AN OLD GRANNY—THE TRUTH IN SHADOW.



In this department we give short reviews of such NEW BOOKS as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

INEBRIISM: a Pathological and Psychological Study. By T. L. Wright, M.D., Member of the American Association for the Cure of Inebriates. 12mo, pp. 222.

This is a discussion of the effects of alcohol upon the human constitution from the point of view of the physiological observer. It is therefore a calm, dispassionate, yet emphatic disclosure of facts known to physicians who make the study of inebriety a specialty. The author says: "Enlightened medical science teaches that the drunkard is liable to beget direful and hopeless ills other than drunkenness itself. Some of these are epilepsy, insanity, hysteria, neuralgia, and chorea. But inebriety does not stop with the production of the ordinary nervous and mental diseases. Through heredity it transmits an imperfectly organized brain whereby the exemplification of the moral nature is hindered in common with that of the intellectual capacity. Persons so organized may never partake of alcohol, and yet by birth and constitution they are many of them criminal in their natural propensities and predispositions." This paragraph may be cited as containing the key-note of Dr. Wright's discussion of alcohol. He aims to show clearly and logically the depressing, insidious, and destructive effects of the drinking habit upon body and brain, and its entailment of infirmities upon children. Against the moderate drinker, the man who never indulges to excess, but takes alcohol in some form almost daily, he brings this terrible indictment: that such a one "is the unwitting father, not only of a dreadful fate oftentimes to himself, but that from him especially, through organic nerve changes, which eventually become hereditary, springs not the inebriate and the lunatic alone, but not uncommonly the criminal also." Some facts bearing on this startling proposition are given. Here is a point for the jurist and moralist to consider most gravely. If alcohol produces criminals, then it is the duty of society, out of sheer regard for its protection, to suppress the promiscuous sale of alcoholic liquor. The matter belongs to common economics, and imperatively demands the most careful scrutiny of legislators. Dr. Wright's book is of the class to command respect, and should be widely read. Its argument is worth a hundred rhetorical appeals of the average temperance-advocate order.

THE SABBATH: Its Permanence, Promise, Defence. By W. W. Everts, D.D. Crown 12mo, pp. 278. Price \$1. New York: E. B. Treat, Publisher.

This volume is a practical consideration of the use and purpose of the Sabbath, or Sunday of modern time, and deserves a welcome as a very substantially constructed breakwater against the flood of Sabbath desecration that is sweeping over the country. The author is an enthusiastic advocate of its being observed in accordance with Christian methods, and marshals science, history, and Bible revelation in its defence. He thoroughly believes with Father Ravignan that "practical atheism can not be more thoroughly expressed than by the habitual, public and universal violation of the Lord's day." The advantages of its proper observance are set forth with much taste, order, and logical force, while he appeals to various classes of citizens, and to those of different religious sentiments to rally to the side of decent, religious conduct on Sunday as a course most favorable to public and private interests. In fact, the author in his zeal leaves no important phase of the Sabbath question undiscussed. He who would have the first day of the week kept holy will find in this volume a treasury of thought with which to strengthen and fortify his own sacred regard for the Sabbath, and to confound the careless and indifferent abuser of its advantages.

ONE MORE CHANCE; or, In Fallow. A Story of the Patience of God. By Mrs. S. M. I. Henry, author of "The Pledge and the Cross," etc. pp. 600, 16mo. Price \$1.50. New York: National Temp. Soc. and Pub. House.

An entertaining story for the young. We think it possesses more vigor than the average temperance tale, and will be likely to impress the reader. The characters that figure most conspicuously illustrate the principle that is enunciated in the book that receives attention above, viz.: that intemperance transmits a degraded type of intellect and morals and may impress a criminal instinct upon children.

THE COMPLETE POEMS OF CHARLES DICKENS. 18mo, pp. 147. Price, \$1. New York: White, Stokes & Allen.

That Charles Dickens possessed ambition for honors poetical, as well as fame for the delineation of grotesque character, is known to comparatively few of those who have read "Pickwick" and "Nicholas Nickleby." But he did write some creditable verses, both serious and humorous. In the latter he appears at his best; and although the day is long past when their point was most appreciated, yet we can still enjoy their piquant turns. "A Christmas Carol," "A Word in Season," "The Hymn of the Wiltshire Labourers," and some of the songs are worthy of preservation. The publishers have been at some pains to collect all that is accessible of Dickens' verse and give them to the great novelist's admirers with descriptive notes.

PUBLICATIONS RECEIVED

SLATE AND PENCIL PEOPLE, the Pictures by F. Oppen and the verses by Emma A. Oppen, is a series of rhymes for our little ones that will amuse them over and over again. The cartoons are funny enough, and in many instances show the skill of an old designer, with a good appreciation of what delights the juvenile taste. Large quarto, with upward of forty illustrations. Price, \$1.00. White, Stokes & Allen, publishers, New York.

IN THE HOMILETIC REVIEW for October Joseph Cook leads off with a paper on the question "Ought Prohibition to be made a Political Question?" Other interesting topics considered are "Evangelization of our Cities," "Biblical Illustrations in the Pulpit," the "Divorce Question," on "Ministers' Vacations," and "Leaves from a Preacher's Notebook." The Sermonic Section contains seven sermons in full or in outline. Other departments furnish good reading in variety. Funk & Wagnalls, New York.

THE EUREKA RECITATIONS AND READINGS. A collection compiled by Mrs. Anna Randall-Diehl, adapted for Day and Sabbath-Schools, Juvenile Organizations, Young People's Associations, Reading Clubs, Temperance Societies, etc. Price, twelve cents. J. S. Ogilvie & Co., New York.

RESOURCES OF ARKANSAS. Address of Thos. Essex, of Little Rock, Ark., delivered before the Southern Immigration Association of Nashville, Tenn.

FARM LIFE IN ARKANSAS. A Journal kept for 1884 on a Farm in Saline County; or, Every-day Life in and out of doors in Arkansas.

Ogilvie's Popular Reading, number twenty-one, contains: "Her Face to the Foe," "The Figure in the Corner," "A Bridegroom's Sin," "Ninety-nine Choice Readings and Recitations," and "The Diary of a Minister's Wife," by Almedia M. Brown. Price, 30 cents.

MISS MARTHA FINLEY, whose well-known series, the "Elsie Books," has been augmented annually by a new volume, comes forward this year with still another, called "The Two Elsie's," Dodd, Mead & Co., publishers. Since the first volume was issued, about seventeen years ago, "Elsie" has been carried on from childhood through life's various stages, until now new generations are considered.

LIPPINCOTT'S MAGAZINE for October opens with a well-written article describing sheep-raising in Texas and ranch-life in that section. "In a Salt-Mine," and "Roughing it in Palestine," are of the usual type, while "Turtling on the Outer Reef," and "The Second Rank," mingle anecdote with information on topics of natural history. "The Philosophy of the Short-Story" is the literary article of the Number. There is also a short account of General Grant's visit to Frankfort, with other short papers.

PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE. Thirty-third meeting held at Philadelphia, Penn., September, 1884. The Report, as published by Mr. F. W. Putnam, Permanent Secretary, comprises two bulky volumes, in which are condensed the more valuable papers that engaged the attention of the different sections of the Society. We are pleased to notice that the department or section of Anthropology is more extended than usual, and possesses a practical value to the student who is interested in human development.

THE POPULAR SCIENCE MONTHLY for October (D. Appleton & Co.) has instructive articles on Comets, The White Ant, The Early Study of Plants, and much that is worthy of a reader's attention on Malarious Countries and their Reclamation, The Metaphysical Society, The Trading Rat, and a Portrait and Sketch of Prof. H. A. Newton.

BOOK OF MORMON: Is it from God? Lectures delivered in the First Baptist Church, Salt Lake City, Utah, by Rev. M. T. Lamb, and published by request of His Excellency Governor Murray and others. Printed for the author. An unfavorable critical comparison that implies the fraudulent origin of the Mormons' sacred book. Price, 50 cents, cloth.

THE LIST OF COOK-BOOKS by that practical New York caterer, Thomas J. Murrey, still grows. He has lately added a handy little edition of recipes for "Breakfast Dainties," in which he prescribes methods for the preparation of fruits, bread in a variety of forms, eggs, potatoes, and the flesh foods. Price, 50 cents. White, Stokes & Allen are the publishers.

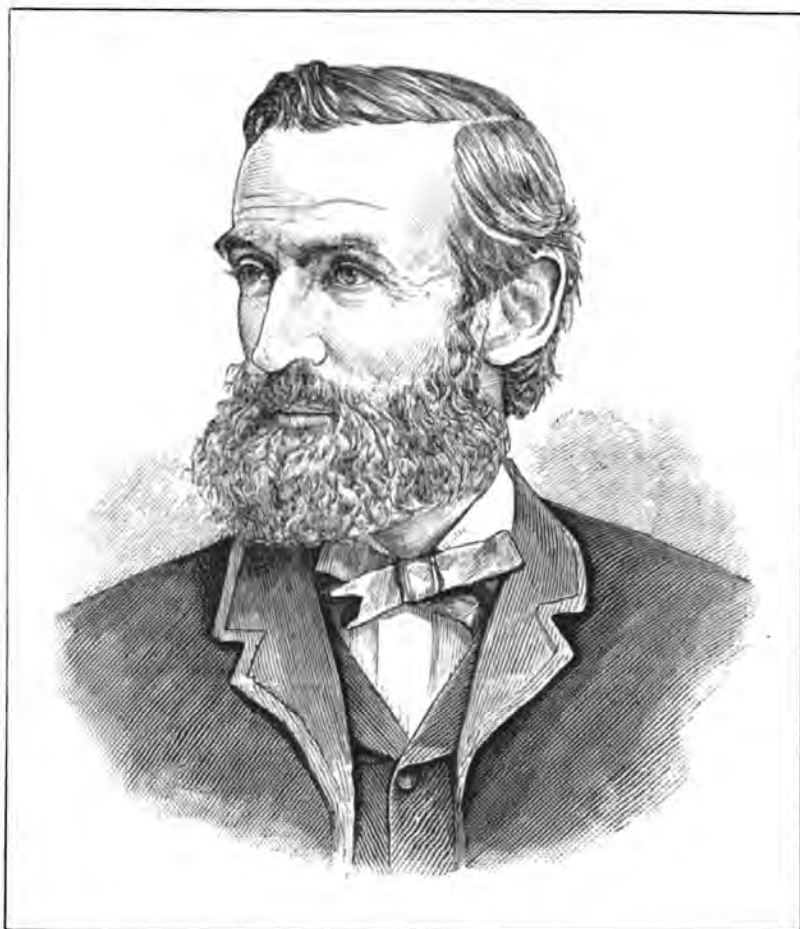
CURRENT EXCHANGES.—The United States Medical Investigator, Duncan Bros., Chicago; Albany Medical Annals, Albany, N. Y.; Our Little Men and Women, Lothrop & Co., Boston; The Western Rural, Milton George, Chicago; New York Tribune, Weekly; The Sanitarian, New York; American Electro-Clinical Record, Chicago; The Youth's Companion, Boston, Mass.; The Critic, New York; Cook's Excursionist, New York and London; The Musical Herald, Boston, Mass.; The Children's Friend, Philadelphia; St. Nicholas, Century Co., New York; The Christian at Work, New York; American Chemical Review, Chicago; The American, Philadelphia; Massachusetts Plowman, Boston; American Bookseller, Fall announcement, New York; The Standard (Baptist), Chicago; American Inventor, Cincinnati; The Theosophite, Madras, India; The Indiana Eclectic Medical Journal, G. W. Pickereil, M.D., Indianapolis; The Banker's Magazine and Statistical Register, New York; Virginia Medical Monthly, Richmond; The Dental Cosmos, New York, etc.; Scottish American Journal, New York; Cincinnati Medical News, J. A. Thacker, A.M., M.D., Cincinnati.

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HUBERT ANSON NEWTON,

PRESIDENT OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

A TEMPERAMENT in which the elements of the motive and the mental are marked, is at once discerned in the portrait of Professor Newton. At an early age the strong, fibrous characteristics of the motive were more sharply expressed upon the physiognomy in the lines of the forehead and the facial contours, but even now, after years of study and investigation, and of the necessary

activity of the frontal lobes involved by such employment, the motive temperament is still strikingly appreciable. It has imparted its influence to the life of our subject, rendering him vigorous, enduring, tenacious physically, and industrious, thorough-going, persistent, and emphatic mentally. Naturally inquiring, with a good development of the percepts, there is shown in the portrait a fine reasoning organization also; he is at once inclined to acquire facts himself, and to sift and try them in the laboratory of reflection. He is a man of force and emphasis, but deliberate and painstaking; not easily satisfied with results, unless when viewed on all sides they appear distinct and consistent. He is a careful man in all respects, watchful and earnest in his relations toward the world, appreciative of obligation, jealous of his integrity. There is also a strong vein of humor in his method of looking at matters, although it may appear in quiet hints, side-effects, and sarcasm. The head in the portrait appears elevated in the anterior part, showing the sentiment of kindness or sympathy to be active; and there is breadth evidently in the temples which declares him to be possessed of good judgment regarding the principles of mechanical art, and not deficient in practical economy. He would not be inclined to waste his strength or time in lines of speculative investigation, but as a rule works in the direction of his impressions, founding or confirming them upon practical or well-established principles. He should be a clear, accurate speaker and writer, with enough of detail in the exhibition of facts, yet no unnecessary verbiage, and with forcible and comprehensive argumentation that shows the weight and bearing of his facts in a strik-

ing and conclusive manner. He is guarded and particular in statement; hence arrays his data in such order that their support is well correlated for the demonstration of his premises.

Involuntarily the public doffs its hat and bows deferentially before the teacher whose record reaches back over long years of patient faithfulness. If to that faithfulness be also added the fruits of earnest research and continuously advancing study, the deference deepens into the most profound respect.

Just such an one is the subject of this sketch. It has been said of him, "His outward life has been uneventful." It is well, indeed, that occasionally an able man is permitted to pursue "the even tenor of his way," without meeting the cyclones, earthquakes, and floods of change that generally keep a man of brains stirred up. For forty years Prof. Newton has been a resident of New Haven, devoting all his energies to his professorship. His occasional visits to Europe have resulted in personal friendships, and amiable relations with eminent mathematicians.

Academic honors have fallen upon him through merit and all unsought by him. Many years ago he was elected associate editor of the *American Journal of Science*. He was one of the original members of the National Academy of Sciences. He is a leading manager in the Winchester Observatory of Yale College. The degree of Doctor of Laws was conferred upon him by the University of Michigan in 1868.

While Professor Newton occupies a high position as an authority on mathematics, as an astronomer he has won still greater distinction. His name is now and will be always associated with the discovery of the laws of meteoric showers; enveloped in mystery when he set to work to investigate them, they are comprehensible now.

While Professor Newton was an undergraduate, Professors Olmsted, Twining,

Herrick, and others were intently studying the phenomena of shooting-stars, their interest therein being aroused especially by the extraordinary display of November 13, 1833. Other men, eminent in the scientific world, had attempted investigation into the cosmical origin of the November meteors and the true explanations of the radiant zone, and its position relative to the earth's orbit had been settled by Olmsted and Twining after the shower in 1833. To Professor Newton, however, is due the honor of taking the first sure, definite, and successful steps toward conclusive proof. He collected and analyzed previous observations, pointing out the method for obtaining the true orbit.

The laborious computations necessary were made by Professor Adams, of Cambridge, and the orbits of thirty-three and one-fourth years were established. Professor Newton's papers on the subject in the *American Journal of Science* have become classical. His later papers on comets are of equal ability and originality with those on meteors. In 1864 he contributed to the publication of the National Academy of Sciences a paper in which he endeavored to show the laws which govern the movements of sporadic bodies. Summaries of what is now known of meteoric laws have been contributed by him to "Johnson's Cyclopædia" (1877) and to the "Encyclopædia Britannica," Vol. xvi., 1883.

Professor Newton has ever been a firm advocate of conservative ideas in all matters pertaining to the advancement of education and science. He has never sought popular applause; when called upon, however, he has upheld what he believed to be right with commendable courage and persistence.

In his election to the presidency of the American Association, that large body has honored one whose title to the distinction is of the most desirable character—valuable contributions to knowledge, gained by difficult and patient study, guided by a well-trained mind.

HOUDON'S CAST OF GEORGE WASHINGTON.—When Jean Antoine Houdon visited America a century ago this year, he was considered one of the leading sculptors of his time. He had a weakness for the false classicism of the period, but was a master of the mechanism of his art. He came to this country with Benjamin Franklin, and the most important work he performed was the making of a cast from life of General Washington, to whom Franklin introduced him, and whose guest he was. The Father of his Country posed with commendable patience for his artistic friend. He submitted to being anointed with oil and having quills inserted in his nose; suffered, in short, one and all those inconveniences which fall to the lot of the individual when the mould-maker takes him in hand, till, finally, Houdon produced a cast from life of his head and bust. Three-quarters of a century afterward Clark Mills, while visiting at Mount Vernon, found this cast, grimed with dust and defiled by the careless hands of servants. Mills recognized the work and appreciated its value. He suggested to Col. Custis, then the custodian of the house, that he make a clean copy of the bust for him; and having done so, kept the original for himself. During a visit of Wilson McDonald to Washington, Mills, in an accession of hospitable generosity, presented him with the cast, and McDonald brought it to New York, and some ten years ago disposed of it to Judge Maurice J. Power. The judge had a mould made and cast it in bronze, and the completed work has been on exhibition in New York. It is a powerful and characteristic portrait, not of the smirking and philanthropic old woman of Gilbert Stuart's picture, but of the man born to command armies and exact homage from great men. The strong and massive head has the firm foundation of bone under it, the furrows of thought and care mark the broad brow, and the lips have the set determination of a warrior and a ruler. The hair lies in broad masses, brushed back and well

greased to keep the plaster from sticking to it. The neck betrays in a certain looseness of the skin the advance of age upon the original. The bronze is a superb reproduction of a most successful cast from life, and as a bit of individual portraiture has no rival. Houdon's own bust of Washington was remodeled in France

after the life-cast, and the sculptor altered it to suit his taste and the artistic fashion of the time. It is an ideal Washington, as much a Frenchman as its maker. The real one will do more to perpetuate Houdon's fame.

[We have seen this cast and can subscribe to all the writer has said about it.]

ON INDICATIONS OF CHARACTER IN HANDWRITING.—No. 3.

HAVING now cleared the way for the more serious and practical part of the study of Graphiology, I will plunge immediately into it by taking up the alphabet, and guiding the student to a knowledge of the significations that are to be attached to the various methods of forming each letter.

But ere I proceed further I would like to make due and full acknowledgment to the articles upon this subject from the pen of Miss Baughan, which appeared in a London magazine about ten years ago. Some of the illustrations used by her are not to be surpassed by any at my disposal, therefore I have not hesitated to use them, although in some few cases my delineations are somewhat different from those she has given.

In mastering the elemental principles here laid down, it should be the student's constant task to compare the illustrations given with the handwriting of intimate friends. For in this way, better than any other, can it be seen whether the alleged association between a certain form of writing and a certain trait of character really exists. There is not much to be learned from the formation of any single letter, and as a rule far less from the small letters than the capitals. Yet the study of the small letters will well repay the few moments' labor necessary to be spent upon them, and then—after a short dissertation upon the finals—the capitals shall come in for a more extended examination.

angel
1.

The first illustration, *angel*, is from Leigh Hunt's "Abou Ben Adhem." The carelessness in fail-

ing to join the curve of the letter indicates listlessness and general indifference when carried through the whole of the writing. A single omission to make the "join" would mean little if anything, but where it is the habitual form of the writer it will generally be found that he lacks energy, and is a careless, easy, nonchalant individual, who puts himself as little out of the way of ease and comfort as possible.

The second, *day*, from William C. Bryant's "The Poet,"

day
2.

and *paid*, from a private letter of Thomas Cooper, the eminent English lecturer on Christian evidences, are indicative of a flowing sequence of ideas and a graceful ease of expression.

paid
3.

Whenever an "a" is thus joined to the preceding and following letters, the indication is that of an easy, flowing mental habit, such as all readers of Bryant's poems and listeners to Cooper's lectures would expect them to possess. The two *a*'s, 4 and 5, show in their angular outline tenacity of purpose, or determination

a
4.

a
5.

in carrying out a started project. 4, being made of thick, bold lines, indicates obstinacy and firmness whether in the right or wrong, while 5, being combined with elements of grace and tenderness, would need to be perfectly assured of the right ere the "foot would be planted." Then, indeed, would it be firm, but not before. The former (4) is from the pen

of a railroad president, and the other from a literary lady, whose productions are of the strictly useful order.

The letter "b" gives scope for the exhibition of two or three marked traits of character. Where the lines are angular and thick, a dogged tenacity of purpose

is shown. Where the loops are open, as in the word "liberty," from

one of Whittier's poems, there is an open disposition and lack of secretiveness. If this openness is combined with graceful curves, the indications are of refinement and grace that can not help giving vent to poetic expression.

When the down-stroke is constantly written without the loop, firmness and dignity may be expected, combined with energy.

A simple form of the letter "c" is an invariable sign of a poetic mind, but the small letter is not so expressive as the capital, which affords scope for the exhibition of vanity, conceit, pretension, and qualities of a similar nature, more than almost any other letter.



The letter "d" reveals much from some people. Fig. 7, *dei*, is from the writing of an Italian

music-master. Imagination is shown in the eccentric form, and excess of vanity by the absurd flourish. Whenever this excess of flourish is found, no matter how graceful, poetic, or even strong in other good qualities, conceit and self-esteem in superabundance will invariably be

found. In Fig. 8 is a "d" from a short letter of Florence Nightingale's, a c-

ompanying one of her reports to the English war-office, in 1858. It is in great contrast to the preceding. Its indications are tenderness, generosity, and sweetness; the first, indicated by the sloping line of the up-stroke, the last by the rounded and gracious curves of the final.



The small letter "e," being the most common letter of the alphabet, and occurring so often as a final, has great significance to the graphiologist. Fig. 9 is from the writing of



a naval officer, who died young. Imagination and ardor are shown by the extraordinary upward movement of the final of the letter,—such extravagantly long strokes upward always revealing an almost foolhardy disregard of danger,—“this, with the constantly ascendant lines, is seen in the handwriting of most military men who have achieved a position; it is also, to a certain extent, to be seen in the handwriting of Miss Florence Nightingale, who certainly has shown a noble, though not perhaps foolhardy, disregard of life.”

When the letter is formed in an angular manner, and the loop seldom appears, secretiveness and dogmatism will generally be indicated. When the terminal stroke of the letter is angular, and made up of short, broken lines, it denotes extreme finesse.

The downward tendency of the "e" in Fig. 10, shows an indolence of disposition, combined with an economic spirit, evidenced in the abrupt termination. This former sign also reveals a disposition to despondency, and were there not energy and other redeeming qualities evidenced in the writing, this character would be one of the shiftless order that would be too despondent ever to try to obtain work, and too lazy to do it, if it were obtained.



The last "e" I will give, Fig. 11, is from the pen of one of the most celebrated materialistic spiritual mediums of the world. This form of letter reveals great secretiveness, cautiousness, and finesse. There is also great shiftlessness evidenced in a writing that "glides along," as this does all throughout.



As far as I have now gone I have dwelt

somewhat fully upon each letter, but it is not necessary to speak so fully upon those that follow, unless it be some individual letter that reveals indications not possessed in common with others. For the general indications are practically the same, and it is only to the special qualities that any reference need be made.

For instance, an open, curved, sloping "b" indicates the same as a similarly constructed "f," and so on throughout the whole series of the letters.

As suggested above, the letter "f" is governed by the same rules as "b." The open curves and sloping lines indicate a poetic ardor and tenderness, while the straight and upright lines denote the reverse.

The small letter "g" has more significance, even where it is not a final, than many other small letters of the alphabet, as the formation of the terminating down-stroke is capable of giving very decided indications of the character and aptitudes of the writer. For example, when the down-stroke is long and sloping, with a graceful curving return leading on to the next letter, (see Fig.

general
12.

12, from Bryant's "The Poet,") such a form denotes a sweet,

sensitive, and tender nature, with easy sequence of ideas. If, on the contrary, it terminates angularly, it indicates penetration, (see Fig. 13, from the signature of Robert Brown-

Browning
13.

ing, the great poet). When it ends with a short, rounded curve, a very kindly, though not so sensitive, nature, but possessing great tenacity of purpose, as evidenced in Fig. 14,

right
14.

from J. G. Holland's writing. A long down-stroke, ter-

minating with a curve, thick at its base, as in 15, from a letter of Lord Shaftesbury's, indicates the refined qualities before spoken of, but combined with an

having
15.

iron will. When the termination is a straight line, with no return stroke, and quite fine at its point, it denotes economy amounting to parsimoniousness.

The letter "h" is subject to the same rules as "b" and "f," but should it terminate abruptly with a thick down-stroke it would indicate obstinacy, and a disposition to yield to anger.

The letter "i" has not much significance except as a final, when it is subject to all the rules now, and subsequently to be, given for finals.

The letter "j" follows all the rules for finals, but shades of character may be gleaned from the manner in which the dots are placed over both the "i" and "j." If the dots are evenly placed, neatly rounded, and rather close to the letter, the writer is careful, cautious, and calm; if, on the contrary, the dots are flying away from the letter, and of hurried, angular shapes, the writer is probably of a careless, quick, ardent temperament. As has been before said, one indication of a certain character is not enough, but it will generally be seen that where there is much movement (that is, where up-strokes and down-strokes fly about in all directions) the dots of the letters "i" and "j" will follow suit. Of such a writing, ardor almost to recklessness is the prevailing characteristic.

The letter "k" follows the rules of the letter "h," although the various methods of forming the terminal part of the letter reveal more than the "h" possibly can do. In the "k"

(Fig. 16) of Wilkie Collins' signature, great boldness and vigor are shown

Wilkie
16.

rather than artistic grace and elegance; while in Fig. 17, from the signature of an Episcopal bishop,

A
17.

we see firmness in the strong down-stroke and finesse in the delicate line connecting it with the next letter. Fig. 18, from the signature of Mark Hopkins, of

Mark Hopkins
18.

Williams College, denotes a vivacious energy, combined with considerable determination and firmness; the former seen in the rapidly constructed loop, and the latter by the concluding stroke of the letter, which

is made with evident vigor and firmness.

The remainder of the small letters and the significances of the finals I will give in my next article.

GEORGE W. JAMES, F.R.A.S., F.R.H.S.

SELF-ESTEEM AND APPROBATIVENESS.

THEIR FUNCTIONS, CULTIVATION, AND RESTRAINT.

SELF-ESTEEM.

THIS faculty is connected with the brain which lies in the middle line of the crown of the head, beginning where the head begins to round off from the top posteriorly, and extending downward about one inch. When large it gives distance from the ear to that region, and causes the head to have an upward and backward inclination, as shown in the illustration.

It is the function of Self-esteem to give a feeling of one's own importance and power. It gives self-reliance and a disposition to act independently of others. It is the prime element in leadership, and seeks positions of power and command. It imparts dignity, self-respect—that degree of self-confidence and self-satisfaction that enables the other faculties to act to the best advantage, freeing the person from restraints imposed by fears of incompetency.

It is the main element in pride, and, when excessive, leads to a very high estimate of one's own capabilities and worth, making him conceited, haughty, and imperious; but when combined with a good degree of the conforming or moral faculties, it gives a disposition to live above the mean and ignoble, and seeks to attain the worthy and exalted.

A writer on this topic says: "We often see individuals manifesting this propensity in a most ridiculous manner; putting themselves forward, confidently assuming superiority, and getting themselves into conspicuous situations, while it is obvious to all but themselves that they are miserably deficient in the qualities necessary to fill an important station. It is aston-

ishing to see the success which sometimes attends the ambitious efforts of men of inferior talents, when acting under the influence of Imperiousness (Self-esteem). Others, with gigantic intellects, give way before them, astonished at their impudent pretensions and disgusted with their egotism and ignorance. If their



SELF-ESTEEM LARGE.

favorite hobby is one which is complicated and difficult to be understood, such as theology, medicine, or politics, they generally gain the ignorant over to their opinions by the loud, confident, and imperious manner in which they assert them, and the supercilious haughtiness with which they bear themselves toward others."

Deficiency in this faculty causes diffi-

dence, bashfulness, inefficiency, because a lack of faith in the capacity of self, and on account of irresolution, indecision, over-submissiveness, and dependence upon others. The faculty is usually a leading one in the male character, and it is this more than anything else that gives the manly spirit. In woman, though not deficient, it exerts a minor influence. For this reason they shrink from responsibility, and few of them will take positions in which the load rests upon them entirely, and some will take them only when forced to do so.

Cultivation.—This feeling, if properly directed, is one of the highest attributes of man, and its deficiency one of his greatest defects. When it is strong it should be properly directed, and when weak should by all means be strengthened as much as possible. If a child is wanting in self-confidence, his parents and teachers should avoid discouraging him in any way. They should give him little tasks at first which they know he can accomplish. And the best encouragement which they can give him is to impress him with the idea that *they* fully believe that he can do what is required of him. When the pupil is deficient in the faculty, it is very strongly impressed upon those who see him that he is incapable, and it is difficult for a teacher to make himself believe in such a pupil. Yet the teacher should not show this feeling, but by word, manner, and deed show faith in the child.

When you call on such a pupil to recite, do it with a downward inflection, as much as to say, "There is no doubt that you will get it just right." Even if it be a failure show no disappointment, and on the next day call on him for something which you know he can give; and if it be a success, show perfect satisfaction in your manner, or say as much in words. By all means do not indicate by your manner that you think, "Oh, it's you! I expect nothing from *you*, but it is my duty to call on you."

The important thing to do to these diffident pupils is to establish self-confidence. All other things are subordinate

to this. Though you store such a head full of knowledge, it is utterly useless; for it will not do him nor any one else any good. But let a modest boy arouse his lagging Self-esteem to action, and his modesty will afterward be a strong point in his favor. Children deficient in Self-esteem believe with indifference that they can not do what others can; and the greatest good that can be done to such is to establish self-confidence in them. When they get started they work with greater zeal, being urged on by this newly awakened hope, that is exhibited in such bold relief on the background of their former despair.

Restraint.—When you find a pupil who is swelled up with ideas of his own importance you will be tempted to humiliate him, to bring him down from the lofty position in which his conceit has placed him. But this is a wrong course, except in extreme cases. Pride when humbled by pride becomes a smouldering fire which will do harm. Pride can be best counteracted by reason and respectfulness. If you tell a boy that he is conceited and proceed to put him down by authority, he may submit; but he will hate you, and do just the opposite from what you want him to do, even if it is against his own welfare. You manifest only a quiet dignity, and in the most respectful manner bring evidence to his mind that he overestimates himself; he will consider the matter, will see his own folly, and will regard you as his friend.

If a pupil shows signs of contempt for you and what you require of him, very quietly and without any show of authority put him to the test, if you can do this in any of his studies. Should he not solve all the problems in the lesson, and give as his excuse that they are such simple things he needs not to solve them, you can send him to the board, not showing that you think he can not solve them. By thus putting him to the test, you can demonstrate to him most effectively that he lacks something.

Few things are so destructive of a teacher's success as the weakness which

results from too much or uncontrolled Self-esteem. But few can receive a little authority without showing to others how it swells their pride. They exhibit it by manner, word, and deed. By their exhibition of authority on occasions when it is unnecessary they arouse opposition and revolt. The teacher should always do what he does from motives of justice, kindness, and propriety, and use his authority only as an assistant to these motives. Self-esteem thus tempered by justice, kindness, truth, and humility, will give a quiet dignity that wins willing respect and glad obedience. Keep self under and let the love of truth and the love of the pupil's welfare be uppermost in all your acts.

Self-esteem acts in conjunction with the other faculties, and the teacher should seek to get it to act with the better motives.

Self-esteem with the animal propensities will cause the person to pride himself upon the powers that they give. Combined with the higher faculties it will cause him to pride himself upon his power to do the noble and good. If a pupil shows this faculty in a high degree, tell him that true honor and dignity must be based upon right and noble deeds; that all others are unworthy. Thus make his pride a fastening-point for right and honorable conduct. If it is necessary to reprove him for an unworthy act say to him, "You are an intelligent and promising boy, you have the ability to do much good and to make yourself a useful and respectable man, or you can throw yourself away in an unworthy and degraded life." His Self-esteem will say yes to everything of that kind. Then bring up the conduct in question, and appeal to him whether or not it be worthy of him, or whether it is not a thing to regret. In this way you turn pride from a bad to a good course. You will make him your friend, and he will put himself under your guidance.

THE LOVE OF APPROBATION.

Location.—This propensity is connected with the brain on each side of Self-esteem.

When developed it gives width and elevation to the upper back-head, as in the illustration.

Function.—This propensity seeks to gain approval, admiration, and reputation. It is one of the chief forces in the human mind to adapt the individual to society. Self-esteem is necessary to give confidence in self, to give a desire for authority. Approbativeness is necessary to compel self to seek the approval and good-will of those who can confer this



APPROBATIVENESS LARGE.

power and authority. It causes men to seek fame and glory. If Self-esteem be large, it will seek it in positions of influence. With the higher sentiments it seeks renown through philanthropy. With the animal propensities and physical strength, it seeks reputation through feats of strength and superiority in physical courage and moral depravity. With strong intellect, it seeks renown through scholarship and wisdom. With Acquisitiveness, it regards riches as being the greatest cause of glory. Whether the ambition to be known of men be for good or

bad conduct, depends upon the strength and education of the other faculties. Like Self-esteem, it is one of the leaders of the other faculties,—that is, it is one of the leading motives in conduct. When excessive and not controlled by sound judgment, it gives rise to vanity. Vanity is the inordinate desire for attention. When this faculty is large and Self-esteem small, vanity lacks dignity, and its possessor will stoop to unworthy acts in order to attract attention. If he tries to be witty, he makes *himself* the object of laughter instead of what he *says*. These clownish acts are the more despicable because the fact that they proceed from vanity is very apparent. The tone and manner express clearly that the desire for applause is the motive.

Cultivation.—If one wishes to control others, this is one of the motives to which to appeal; for most men care more for what people say of them than they do for whether they are in the right or in the wrong. Say to many a reckless young man, "It is wrong," and he will laugh at you. Say to him, "It is green," he will consider it seriously.

To win the pupil's confidence and esteem is of the first importance to the teacher. When he has these, by means of approval and disapprobation he can guide the pupil into whatever course he wishes. A good deed deserves recognition and approval as much as a man deserves his pay when his day's work is done. When the child makes an effort to do right the teacher must not neglect to recognize it. He need not do so in words of praise, for this begets vanity, but he can do so by a look, a smile, or, best of all, by some expression of confidence. You must avoid giving praise as pay for a good deed, rather give your sympathy. Show that you are made happy. Say to the child, "You have been a good child, you have had your lesson and now you are happy. Are you not? Yes, and I am happy with you. It makes us all happy when every one does right." The child will get to doing right because it pleases you, and not because it wins praise. To

do good to make others happy is a right motive, but recognition is necessary to encourage this motive. But to do good to be praised for it is an inferior motive and should not be made a leading one in conduct. If the child loves you (it is your own fault if it does not), what a power you have over it! Every time you use your power for the child's good you make it happy and increase its love for you.

It requires tact to administer approval rightly. It requires still more to apply reproof. If you administer it as reproof you make the child angry and thus destroy the possibility of improvement. If you disgrace the child publicly you destroy its self-respect and ambition and undermine the foundation of character. To make an example of a pupil for the purpose of deterring others is heathenish and is only necessary where people are in that state. It is enough for children to know that every wrong is recognized and dealt with. Let reproof and punishment be in private. When you reprove in private you should be free from anger, should be actuated by a feeling of good-will toward the culprit. In tones of kindness and sympathy get him to acknowledge that he has done wrong. From the very nature of the mind in a normal condition the knowledge of wrong will cause sorrow. When you see that the child repents, show him that you sympathize with him; that you, too, are sorry. By all means avoid showing that you hate the child for wrong-doing and are punishing it to satisfy your own feeling of revenge. If you have brought about repentance, that is enough. When the child feels that it deserves punishment and expects to get it, you can say that is all you want. If it is sorry, you know it will not do wrong again. By kind words you can convince it that you freely forgive. The sorrows of the child will then be turned to joy and its heart will go out to you as to its best friend. So if you manage it properly, you can make occasions of reproof opportunities for increasing the child's love, and of making it more steadfast in the right.

(For remainder of article see page 352.)

THE HIGHLAND HOME OF QUEEN VICTORIA.

WE present to our readers in this Number of the JOURNAL a few sketches of points of interest surrounding the favorite home of Queen Victoria, situated in the highlands of Scotland. The name Balmoral has become almost as familiar to American readers as that of the fortunate and appreciative owner.

and tenant in all that vast estate receives at the hands of her sovereign, whose womanliness has won for her more enduring praise than her position or accomplishments have.

Balmoral, in its present stage of beauty, is largely the outgrowth of the harmonious tastes and love of domesticity for



GLEN MUICH AND NEIGHBORING MOUNTAINS.

Leaving Windsor Castle for Balmoral, the Queen leaves also, in a large degree, the cares and anxieties, ceremonials and paraphernalia of court life, taking up with joy her favorite rôle of the helpful, sympathetic "lady of the manor."

Daily walks and rides amid such marvellous scenery, where nature's wondrous skill is as yet almost unmarred by the needs of men, would doubtless prompt the heart to kindly deeds; such as every cottager

which Queen Victoria and Prince Albert were noted. It is not strange then that the memory of the happy days spent there should prompt the Queen to write of it as "this dear Paradise." The castle is built in the Scottish baronial style of architecture, the material being a light gray granite, quarried on the estate. At the eastern end of the castle rises a massive tower, the summit of which is 920 feet above the level of the sea. From



QUEEN VICTORIA'S HIGHLAND HOME, BALMORAL. GENERAL VIEW OF COUNTRY.

that elevation the views are varied, grand, and impressive.

The collections of paintings and sculptures contained in the roomy corridors of the castle are valuable and interesting. A fine bust of Doctor Norman McLeod has been given a place of honor with the statues of Burns' "Highland Mary" and "The Lady of the Lake." Balmoral castle stands on the right bank of the

Loch Muich, which is a large body of water hidden away in the heart of the mountains, and overshadowed by threatening precipices. Sombre and awesome though it be, the scenery is bright and cheerful compared with that surrounding Loch Dhu, which is hemmed in by sheer granite walls, an enduring expression of nature's sternest moods.

On the north shore of Loch Muich



THE FALLS OF GARRAWALT, AND SUSPENSION BRIDGE.

river Dee, some fifty miles distant from the city of Aberdeen, and nine miles from Ballater—a popular rendezvous of tourists to those romantic regions. Ballater, with the famed hill, Craig-an-darroch, and the Morven range, closes the lower end of Glen Muich, a wide and romantic valley, running up into the Grampians. The Loch-na-gar group of mountains rest their granite feet on the edge of Glen Muich, and cast the shadow of their precipitous heights on the sombre surface of

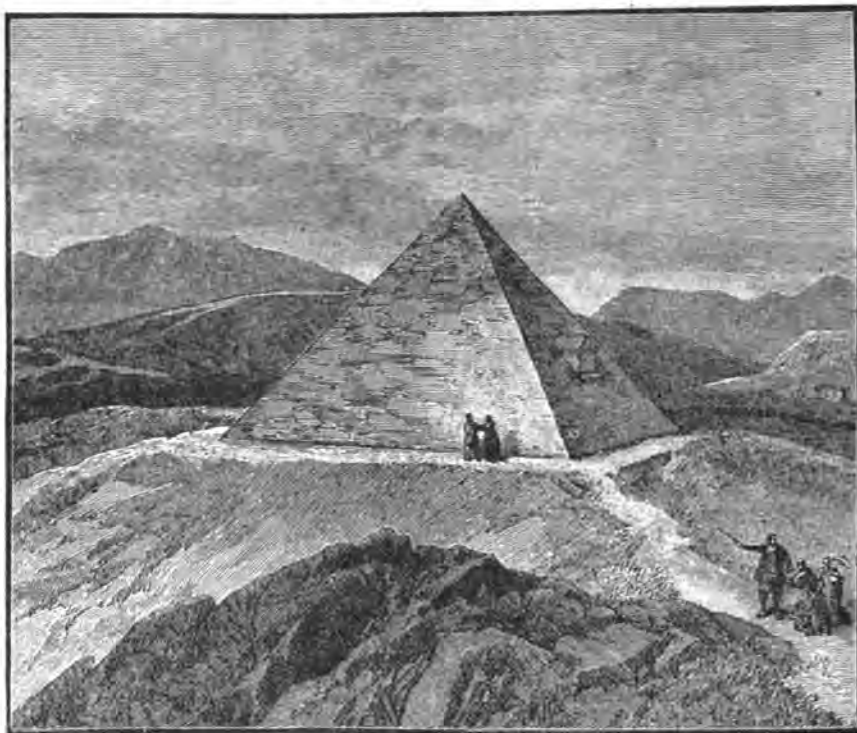
stands the Royal Lodge. The demesne is of such extent as to demand a resting-place for the family, who never weary of exploring the beauties of "the everlasting hills." To Balmoral proper belong ten thousand acres, one thousand being woodland; in addition to that are thirty thousand acres of "deer-forest," which in their wildness and grandeur would delight the heart of the most enthusiastic and venturesome sportsman.

At the foot of the towering peak, stand-

ing so boldly against the sky, with the summit record of 3,789 feet above the level of the sea, Loch-na-gar sleeps tranquilly, always of icy temperature and crystal clearness. It was from the shores of Loch-na-gar that Byron gazed upon the mountains and wrote of "their steep frowning glories."

The falls of Garrawalt, as pictured here, give but a faint idea of the many charms waiting to ensnare the admiration of the beholder, and impress him with a deep

turrets. A clock and bell ornament one of the turrets; the loopholes are quaint, and suggestive reminders of antiquity. For many years the Dee was crossed at Aberfeldie by a rope-and-cradle bridge, but recently a very substantial and effective suspension bridge has been placed there, relegating the primitive mode of transportation to the past. "The glory of Aberfeldie" is the birch woodlands, celebrated in song long before Robbie Burns wrote his "Birks of Aberfeldy."



THE CAIRN OF THE PRINCE CONSORT.

sense of nature's liberal handiwork. It is a place in which to meditate, a place that the student who loves solitude could never forget, when his heart would join in the song of the water pouring swiftly over the granite fragments; finding sweet solace in the unworded music voiced by the birch forest trending away so grandly from the falls.

Some two miles below Balmoral, on the river Dee, stands Aberfeldie Castle, a genuine specimen of the ancient Scottish feudal mansions; it has a massive square tower, with picturesque angle-

The valley of the Dee, from Craig-na-Ben, near Abergeldie, shows "the hill of hanging" in the foreground; Balmoral Castle, the suspension bridge, and Craithie Kirk in the centre, with the hills of Braemar to the left.

Craithie Kirk, a severely plain little Presbyterian church in the village of Craithie, is a point of interest to the tourist, for there, with unfailing punctuality, the Queen and her household attend divine service while residents at Balmoral.

A grim sentinel, guarding well the

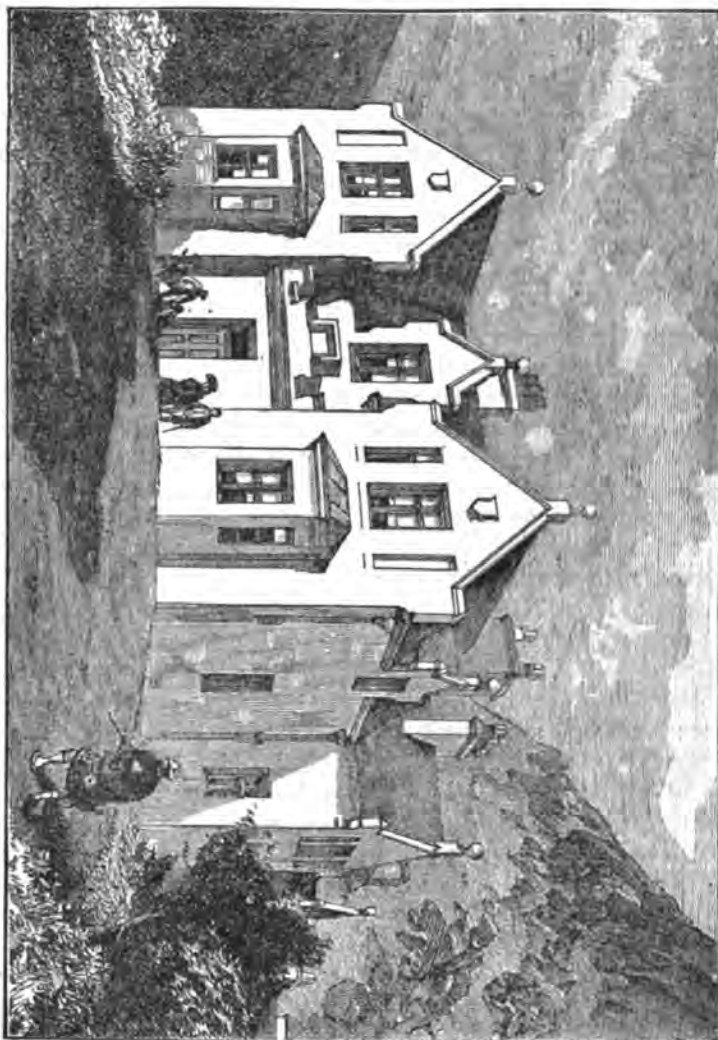
mystery of its past, is the old "standing stone" by the roadside near Balmoral Castle. Many antiquarians agree that it must bear some relation to feudal jurisdiction, and the adjudication of the sentence of capital punishment upon the criminals who met death on "the Hill of Hanging."

On the summit of Craig Lourigan,

cut on separate blocks of the granite. A good pathway has been made along the mountain side winding up to the cairn. Many tourists have felt themselves amply rewarded for the toil in ascending the Craig by the charming views which extend from it in several directions.

To those who enjoy wild, grand scenery,

HUNTING LODGE OF THE PRINCE OF WALES.



near Balmoral, a cairn has been erected to the memory of the Prince Consort by his widow. It is a finely-proportioned pyramid of gray granite, built without mortar; the position of the tablet of inscription is shown on the right, beneath which, in a long straight row, the initials of every member of the royal family are

who do not hesitate at the prospect of a long, wearisome climb, the highlands in the region of Balmoral offer many attractions. To watch the upward climbing of the sun above the lofty hills, and the deepening of the shadows in those romantic vales, as day declines, is to gather a store of pictures of which one will never tire.

FORCE OF CHARACTER.

THIS heading has, we admit, a somewhat hard appearance and sound; but be not dismayed, oh, most gentle and appreciative reader! we do not mean to give—first, a definition of force; secondly, the various kinds of force; thirdly, define character, and so on, to fourthly and fifthly. We wish rather to advert to the undue importance frequently given to force, in comparison with duty, amiability, affection, generosity, faithfulness, courage, patience, discrimination, self-denial, and disinterestedness, all of which are requisite to form a truly harmonious and beautiful character. Then, to what purpose are so many parents and teachers continually harping on the subject of force, or grit, or spunk, or of independence, utterly neglecting those traits which should *precede* and be *concomitant* with them? We have felt sorry when we have heard those characteristics so unduly exalted in the presence of the young and docile, and more especially in that of women, who would not be commonly called on to exercise them. There are a few of us whose lot in life it is to pass through strange ordeals, in which force of character may well come into play; and there are, of course, more common occurrences in which, in its due place, it is inestimable; but it is the making it the *ne plus ultra* of character to which we object, which, as exemplified in daily life, results in abrupt, uncourteous manners.

We have seen handsome young women distort their pretty mouths, toss their heads as well as any theatrical chamber-maid, and some even redden their eyes, to give an idea of their force of character. Instead of producing in us the desired impression, we were simply shocked to see how natural tendencies had been injudiciously nursed. Some persons doubtless have a vague notion that this assumed independence is an evidence of intelligence, when it is a perfect impediment in the way of progress; and its being so common deprives it of even the questionable merit of singularity. Now, we do not wish to go into the other extreme on the subject, and have girls fool-

ishly dependent; but we do think that a young woman who was not brought up on this one idea of independent force of character, would seem very fresh and natural, and even have a better chance of being original, in some quarters, in comparison with those before described.

We read lately a passage in a discourse of a very eminent divine whose force of character is remarkably developed, in which he much depreciates those young ladies who are deficient in this wonderful force, and says that the world would not miss them, etc. Now this is, we think, extremely ungenerous in one as highly gifted as himself; besides, the remark about missing is of no value. It can not be expected that the world should miss us all; it is just these unobtrusive, amiable, or undemonstrative persons that the world does *not miss*, who help much to fill up the picture of life, and coarse and hard it would be without them. It is neither tasteful, necessary, nor possible for all to stand out prominently in the front-ground of the picture. What would a landscape be without any perspective, any background? We should bless God for those women who are not missed *outside* of the home, and in whose quiet obscurity they are content to remain.

We do not wish everything to be rough, jagged, and fierce physically; neither do we desire, morally, that all should be severe, stern, and forcible. We do not wish our shrubs to be changed to oaks; our pines and spruces to California cedars; our sea-side pebbles into huge rocks; our little snow-drops and violets to dahlias and sun-flowers; our gentle zephyrs to blighting east and north winds; all our undulating grounds to cold Alpine heights; our cats to tigers, or our house dogs to wolves or hyenas.

We should not attempt to make our children prodigies; we should not desire or require that our daughters should be Didos or Judiths, or that our sons should be Catalines, Cæsars, or even Washingtons or Wellingtons; but we should train them up to perform generous actions, and to meet evil with courage and calm-

ness, as much as is possible for their nature and sex, which should never be overlooked; and then if they are geniuses do not doubt that they will manifest themselves.

Force, unconnected with tenderness or gentleness, is a mere monster which ever seeks for something on which to exercise its vast strength and fierce desires. It was this force which was typified in past ages by the giants—a form of brutalized humanity—who, however they might tri-

umph over the innocent and unprotected for a time, were eventually slain or taken captive by the brave and gentle knights, working in the name and through the power of love. It is the marriage of force and love that produces a harmonious character, although it is altogether better for variety that the love should predominate in some and the strength in others. We would have each in his place, developed according to his natural power and position. GRACE H. HARRIS.

TRIBUTE TO SPURZHEIM.

SAN MARCOS, Texas, April 18, 1885.

EDITORS JOURNAL: The following lines were written by me in 1849, and published in the *National Era*, of Washington, D. C. I have often thought of re-writing them for your pages, but for want of time the purpose has as often gone over.

SPURZHEIM.

UPON Columbia's farthest eastern shore,
'Neath fair Mount Auburn's dim funereal shade,
There is a tomb 'graved simply with the name
Of him who sleeps beneath; but 'tis a name
To shame all empty words of vain applause—
To bow the heart in silent reverence.

It is a spot where man may cast aside
The bonds which narrow and debase the mind;
Forget the boundaries of realms and states,
The names of country, kindred, caste, or clan,
The tyranny of party and of sect,
The ill-assorted, artificial things
Which hide from him the knowledge of himself;
And, standing in the presence of his God,
Assert a kindred dignity, and feel—
Though tottering on the pedestal of Truth—
He is a column of divinity!

Humanity, thou mixture of extremes,
Of strength and weakness, dignity and shame!
Thy proper models are not wholly lost—
Thy true exemplars yet remain with man:
So moved Aristides in Athens' pride;
Such Socrates, and good Epaminondas;
And such, in unapproached pre-eminence,
Stood the last Cato of the Roman State.
So, to the fame of Bacon and of Locke,
Towering above their lost and pigmy race,
Is linked the glory of SPURZHEIM's name:
Great souls, unlimited by clime or clan,
The common property of all mankind.
Nor is the last the least; earth's annals long
Afford no better model of a man;
This is his name, his eulogy: A MAN!
His mission, to teach others to be men

Not monsters foul of bestial appetite,
Not animals concentrated all in self,
Not visionary dreamers, high or low,
Not merely intellectual prodigies,
Nor any other partial nondescripts:
But to draw out *the whole*, in order fair
As the Ideal came to him from God.
Such was the great Philanthropist and Sage,
Meanwhile in manners simple as a child.

And still the structure he designed survives—
And will survive, for Truth is its support—
The universal and eternal test
Of Man, and all his powers and wild extremes.
Here relics of past ages, barbarous, dark,
Shall meet their condemnation; hoary forms
Of error stand rebuked; man learns his rights,
And honor them in man; Vice hide her face,
And Superstition quench her baleful fires.
Here shall the just proprieties of life,
And all the social feelings of the soul,
Receive their proper sanction, and pursue
Their true direction; empty Fashion shrink
Into her native folly; and Affectation
Doff her frightful mask. Thus rising Man,
Redeemed from Ignorance and perverted powers,
Knowing his public and his private rights,
Blest in his social and domestic ties,
Shall in his native dignity stand forth,
In harmony with himself and with his God.

Columbia! giant empire of the West,
That hold'st the ashes of this wondrous sage,
Wouldst thou fulfil the hopes that rest on thee?
Then shrine his counsels deep within thy heart!
Learn there, that the true grandeur of a state
Is based upon the knowledge, moral worth,
And happiness of Individual Man.
High were his hopes of thee; and here, content,
He closed his pilgrimage of Light and Love,
And laid himself to rest from all his toils.
My Country! wouldst thou flee thine own disgrace,

Or lead the high progressive march of Man,
Guard thou his dust and keep his counsels well!

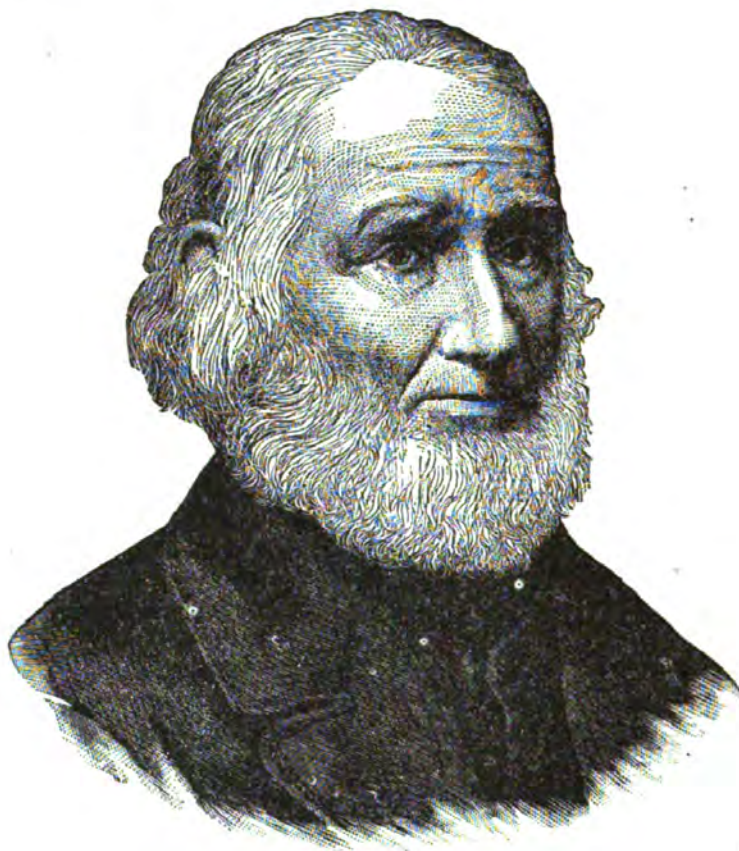
ISAAC H. JULIAN.

BIOMETRY.

THIS new word for a new department of science, named by the Hon. Wm. Cassidy, of Albany, now deceased, from two Greek words, *Bios*, life, and *Metron*, a measure, may be rendered—"The Scientific Measure of Life."

The correct pronunciation of this word,

those who find thereby that they have promise of a long life, and of course a great opportunity for usefulness; while it has a needed monition to others to use wise precautions in adjusting their plans for life in accordance with its probable short duration. Moreover, it will aid in



DR. ANDERSON.

according to modern *elite* usage, divides it thus—Bi-om-e-try, but its derivation is more conspicuous if thus-wise put—Bi-o-met-ry, or Bio-metry.

Prof. Sizer, speaking about this science, says: "As most people have an instinctive desire to live, whatever may be developed looking toward a scientific estimate of the length of life, can not fail to be gladly received as an important step in an unexplored field, rich in comfort to

a most important manner in the proper adjustment of a safe, honest, and just method of life insurance, by which the naturally long-lived may be insured for what it is worth to insure them by themselves, and not be doubly and trebly taxed to provide means for paying losses on the naturally shorter-lived, who by a larger premium should pay enough to liquidate the losses of their own kind, even as higher premiums are always more prop-

erly made upon frame than upon brick houses."

The advantages of this study are then quite evident, and certainly no branch of science is more interesting to all men, whatever their condition.

We shall therefore proceed, and by means of the two illustrations, Dr. Anderson and The Baby, upon opposite pages, will show how easy it is in young or old persons to discern the indication of long-livedness when they are decided.

These two beautiful pictures, made by the photo-engraving process, specially to adorn this article and to instruct its readers, are from real life, the doctor being eighty-four years of age when his picture was taken, and the doctor's baby but six months old.

Probably no one looking at these two very natural portraits would at first see any family resemblance between them, much less suppose that they are father or even grandfather and child. But after reading the above-said expression, the doctor's baby, and so it is, the baby will, by many, be found to verify exactly the features upon the opposite page: "Dear little thing, it looks just like its father"; and so it does, but that doctor is not Dr. Anderson. The name of the father we are not permitted to give.

At the time the picture of Dr. Anderson was taken—namely, when he was eighty-four—it was prevised that he would live to be ninety-five, or thereabouts. He died seven or eight years ago, when he was ninety-six, plus.

Does the reader see in the configuration of the two heads any proportional resemblances?

There are several that are striking, and that give the baby a right to expect to live as long as the old gentleman did.

We will notice at least four that appear at the very surface of the head. The reader may, if he pleases, compare points in which they differ. They certainly are unlike in regard to beard, and in some other respects there are differences not quite as conspicuous.

The four respects in which they evi-

dently agree are: (1) Both are broad through the head from side to side, between points just in front of the ears and a little above the level of the orifice, that is, points close to the ear and just above the ridge of bone leading back from the cheekbone to the ear; (2) the distance from the bridge of the nose to the orifice of the ear in each picture is comparatively long; (3) the eyes are wide apart; (4) if a line is drawn around the head so that in front it rests upon the eyebrows and in the rear it presses the occipital protuberance, or if in the absence of that land or head mark, it comes around the rear of the head at the point where it



THE BABY.

begins to curve toward the neck, and if then from this line at a point over the orifice of the ear we measure down to the orifice, we shall have a distance that is unusually long in both these portraits—that is, in them the orifice of the ear is low down on the side of the head.

When a child has this measure (4) long, it is sure to live through all infantile and children's diseases, with little trouble to others, and without danger to itself. If this measure from the orifice to the line around the head is short—say not more than half an inch—the child can not "live to grow up," and there is no use in trying to "bring it up." The trunk of The Baby is large around and long, as is evident, and as the measures

of its head would indicate; while the features of the doctor indicate like facts in regard to his lower regions.

The ancestry of The Baby are, and have been, very healthy and long-lived on both sides, and they have given to him a right to climb up into the nineties. "Long may he wave."

The ancestral life of the doctor is unknown to this deponent, except as seen through his formation; this affords ground to warrant that it ran high on both sides, especially upon the mother's side, and it is evident that he chiefly takes after her side.

He was born in England, and came to this city at an early age, where he secured a good medical education. But, like many others, though delighted with its study he was not pleased with its practice, but took up for his life's work wood engraving, and as he was the first in this country to do any work of that kind he had to be self-taught. He was, on account of his education, especially fitted

to give satisfaction in illustrating medical books, and most of those years ago were enriched by his labors. Forty years ago he did some very excellent work for the writer of this article.

He was a very pleasant, sociable man, familiar with New York as it was at the beginning of this century, and during the war of 1812-15. He lived and worked, then, "way up-town," on the north side of Fulton Street, between Nassau and William, in the third or gable story of a frame house long since burned down, and with it all his tools and other accumulations; and as fire insurance was then unknown, he had to start in life again by getting credit for his tools, and going to work with greater diligence than before.

In another Number of the JOURNAL will be given the internal conditions of the doctor and of The Baby, by virtue of which the external indications above mentioned are produced.

T. S. L., M.D.

IS IT WORTH WHILE?

IT was my fortune at one time to find a home in a refined, Christian family where everything was done for the comfort of me and mine, and where I passed a few happy months. It was, in short, just such a place as we all seek when temporarily obliged to give up the pleasant cares and the enjoyments of house-keeping, and to resort to boarding. In this family were two young daughters who were attending the high-school, and fitting themselves to follow what had hitherto been the lifelong vocation of their parents—that of teaching. Their entire education, with the exception of one or two years of schooling elsewhere, had been received from their parents.

The mother, a delicate woman, did all the housework for twelve or fourteen persons with such little help as her busy girls could spare from their studies, or her husband from his day's employment.

Often she nearly fainted beneath the burden too heavy for her frail shoulders,

yet she never thought of taking one of her daughters out of school to assist her, notwithstanding she could not, or believed that she could not, afford other help. It was her boast that they had not been late or absent once during the entire year, and no motive was sufficiently powerful to induce either her or them to break this record.

So faithful were these sisters to study, that from three to five hours a day, in fact all their spare time, were given to study. They rose early to pore over their books before breakfast, and toiled late by lamplight, sometimes until midnight.

I often pitied the elder, who was thoroughly domestic in her tastes and really enjoyed household tasks, and to whom lessons were a hardship. To the younger, learning came more easily, and her rank was always in the "nineties."

A lady of considerable culture, who was also boarding in the same family at the time, said one day: "This is a dog's

life! These poor girls have not an instant they can call their own. It is hurry, hurry, from one thing to another, from one day to the next. Even their meals are eaten a mouthful at a time, for they must jump to wait upon others. It would *kill* me. My brain would refuse to perform its functions, or at least would not properly fulfil them. And after all, what does it amount to? I do not believe it is worth while."

My opinion coincided with hers. Precious hours were being devoted to a mistaken cause.

"Why?" do you ask. Because, however well prepared these young ladies might be in the higher studies, their rudimentary education was sadly deficient. I have heard them inquire of their father the diameter and circumference of the earth, before being able to solve a difficult problem in physics. As to their English grammar, it was simply terrible. The continual use of "come" for came, "was" for were, "awright" for all right, etc., together with the numerous inelegancies of their common utterances, betrayed a total lack of that command of language, correct and pure, so essential to those who would lay claim to good culture.

I do not believe that they themselves were conscious of any inaccuracies in their speech. How could they be, when their father, who had been principal of a large public school all his life up to that time, himself used "learn" for teach, "heared" for heard, etc.

Good, gentle, refined, and ladylike as were these young ladies, conscientious and faithful teachers as they were sure to become, what mother of any culture would wish to place her child under such instruction? The habits of childhood are very strong, and even though in after-years one may learn to avoid many forms of speech or mannerisms acquired in early life, yet an occasional lapse will often betray the most careful, and this probably at a time when wishing to make the best appearance.

Mothers, this is largely within your control. If you allow your little one to

use "I don't know nothing," or "I ain't," or "don't chew" for "don't you," to indulge in the superfluous use of "got," and the hundred and one trifling faults in pronunciation or grammar so commonly heard, be sure you will regret your negligence.

Said a gentleman to me, when discussing a similar subject some time ago: "My uncle and aunt have never left their children to the care of the ordinary hireling, however faithful. They claim that a child should hear only the best of language from its cradle, that pure English may become 'second nature.' One language, well understood and correctly spoken, is worth three or four imperfectly known. My uncle has always had in his family some refined, educated gentlewoman whom poverty has compelled to earn a livelihood, and who, although physically inferior to the usual Irish or German help, has rendered services of incalculable value in forming the manners, the morals, and the habits of thought and speech of his little ones."

Remembering this, it occurs to me that many may have some such person connected with them by ties of relationship or of friendship, to whom the home comforts which they could offer would be very acceptable, and whose influence for good upon the younger members of the family would be a thousand-fold higher than that of a regular nurse-girl.

The busy mother can not always give more than her personal supervision. Other important duties claim a large portion of her time, however much she may regret that she is not able to have the entire charge of her children. How thankful, then, to know them in good hands, not only as far as the physical welfare is concerned, but the mental also.

It is the mother's and the nurse's province to lay the foundation of the child's education. If this be faulty, is it worth while to try and build an elaborate superstructure? Accomplishments can not gloss over the patent faults of ordinary language. Even the loud or shrill tone reveals the lack of breeding.

Ask yourselves, then, parents, is it not only your desire, but your duty, to see to it that the underpinning be solid, in order that, however fanciful the building to be upreared upon it in future years, the whole may present a uniform elegance of design and workmanship, alike pleasing to the beholder appreciated by the fortunate possessor, and creditable to the builders, especially to those who had the important task of laying the corner-stone?

Can you accomplish this desired end without the greatest watchfulness over your own manner of speech? Example teaches more strongly than precept. The faults of the parents, moral and intellectual, are very likely to be reproduced by the offspring. Do not give your child the right to say in mature years: "Had my

parents used better language, I should not now need to be ashamed of my own faults, of which I am so conscious when in conversation with those whose education has been superior to my own."

In this age of general information, of dictionaries, of good literature within the reach of the poorest, the parent whose aim is high may rise above his level if he will; thus enabling his posterity to climb still more successfully the heights of learning, for "knowledge is power." Yet while soaring ever upward, clip your aspirations when they would reach above your personal limit. Be content with doing what you can do well. Above all, see that your child's education has a firm foundation, without which his future study of the higher branches will be hardly "worth while." A. E. H.

AWAKENED.

It broke upon the Autumn air
A sharp, imperious peal,
And snapped the cord of slumber short
That bound my mid-day zeal.

It rang again, ah, bells and doors
A hundred feet apart!
Ah, servants out! But I must go
To welcome the dear heart.

A spectacle forlorn and wan
Beyond my worst conceit
Stands crouching on the marble-step,
And begs with naked feet;

A woman with a tiny life
Beside her own to keep,

A haggard wanderer of the dust
With unborn babe asleep.

"No food, no clothes"; a contrast wide
Between thy life and mine.
Some surplus ray of ease I bid
Go drifting into thine.

Though disappointed not to greet
The warmth of loving arms,
Recoiling to see on the street
Such absence of all charms.

The peal and plea awake my heart
From mid-day slumber's spell.
I know the dear Lord asks of me,
"Are all my children well?"

MRS. S. L. OBERHOLTZER.

THE SQUIRE'S "COME-UP-ANCE."

CHAPTER I.

MISS BIGELOW had accomplished all the good she could during the year, but like many another she desired to do something which would surpass all previous efforts on Christmas.

"If there's anything to do it'll come to me, I suppose," she remarked in the hearing of her somewhat irascible brother, Squire Bigelow.

"How will it come to you?" the gentleman inquired with his short, contemptuous laugh.

"How do I know how it will come?" his companion replied. "If folks hold themselves ready to be of service in this world, their hands 'll be pretty full, I guess. It is all in being in a receptive condition, brother."

"Bosh!" said the Squire. "You women-

folks will trim half a dozen Christmas-trees, make twenty or thirty young ones sick enough to die with candy and stuff, and spread scarlet-fever and measles from one end of the town to the other, and then brag about doing good in the world."

"They say there's a very poor family moved into the house by the mill, Jonathan," Miss Bigelow resumed, without paying the slightest attention to her companion's criticism. "I think I'll run over there this afternoon and see if there's any pressing need."

"You'd better stay at home and mend your stockings," said the Squire. "Folks that gad round the world in your fashion must wear their stockings to ribbons."

"Mine are all mended, and so are yours," was the undaunted response. "I suppose," the lady added with the cheeriest chuckle in the world, "that if they're very badly off over there, brother, you'll be glad to contribute."

"You know I won't give 'em a cent," growled the Squire. "What's the use of perpetually talking to me about beggars?"

"On the principle that a continual dropping will wear a stone," was the unflinching answer.

At this point the conversation was broken in upon by a neighbor who had called to talk to the Squire about the church-music. Strangely enough this cross-grained old gentleman was not only fond of music, but he was also an authority, and was President of St. Peter's music committee. The organist had been imperatively called to another field, and there was to be a meeting that evening to take action upon his resignation.

The Squire scowled and growled, and declared that he'd been expecting it. Phillips was just the man to leave folks in the lurch. Better shut the church up Christmas and give it a rest. It was no use to try to do anything in this world, anyhow.

"I don't take such a gloomy view of matters as that," the visitor remarked. "There is no gainsaying, though, that it is a very awkward state of things," and then

turning to Miss Bigelow, "Don't you think you could help us out?"

"What does she know about an organist?" the Squire muttered.

"She has shown an astonishing familiarity with many tougher subjects," said the visitor, "and I didn't know but what 'twould sort of come to her how she could help us."

"Do you hear that, brother?" Miss Bigelow laughed. "As likely as not it will," she added musingly. "What do you say to giving me till to-morrow evening, to try and find a suitable person?"

"Well, I guess we say, Yes, by all means," the guest replied, feeling a comfortable sense of relief, now that Miss Bigelow had put her shoulder to the wheel.

"And unless you hear from me to the contrary, have the church lighted and warmed, and each of the committee on hand to pick all the flaws possible," the lady added briskly.

"'There!' said I to my wife, 'just as sure as you sit in that chair, Miss Bigelow will help us out,'" the visitor exclaimed with enthusiasm, "and I declare if she hasn't somebody in mind already."

"Matilda knows as much about music as she does about farming," the Squire remarked; but all the same he felt a little lighter in spirit now that his active and generally successful relative had promised to assist.

"Well, Harry, how are you? and, Dame Trot, how are you?" said Miss Bigelow, bustling into a small room in a bird-cage of a house, situated on the outskirts of the town. A young man, pale, and evidently just recovering from a serious illness, lay on the bed the picture of despair, while a sweet-faced little woman sat by his side, engaged in the somewhat difficult business of trying to brighten up her patient.

"I've brought you some soup, my boy, that'll put new life into you, and some oranges that were grown on purpose to please your fastidious taste," the newcomer rattled on cheerily; "and for you,

Madame Bigelow, I have news—the most astonishing news in the world.”

“News for poor Marie?” the invalid remarked wonderingly, a new light in his face already—“What can it be?”

“Yes, news for poor Marie,” said Miss Bigelow, “but why you always will insist in calling her poor, is beyond my comprehension. She has got you—she came pretty near losing you! though—and she has got me, and more than all this richness, she has now come into possession of a church and an organ.”

“Auntie, dear, *what* do you mean?” and now a trembling little hand was placed on Miss Matilda’s arm, and a pair of great brown eyes swimming in tears were lifted to her companion’s face.

“You’ll make a great fist playing for the committee to-morrow night, if you’re going to shiver and shake in this fashion,” was the smiling response. “I mean just what I say. The organist of St. Peter’s has taken French leave, and I am delegated to find somebody to fill his place, and here I am.”

“But, Auntie, you know very well that Uncle Jonathan would never forgive you if you were to——”

“Stuff and nonsense!” Miss Bigelow interrupted. “My plans are formed, Harry, and you will please not interfere with them. I have got the key of the little Methodist church down the street, and I want Marie to go immediately there and practice some Christmas music. I will stay with you.”

“But, Auntie,” the young man began again, and was again interrupted.

“Harry Bigelow, did you ever know any of my plans to miscarry? Your uncle never saw Marie, and he don’t even know that you are within a hundred miles of him. Nobody ever speaks to him of you but myself. To-morrow evening I take Marie to St. Peter’s. Men are all cowards; so the committee, for fear they will not like the new candidate’s playing will remain in the body of the church. This cowardice will give Marie a chance to keep cool. After she has distinguished herself—which, of course, she will—I

shall present her to the overjoyed committee as Mrs. Low. When they afterward discover that the brilliant performer’s name is Bigelow, they will simply distrust their own ears and exonerate me.”

“And then?” the invalid asked, with so merry a laugh, that his wife was obliged to smile through her tears.

“After that—ever so much more beside. But it will all depend upon how the cat jumps, Harry,” and now the visitor’s sweet and benevolent face grew stern and firm. “If I can not convince your uncle, this Christmas, that you have suffered enough on account of having married the loveliest little darling in the whole world, then I think I shall pack my trunk and go West. There’ll be no further use for me in these parts.”

“Take us with you, then, Auntie dear,” said the invalid, with a pitiful quiver of the lip. “But for you I should have died, and poor Marie too.”

CHAPTER II.

THE organ-loft of St. Peter’s was brilliantly lighted the next evening, and just as Miss Bigelow had predicted, the committee kept in the shady background. Before Marie left the house her husband drew her down, and said softly: “Make copious selections from the *Messiah*, dear, and be sure and end with ‘He shall feed His flock.’ That is my uncle’s favorite.”

This programme was literally carried out. The organist was to play half an hour, but it was more than double that time when the performance ceased. As it neared the end, Aunt Matilda went softly down into the body of the church, and took a seat near her brother. “And He shall feed His flock!” How pure and sweet the melody, how firm and true the tender touch, how heavenly the spirit that descended upon this little group of listeners! The Squire wiped his eyes, and his sister saw him do it, and was satisfied.

When the last notes died away this gentleman rose, whispered something to a member of the committee and left the church. This is what he said: “Engage

her by all means. I'm in something of a hurry."

The day before Christmas, Squire Bigelow made some inquiries concerning the new organist.

"Has this Mrs. Low got any family?" was the first question asked.

The Squire stood looking out of the window, and drumming somewhat nervously on the pane.

"She has a husband who is just getting over typhoid fever," said Aunt Matilda, practically.

"That all?"

"That's all."

"How came there to be such an organ-player as this in town and I not know it?" was question number two.

"There are lots of things in town that you don't know anything about," said Miss Bigelow.

"Does this Mr. Low go out?" the gentleman inquired, quite oblivious to his companion's curtness.

"I guess he could go out if somebody should send a carriage for him."

"Well, I've been thinking it would perhaps be a very decent thing to invite this Mrs. Low and her husband to dinner to-morrow; that is, if you've got anything fit to eat," said the Squire. He was ashamed of himself; ashamed that "He shall feed His flock" kept running so incessantly through his head that it would soften his heart whether or no; ashamed that he felt homesick for the nephew he had turned out of doors on account of his marrying the girl he loved; ashamed that he could not hide this heart-ache from his sister, who he was sure would sooner or later take advantage of it.

"I've got plenty of dinner, and it's good enough for the queen," said Miss Bigelow, "and I'll invite these folks to dinner, Jonathan, on one condition."

"What's that?" said the Squire. "I'll be hanged if that ain't just like a woman."

"That you don't act like a bear with a sore head all day, and snub these two forlorn children right and left, and that you promise on your word as a gentle-

man that you will never blow me up afterward for doing exactly as you told me to do," said Miss Bigelow.

"What do you take me for?" growled the Squire.

"For a very ridiculous and obstreperous old fellow, who tries to make himself out a hundred times worse than he is—as if the original human wasn't bad enough. That's what I take you for, Jonathan."

The Christmas service was an unqualified success. The organist had covered herself with glory, both as to her playing and her training of the choir. And when they sang "He shall feed His flock," the Squire tried so hard to keep the tears back, that his expression was something so ludicrously awful or awfully ludicrous, that his sister, who was already on the verge of hysterics, began to laugh, and came very near disgracing herself forever.

Mrs. Low trotted along beside the Squire from St. Peter's to the house. She was so nervous that she could hardly speak, but Auntie filled in the gaps in such a way as to quite cover her companion's confusion. The carriage had been sent for Mr. Low, and just as the trio reached the gate, the Squire's fat horses were reined up, and the coachman was assisting the occupant of the carriage to alight.

"Well, I'll be," the Squire began, but he was immediately interrupted by his sister.

"Remember your promise, Jonathan," she said, and then the Squire put his strong right arm about the poor fellow's waist, and without a word helped him into the house. Then both men broke down, and then "poor Marie" played a soothing, helpful little something of her very own on the grand piano, and then the Squire kissed her and praised her, and after that Miss Bigelow sat down on her brother's knee, put her arms about his neck and almost cried her heart out.

And verily—"He *shall* feed His flock."

"ELEANOR KIRK."

ELIZABETH FRY, THE QUAKER PHILANTHROPIST.

SIMPLE, shy, young Betsy Gurney in her English home a hundred years ago, little dreamed that in later life she would become famous, and win for herself the admiration of the multitudes who appreciate her noble character and deeds of mercy. She was born on May 21, 1780, at Norwich, England, and was one of a family of twelve children. Her parents were members of the Society of Friends, though not of the most strict order. At the time when the maternal training could least be spared, at the early age of twelve years, Elizabeth had the misfortune to lose her excellent mother, whom she dearly loved. In her childhood Elizabeth was not remarkable for talent—in fact, was even stupid in studies; and this, combined with delicate health, made her seem backward in comparison with her sisters. She was also possessed of some obstinacy and a spirit of contradiction, which afterward developed into the better traits of firmness and perseverance. While yet in her teens, she went through a struggle with an inclination toward frivolity and worldliness; but the higher principles conquered, and directed her steps upward and onward toward a more noble life.

At the age of twenty she married Mr. Joseph Fry, a wealthy Quaker of good position, after taking into account, in a manner remarkable for a young woman, the comparative advantages of single and wedded life as they might affect charitable and religious work.

Her home after marriage was in London, at her husband's place of business, and there some of her children were born.

There was plenty of opportunity for the exercise of philanthropy in the city, which did not abound in public and private institutions for the relief of the needy as now. Like all other charitable people, Mrs. Fry was sometimes imposed upon; but she did not, in consequence, cease her self-denying efforts in behalf of the poor and degraded. Slowly, but certainly, in God's own way, she was being trained

for the important work He had allotted to her.

After the death of her father in 1809, the power to pray and "bear testimony" in public was given to her, and she became a "minister" of the Quaker order, being acknowledged as such by the meeting. Two years later we find her visiting the horrible Newgate prison, and trying to relieve the miseries of the female inmates. The innocent and guilty were huddled together in quarters much too limited for their numbers. There was little restraint of discipline or decency; and even the chief officer of the prison dreaded to enter this portion of it.

In 1817, after passing through domestic afflictions, illness, and loss of property, Mrs. Fry began her great work as reformer of prison abuses, in good earnest. She found she could reach the hearts of the most abandoned women through their love for their unfortunate children. These women chose one of the best of their number as school-mistress, and the education of the children began.

Kindred spirits were drawn toward Mrs. Fry, who aided her in her great undertaking, and very welcome was their support and coöperation. Other friends helped the good work by contributing and soliciting necessary funds; for we must remember that this was only a private and charitable enterprise.

By slow degrees a complete change of affairs was brought about. The women were taught to work, and were decently clothed. A set of rules was prepared, read and explained to them, and the prisoners willingly agreed to be governed thereby. From being a place of horrors, Newgate became, under the wise administration of the gentle Quaker lady, a place of peculiar interest.

The authorities watched the progress of the reform with delight, and bestowed praise and thanks unstinted. The needs of female convicts about to be transported to the penal colonies, soon drew the attention of this devoted woman, and her

influence and personal labor were freely used to reform abuses among them.

Then, in search of new worlds to conquer, Mrs. Fry visited other prisons in England, and in 1838, with her husband and two other companions, went to the Continent on a tour of inspection. Her fame had gone before her, and she was everywhere welcomed and treated with the utmost respect. The journey resembled a triumphal progress more than anything else. Honors from kingly hands were showered upon her, enough to have turned the head of a less steadfast person.

And thus, in one noble achievement

and another her life was spent, doing good to the suffering and needy. Rarely has a genuine philanthropist won such complete and successful recognition as did our heroine. As her strength waned and death approached she had the satisfaction of leaving the various enterprises she had established in the hands of interested persons who had been inspired and taught by her.

On October 13, 1845, the beautiful spirit of Elizabeth Fry returned to its Creator, and the body was laid in a quiet grave at Barking.

MARY WINCHESTER.

BELLE NUIT.

No sound save night-winds hushed, and low, sweet murmur

Of moon-kissed waves caressing shining sand ;
While veiled in beauty, Night's protecting angel
Scatters dream flowers o'er the sleeping land.

Here softly touches eyes grown dim with weeping,
Changing each bitter drop to gleaming pearl ;
There weaves love's fancies o'er some dreaming maiden,
Or leaves a kiss on baby's golden curl.

Day is for weary toil, care, tears, and sorrow,
But beauteous Night doth angel vigil keep ;
Coming love-laden from celestial garden
To open Heaven through the gates of sleep.

I hear the music of her coming foot-fall,
Catch the faint gleam of trailing garments bright ;
And stay to whisper in the gloaming shadows,
His angels keep thee ! Happy dream ! Good-night !

CALLIE L. BONNEY.

THE CHRISTIAN CHURCH—ITS HISTORY AND DIVISIONS.—No. 5.

THE REFORMATION.

FROM the time of its foundation there were individual protests against some one or other of the doctrines, forms, or ceremonies of the Roman Catholic Church, but in the early days they came from those too weak to sustain them, and the disaffected were silenced. The power of the Church was paramount, and it would consent to nothing less than implicit and entire obedience. Belief or assent that the Church was without error and never could err was demanded of all, and penance, excommunication, or death was the fate of such as denied it. As time passed the numbers of the dissatisfied increased, and various sects were formed antagonistic to the practices of the Church—as the Manicheans, Cathari, Albigenes, Waldenses, and others. Some

of these were directly and entirely opposed to the creeds and practices of the Roman Church, and desired to form and establish an entirely different faith ; while others would have been satisfied with certain changes in form and practice.

One after another of these sects disappeared, the Waldenses, founded about 1170, alone surviving, "because," says Archbishop Trench, "resting on a Scriptural foundation they alone were worthy to survive," and many of their opponents admitted "they were sound in their faith in all that related to God, and received all the articles of the creed," but against certain glaring corruptions of the Church they were uncompromising ; and it is said that "what the Waldenses learned to hold and teach after contact with the Hussites

in the fifteenth century, and still more after communications held in the sixteenth century with some chief Continental reformers, has been regarded as that which they held from the beginning." However that may be, we may safely say that from the first formation of the Society, they worked steadily and continuously to reform many of the doctrines, constitutions, and rituals of the Romish Church, "not in the spirit of heresy, but of disorder"; and while at first it seems their only difference with the Church was their assumption of the right of all to teach and expound the meaning of the Scriptures, in aftertimes differences increased until they were excommunicated as heretics. They came to deny the supremacy of the Pope, and insisted the clergy should imitate the Apostles, and earn their living by their own labor. They denied that transgressions could be expiated except by prayer and penance, as held by the early Church, and opposed the sale of indulgences, which they looked upon as an invention of the avaricious clergy. The doctrine of an intermediate state of punishment or purgatory they entirely repudiated, and in other matters were at variance with the Church of Rome. Their opposition brought on them most barbarous and inhuman persecutions, notwithstanding which they continued to exist until the Reformation was well under way, when they became mostly merged with other denominations; but a few are still found in Piedmont, where they are usually known as Vaudois.

About the beginning of the 14th century societies for aiding the sick or needy were formed. Their practices aroused the jealousy of some of the orders established and supported by the Church, as monks and friars, and they were branded as heretics; and finally, the name given them, Lollards, became in some sections almost synonymous with heretic; and under this name, in England, many were burned, while at the same time on the Continent many societies holding the views and following the practices of the original Lol-

lards, were by the Pope held as innocent of offences against the Church.

It would be impossible in the space allowed for this article to even name the various persons, and the means they employed to effect reformations in the Church, which, while they met with no marked success, were not without their uses; but it was not until the 14th century that the work can be said to have had a definite beginning. In 1324 was born Wycliffe, who may be called the father of the Reformation. He was a philosopher, a schoolman; and his logic naturally led him to take a position in theological questions different from that commonly held. We find him among the first advocates of the separation of Church and State. His labors in translating the Bible into English, while of little service during his lifetime, were an important factor in the cause of reform in after-years.

His theory of dominion was that God was the supreme governor, and that He had never delegated His power in that respect to Pope or priest. John, king of England, had agreed to pay the Pope a certain yearly stipend as vassalage, which payment succeeding kings had refused to pay. In 1365 Urban V. demanded the payment of arrearages for thirty-five years. Wycliffe, then royal chaplain, opposed its payment, and doubtless had much influence with the Parliament that disallowed the claim.

This denial of the authority of the Pope in civil matters was in the same spirit with which he opposed the mendicant monks and friars, who at that time were demanding their support from the people, and opposing the spread of learning. They had become very powerful by their influence on the common people, who dared not lift a voice in condemnation of well-known practices against the morals of society, but Wycliffe hesitated not to openly accuse them of wrong-doing. Evidently he desired to have all monastic institutions abolished, their wealth distributed, and a priesthood established that should depend for its support on the

voluntary contributions of the people. Such teaching could not fail to bring upon him the anathemas of the Church, and he was declared to be a heretic of the worst class.

From time to time he promulgated doctrines adverse to the established beliefs of the Church. For instance, on the question of transubstantiation, he held that while the act of consecrating the bread and wine at the Sacrament endowed it with the real presence of the body and blood of Christ, the material bread and wine continued to exist as before. This was heresy sufficient in itself to warrant the Church in his excommunication and sentence to death. But this was only one of the many differences with the teachings of the Church, and it is no wonder he aroused its antagonism and was condemned for his heretical doctrines promulgated in tracts, in which his views were clearly and forcibly expressed. Why he was not arrested and executed, as many less obnoxious had been, it is difficult to understand. He was stricken with palsy in his pulpit, and died three days later, on December 31, 1384. But his enemies could not be content to let his remains rest in peace, and years afterward his bones were burnt and then scattered in the river Avon.

"The Avon to the Severn runs,
The Severn to the sea,
And Wycliffe's dust shall spread abroad
Wide as the waters be."

While Wycliffe and others in England were laboring in their own way to produce desired results, many on the Continent were diligently and conscientiously striving to accomplish the same ends. We have spoken of various sects, among all of which were bold defenders of their positions, and as the corruptions of the churchmen became more open and notorious their opponents were strengthened in their opposition. The condition of affairs is well expressed by a writer of the time, who, although not entirely in harmony with the reformers, said: "In the clergy there was no discipline whatever; in the courts of the Pontiffs there was

public Simony; in the monastic state, if I may use the term, there was unbounded covetousness; and to make an end, there was no vice among the lay people that the clergy had not practiced first and most notoriously."

Passing without mention many whose labors in the cause of reform were not without great influence, we stop to consider those of John of Husinetz, a town in Bohemia. He was commonly known as John Huss; was born about 1369; well educated, and ordained a priest, but can not be ranked among the first theologians of his day. He was doubtless influenced by Wycliffe's teachings, and although differing with him on some prominent questions, agreed that the governing principles of the Church should be the supreme authority of the Scriptures, and that there should be right of appeal to God in all questions of conscience. He avowed his adherence to the Church, and claimed only a desire to reform its practices. But such avowal was without avail, and he was summoned before the Council of Constance for trial, condemned, and notwithstanding the civil powers had promised him safety to go and return from the Council, the safeguard was unheeded and he was burned.

In spite of all persecutions the spirit of reform waxed strong and had valiant and able supporters in all ages; but we must pass on to the times of Luther (born 1483), who has often been called the father of the Reformation; but such honored appellation is not his due, nor did he fail to give credit to those who preceded him in the good work. Some one has aptly said, "Luther but hatched the egg that Erasmus laid," and between the death of Huss and the beginning of Luther's work—nearly an hundred years—there were many who earnestly combated the error, and in many cases they seem to have arrived at the same conclusions from their own individual point of view.

The spirit of truth is universal and ready to enter any mind prepared to receive it. Luther said that without being

aware of it he had held and taught the same doctrines as Huss, and that John Staupitz had done the same; in fact, said he, "Paul and Augustine are Hussites to the very letter." In 1517 he took strong grounds against the sale of indulgences authorized by Pope Leo X. Soon after his ideas seem to have taken form, and he prepared his well-known *Ninety-five Theses*, a copy of which he nailed to the palace door, to attract the attention of the people. In this he was supported by the Elector Frederick of Saxony, and received much aid in his disputations from Melancthon, then only 21 years old.

In 1520 the Pope issued a bull against Luther, one result of which was to cause the publication by Luther of arguments sustaining his position on points in which he differed with the Church, the principal of which were as follows: the separation of the temporal and ecclesiastical governments, claiming that the Pope had no authority over civil matters, thus upholding the doctrines advanced by Wycliffe; the denial of the claim that the Pope alone could rightly interpret the Scriptures, and that his interpretation must necessarily be correct, and also that he alone had a right to summon a council to discuss matters relating to churches. He held with the Church the eucharist and baptism as sacraments, but denied the sacramental character of the other five. As to the change of bread and wine used at the eucharist, he agreed with Wycliffe that their substance remained after consecration; but that in them was also the real presence of Christ—*consubstantiation* as against *transubstantiation*. There were many other points on which he differed with the authorities of the Church, all of which he stated in full in his 95 *Theses*.

In 1520 the Pope issued his bull of excommunication against Luther. When it was received at Wittenburg, Luther had it carried in a procession, together with copies of the canon law, outside of the city walls and burnt.

By this time the numbers and influence of the reformers had become so great as

to control the action of several of the principal civil rulers, among whom was Frederick of Saxony, who gave Luther his approval and protection. About a year previous the Emperor Maximilian, who had supported the Pope, died, and Charles V. reigned in his stead. Charles, while feeling kindly toward Luther, desired the Pope's friendship and support. The Diet, a convention or council of the reigning princes of Germany, in 1521 held a session at Worms. The Papal representatives demanded that Luther should, without formal trial, be condemned; but as some members of the Diet objected to such summary proceedings, Luther was ordered to appear for trial. His friends, remembering the fate of Huss, entreated him not to go to Worms. He replied: "I am lawfully called to appear in that city, and thither I will go in the name of the Lord, though as many devils as there are tiles on the houses were there combined against me." The Diet refused to condemn him, and having the safeguard of the Emperor, he left the city unmolested, but a few days afterward the Emperor issued a decree, by authority of the Diet, depriving him of all privileges of citizenship, and directing all to seize him so soon as the time named in his safeguard should have expired.

Meantime Frederick the Elector, fearing for the safety of Luther, laid a plan by which he should be seized on his return from Worms, and conveyed to the castle of Wertburg, where he was kept secreted for several months.

Political changes having occurred that distracted public attention from Luther, he came out from his seclusion, and in March, 1522, appeared in Wittenburg. The Emperor's edict now caused him no trouble.

In 1529 a new Diet was held, at which the power before delegated to princes, permitting them to govern in ecclesiastical matters within their respective dominions until the meeting of a general council, was revoked, and any change that had been or should be made by them in

the doctrine, discipline, or form of worship of the Roman Church was pronounced unlawful, against the solemn protest of those princes who favored reform and to whom the name of *Protestants* was first applied.

We can not follow extensively the works of Luther. His teachings found lodgment with the people, and the power of the Pope waned. At the celebrated Diet of Augsburg, in 1530, these Protestant princes presented the "Confession of Augsburg," a paper of 28 chapters, prepared by Melancthon, under direction and advice of Luther and others. In this was set forth with much explicitness the religious opinions of the reformers, and the reasons for their separation from the Roman Catholic Church. Of this Confession, which is at the foundation of the Lutheran Church, we shall speak further when treating of that denomination.

Luther lived until 1546; long enough to see the success of the Reformation he had done so much to promote. While he was doing such noble work in Germany, others in their own countries, and in their own ways, were aiding the progress of the cause. Most prominent among these was John Calvin, whose teachings have permeated Christendom, and become the chief corner-stones of the creeds of most of the so-called Evangelical denominations.

Calvin was born in Noyon, France, in 1509. He was educated with a view to his entering the study of law, and it was while pursuing his legal studies in Orleans that his attention was turned to theology, soon after which time he began to preach reformatory doctrines and enrolled himself with the Protestants. In 1533 he was preaching in Paris, but such was the opposition that he with others was obliged to leave that city. In 1535, at Basil, he prepared his "Institutes of the Christian Religion," a work that because of its clearness of statement and its logical reasoning became deservedly famous, and has served as the doctrinal standard for many of the Reformed churches.

Soon after we find him in Geneva, where were many reformers without a proper

leading spirit among them. Being persuaded to accept the control of affairs, he soon found himself directing not only the religious affairs of Geneva, but of all the country of which it was a centre, and at the head of the civil government as well. He was the governor of the moral, social, and political life of the citizens, and made rules so harsh and arbitrary as to raise strenuous opposition. A party arose called Libertines, who gained the ascendancy, and in 1538 expelled Calvin and many of his principal supporters from the city. But their power soon declined.

As between a too loose government and a severely austere but good one, the people chose the latter, and Calvin was recalled in 1541, when, although the Libertines remained a strong party, he resumed his position at the head of the government of both Church and State. A writer has well described him as follows: "None can dispute his intellectual greatness, or the powerful services that he rendered to the cause of Protestantism. Stern in spirit, and unyielding in will, he is never selfish or petty in his motives. Nowhere amiable, he is everywhere strong; arbitrary and cruel when it suits him, he is yet heroic in his aims and beneficent in the scope of his ambition."

Fixed and determined that he was in the right, he could brook no opposition, and met those who did not agree with him in a spirit not entirely consistent with the teachings of that Gospel he so energetically preached. Of that charity that suffereth long and is kind, he had little. His controversies with those among the reformers who did not accept his particular views were bitter in the extreme, and the fate of Servetus, for whose arrest, trial, and execution, although usually charged to the Roman Church, he must be held responsible, will always remain an indelible stain upon him.

Calvin was naturally an organizer, and it was mainly in consequence of his efforts that many of the Protestants of Switzerland became consolidated and united in a Confession of Faith, the principal points of which are still known as the Five

Points of Calvinism, of which predestination and irresistible grace are the principal, the perseverance of the saints and particular redemption being really only logical deductions from the others, while original sin is not exclusively a Calvinistic doctrine. These points may be briefly defined as follows:

Predestination, a decree of God, whereby certain of the human race are from the beginning elected and foreordained to salvation. *Irresistible Grace*, a power or influence of the Holy Spirit over the elect, whereby they are led to live lives of holiness. *The Perseverance of the Saints*, or elect, in lives of holiness, is secured only by this irresistible grace. *Particular Redemption* is only another term for the election of a few to everlasting happiness.

Original Sin was the sin committed by Adam and Eve, of the guilt of which all their descendants partake, and for which they are held accountable.

Calvin died in 1564. His work was taken up by Beza, who was the leader of the church of Geneva for forty years. As a teacher he was less antagonistic than Calvin, harmonizing differences more by yielding than by insisting on his own views in matters of little consequence. His theology was received through Germany, in Holland, and found its way to England, where it was to an extent incorporated in the Anglican Church.

From this time the reformers began to divide into sects or denominations, differing somewhat in beliefs, and more in the form of church government.

LESTER A. ROBERTS.

THE STUDY OF HUMAN NATURE.

TRUE it is that we have often sudden impressions of character—impressions at first sight—usually unfavorable to the character of a person whom we meet for the first time. All observers of human nature have this kind of experience; and, what is most remarkable, we are liable to have this bad impression of the bad character of one who has been commended to us for his moral worth. . . . Then we determine that we will forcibly repress all our bad feeling and show such perfect courtesy to the suspected “rogue” the next time we meet him as shall completely efface from his mind any uneasiness or displeasure which our roughness may have caused him. And, perhaps, an intimacy follows—an intimacy that may be called friendship; and it may last some time. But the discovery comes at last, and comes bitterly, that our first impression regarding this man, as bad as it was, was the true one. The oldest and deepest students of human nature unite to assure us that such has been their experience again and again. How is this? Does the soul of a man sometimes look so significantly

through his eyes, and give such an unmistakable expression to his face, that a close observer can not fail to read the living manuscript unerringly? It must be so. The so-called sciences, imperfect as they may be, of Lavater and Gall, are alike *founded* on truth. Thousands of facts you may gather from sculpture and painting show that men always had a belief in something like what we call “Physiognomy” and “Phrenology.” And we feel sure that Da Vinci has not erred in giving such a villainous face to Iscariot in the immortal picture of the Last Supper. Judas must have looked like the incarnate demon that the Saviour pronounced him to be when he had fully yielded up his soul to the dominion of Sin. In like manner, we all feel sure that, although the word “phrenology” had never been uttered in the sixteenth century, none of us could have stood in the company of men wearing such heads on their shoulders as Bacon and Shakespeare without the conscious awe that we were in the presence of high and commanding intelligences.

THOMAS COOPER.

PARALYSIS OF THE ORGAN OF LANGUAGE BY APOPLEXY.

EDITOR PHRENOLOGICAL JOURNAL :
 —At the request of Mr. E. W. Hiser I write you a statement of a case that came under my observation some years ago, and which tends to show that certain faculties of the mind are located in certain, definite portions of the brain.

One cold morning in 1871 I was called to attend upon Mr. E. B., who had just been found lying upon the floor of his room insensible and almost frozen. Mr. B. was a bachelor aged about forty-eight, very fleshy, and slept in his office apart from any dwelling. From the appearance of the room, the fact that his clothes had not been removed or his bed disturbed, the position in which he was lying upon the floor, etc., it was evident that he had fallen from his chair some eight or ten hours previous to discovery. After having been placed in bed, and circulation and sensibility somewhat restored, it was discovered that the right side of his body was completely paralyzed. The diagnosis was of course easy, and could not be mistaken, viz., hemiplegia (or paralysis of one side of the body) as a result of apoplexy. It is unnecessary to speak of the treatment given, as that has nothing to do with the purpose of this article. It is sufficient to state that a fatal termination ensued some three months subsequent to the apoplectic stroke.

A peculiar feature of this case was that Mr. B. was afflicted with "aphasia," or "the loss of power of forming words." The tongue and vocal organs were nearly or quite intact, and the voice perfect. The patient frequently uttered words distinctly (but, as I remember, only four or five different ones), but could not utter them coherently. If, for example, he wished to consent to a question asked of him, he would be as apt to say "no," or some other word, as to say "yes," though he could and did speak the word "yes" perfectly. Nor could he point out the letters to form a word when the letters of the alphabet were printed on a card-board

and submitted to him, although he was an educated man. Yet Mr. B. understood what was said to him, perhaps not perfectly at all times, but nearly so. He would make known his wants by signs, and undoubtedly recognized the friends about him. His comprehension and power of uttering words were but little affected, but the mental faculty of *forming* words was gone.

Being aware that it is claimed that the faculty or power of forming words is demonstrated to be located in the "third convolution of the anterior lobe of the left hemisphere of the cerebrum," I was naturally curious to know if there were any injury to that portion of the brain. Evidently here was an absolute test case. Should a post-mortem reveal that that portion of the brain was in a perfectly normal condition, and no injury to it by pressure, blood clot, or otherwise, then the theory that the faculty of the mind referred to was located in that particular portion of the brain, must inevitably be false. On the other hand, should it be found that that portion of the brain had received injury sufficient to render it incapable of performing its natural functions, then the theory, if not absolutely proved, would be supported by evidence of such high character as to almost amount to proof.

At the post-mortem we found three or four blood clots in the brain substance, among which was one as exactly and accurately in the "third convolution of the anterior lobe of the left hemisphere of the cerebrum," as if it had been purposely placed there by human hands. The extravasation with the consequent pressure of the blood clot was sufficient to destroy the function of that particular portion of the brain.

T. N. Rafferty, M.D., then of this place, but now of Robinson, Ill., was present at the post-mortem, is familiar with, and can corroborate all the statements made in this article. J. S. THOMPSON, M.D.

Palestine, Ill.



SCARLET FEVER.

ELECTRICITY AS AN AID TO WATER.

IN a short article in the April Number of the PHRENOLOGICAL JOURNAL I endeavored to show the value of cold water in treating congestion of the brain, citing various instances in which I had used it with entire success. But I omitted to mention one important case, which was well worth recording, as it related to that most dangerous disease, scarlet fever, and the most baneful phase in which this appears, viz., drowsiness,—insensibility.

Only the other day one of the most skilful of Eclectic physicians said to me, referring to this disease:

"When the tendency is immediately to the brain, you may about as well give the case up at once."

I had forgotten that the scarlet fever had just entered the neighborhood and carried off its first victim in the person of a child just G.'s age, when the latter, then ten years old, came home from school, and dropping into an easy-chair, was soon in a semi-unconscious condition. I put her in a warm bath, and even ran the electric current from her head into the water; but as soon as the rubbing and dressing were through with, she fell over limp in the chair and could not be roused.

A friend called in just at this time, and suggested what might be the matter with the child. Laura A., she reminded me, had come home the week before in precisely G.'s state. She was put to bed and

was never conscious for a moment afterward.

Now, we can imagine the holy horror with which any ordinary physician would regard the proposition to pour cold water on the head of a scarlet-fever patient! Yet, *without this*, the patient would die. Why, therefore, should we hesitate? We did not; but in the careful manner I previously described, poured perhaps a gallon over G. She "came to," in a measure, then immediately relapsed, so that we were obliged to repeat the process twice again within an hour before nature was enabled to take the proper course; then, though feverish, and presently sleepy, it was *natural* sleep, and her senses were clear enough when she was spoken to, and continued so during the progress of the fever.

I now made preparations for sickness. Means for securing an equable temperature and perfect ventilation were first considerations; next came nearness to hot and cold water, and there must be no stairs to climb if it could be helped.

To this end I had a bed brought downstairs, and into the parlor, which room contained a fire-place, and two windows at each end. The latter could be darkened, but still afford a good draft. Like many Italian parlors, ours was not so very far from the kitchen, which was a great convenience.

All necessary arrangements were completed in an hour, and with a good fire on the hearth, and a big, old-fashioned clothes-horse, covered with a bed-quilt, enclosing the warmth at one side, I was ready to give my patient a hot bath within this enclosure in a huge wash-tub. (My bath-room was cold and had no provision in it for hot water.) In this she squatted; around her exposed shoulders a towel was thrown, and the water ladled up and poured over her in a steady stream.

Meanwhile her night-dress was being warmed, also a thin blanket to take the chill off the bed, also the towels for wiping her. I had already given her an enema,—that, as we know, being the first thing to do where a child is attacked with sickness, for one *must* be assured of the state of the bowels.

Morning and evening this warm bath was repeated until the rash was well out; then,—perhaps it was needless caution,—I washed the patient carefully under the bed-clothes, wiping each part cleansed before proceeding further, not dampening the sheets in the least. Every morning, also, a tepid enema was given to soothe the bowels, if nothing more.

The rash came out very fully, and G. suffered less with her throat than did her younger sister.

"What doctor shall you call in?" asked my husband's partner, when he heard of the visitation.

"My wife," he replied promptly.

"What! in such a dangerous disease as *that*?" he insisted.

"Yes, I shall trust her, for I see they are dying under the doctor's hands, some of them."

He might have added, that even the unlearned midwife who nursed her children through it, merely dosing them with saffron tea, had better success than many of them did.

And now the other three children were, one after another, taken down, and later on myself, and then the stout young Irish girl, only two months from the ship. The same course was pursued in each case,

except that Ellen and I were obliged to use the bath-room. Not a particle of medicine was given, my dear friend, Mrs. Farnham, having taught me that the first dose in scarlet fever damages the case, drawing the forces to the stomach, to eject it, which nature relied on for throwing the morbid matter to the surface of the skin.

It is notorious that the sufferer from scarlet fever, if he live, rarely escapes from it scot-free. He is left with inflamed eyes, delicate throat, dropsy, or perhaps is stone deaf. It is the drugs taken that are to be credited with most of these sequelæ, while all of them could have been avoided by a proper use of electricity.

It is simply incomprehensible that with the remedial qualities and the laws governing the use of electricity, so well and so long understood, people should be allowed to die of this disease for want of the assistance it never fails to give.

It is proven that the ordinary Faradic current travels from the positive to the negative poles, and carries off misplaced matter with it. By equalizing the circulation, it reduces acute inflammation, which, in scarlet fever, is drawn to the throat and fauces. With this wonderful agent at our command, there is no more danger in this much-dreaded fever than in the simple one which follows a common cold.

I had a small galvanic battery (in which sulphuric acid is used). Twice a day, sometimes oftener, I started a very mild current, wrapped a bit of wet cloth around the terminating needle of the wire conducting-string, and told my patient to put this as far back in the mouth as could be done without choking. The brass needle at the other end of this string was attached to the *positive* pole of the battery. With great caution, so as to avoid all possibility of a shock, I then let the patient take the negative electrode in, say, her right hand. This caused the current to flow directly through the right tonsil to the hand, carrying the inflammation away from that swollen part. The

negative was then changed to the left hand, carrying the current through the left tonsil, giving three minutes to each.

I then placed the negative (the positive being still in the mouth), covered by a wet sponge, at the anus. This ran the current down through the intestinal canal. The next time I would run it off to the feet (*i. e.*, place negative there). It is well to vary the treatment; so, on other occasions, I would place the positive electrode in a wet sponge over and below the ear, having the negative at any point lower down, over the abdomen or at the feet. This, for ten minutes, tended to carry the inflammation from the ears.

Electricity, baths, and good nursing brought us through the fever, and left us, one and all, in excellent condition. I had suffered most, for I was not attacked until I was worn out with apprehension and fatigue. Oh, the agony in my throat and head! In the night, when it seemed that I must certainly die of the pain, I called the nurse, and told her to go out and bring me a certain small tub, a quantity of cold water, and a small pitcher, and to pour the water on my head until I told her to stop.

She looked at me, but did not stir.

"I know what I am saying, nurse. Don't be afraid, but get it at once," I said.

She did so, and my agony was considerably relieved, though what remained seemed all I could bear.

Before I was taken down, the youngest child, then three and a half years old, on whom the rash had come out quickly, and whom I found it difficult to keep in

bed, had escaped our observation, and run out of doors, round and round the strawberry patch, and this, just at that point in the afternoon when, with us, the temperature suddenly lowers considerably. After this escapade the little fellow had a high fever, and the glands of the neck became much swollen. Who does not know the result of relapse in a case of scarlet fever treated with drugs?

I held the positive electrode over, first on one side of the throat and then on the other, while his feet were in water with the negative for eight minutes. Then I wrung one of his thin, old drawer-night-gowns out of warm water, put it on, and wrapped him in warm blankets, and he slept, and woke up all right again. In ten days after the rash disappeared, all the children were taking their usual cold wash (not bath) in the morning (standing on a rack, as usual, to prevent losing too much heat at the feet).

One night, some time after my recovery, I woke up suddenly, as if a cold wind had swept across my face, and knew immediately that something was the matter.

"It must be Ellen!" I said; and putting my feet into my slippers I ran hastily up-stairs. She had sat up for the first time the day before, and stayed too long in the kitchen talking to the new girl. Now she could not utter an intelligible word, her tonsils were so swollen.

I fetched the battery, gave her the proper treatment, and when I had finished, she exclaimed:

"Oh, but that's a wonderful thing, ma'am!" which indeed was true. K.

WHEN TO MARRY.

THE golden gospel of Nature proclaims the proper period for marriage to be when the parties have fully completed their physical development, which is not commonly before twenty to twenty-three in the female, and twenty-three to twenty-six in the male. No certain time can be arbitrarily fixed according to age, as some individuals reach the full measure

of natural growth earlier than others, being as much matured at eighteen as others are at twenty.

The laws of different countries fix definite periods for each sex, but they refer solely to the civil aspect of the question. Tacitus tells us that the ancient Germans did not allow marriage till the female attained the age of twenty-one, and the

male twenty-five. The ancient Greeks produced the finest race in respect to physical development that ever existed on earth. Their law-givers were imbued with the idea that late marriages insured more vigorous offspring. Some of them assigned the advanced age of thirty for females, and from thirty-five to forty for males, while others lessened the periods five years. Plato's rule was twenty for the female and thirty for the male. The result was a people that has been the boast of the world for both physical and intellectual pre-eminence.

Premature marriages are becoming deploably common in our country. American youth are growing notoriously precocious, and boys and girls are railroaded along with fearful speed into fictitious maturity. As a consequence sound health among the married, beauty and vigor among the offspring, are yearly becoming more rare. Physiology protests. It declares that immature parents can not transmit to progeny the proper physical or mental power.

Every day's experience verifies the fact that the children of the early married are deficient both in body and brain, and generally die young. It has passed into a proverb that "the youngest children are the smartest." Every stock-breeder knows that cattle which are the product of parents one or two years old, are not as large and fine and kind as those of fully-matured parents. And is it not quite time that as much natural sense and science were brought into requisition in the propagation of children as cattle?

A powerful inference may be founded on the following facts: Pitt, Fox, and Burke were each the youngest child of their respective families. Benjamin West was the tenth child of his parents. Daniel Webster was the youngest by a second marriage, as was also Lord Bacon. Franklin was the fifteenth child of his father and the eighth of his mother; and further, he was the youngest child for five successive generations on the side of his mother. Dante was born of his father's second wife, Bella. Lorenzo de

Medici, "the Magnificent," was a second son. Mirandola was a younger son. Luigo Pulci was the youngest of three brothers. Tasso was the third child. Oliver Goldsmith was the youngest of five children. Coleridge was the youngest of a clergyman's numerous family. Schiller was a younger child. Robert Fulton was the third child. Richelieu was the youngest of three sons. Lord Eldon was the eighth child by a second marriage. Mirabeau was the fifth child. Oliver Cromwell was a younger son. Queen Elizabeth was born when her father, Henry VIII., was forty-two years old. Nearly all the sovereigns of England distinguished for great abilities were younger children, or born of mature parents. Leibnitz was an only son of his father by a second wife. Lichtenberg, the great mathematician, was the eighteenth child. Stilling was the youngest of ten children. Madame Roland was a second child. William Wirt was the youngest of six children. Oberlin was the youngest of nine children. Richard Watson was born when his father was sixty years of age.

The whole history of greatness favors late marriages. Wherever an exception can be found, as in the case of Bonaparte, it is where the parents have been endowed with exceptional and extraordinary vigor. The instances cited above sufficiently show that robust and rational children can only come from parents organically matured and with constitutions consolidated.

S. H. PRESTON.

SOME STATISTICS CONCERNING WOMEN.—Among the gleanings of interest from the census are those touching the comparative intelligence, health, criminality, and vocations of American women. We find that illiteracy prevails more among women, and is due probably to the foreign population, and that women contribute less to pauperism, the proportion being 31,000 to 36,000. The ratio of prison inmates stands 5,068 women to 54,190 males. Women are in excess among the insane, men in excess among the idiotic, blind, and deaf-mutes. The

proportion of women who engage in occupations outside of the household is smaller in the United States than in foreign countries, but in no country is the proportionate number engaged in superior industrial occupations equal to that in this country. Of the 2,647,000 women in occupations, 595,000 are engaged in agriculture, most of them colored women in the Southern States; 632,000 are in manufactories, of whom about one-half are in New York, Massachusetts, and Pennsylvania; 282,000 are milliners, etc.;

52,000 are tailors. Of the forty-four occupations recorded as "Personal Service," forty find women in them. The 525 female surgeons of 1870 have increased to 2,473; the seven lawyers to seventy-five; the sixty-five preachers to 165. The number of laundries has increased from 61,000 in 1870 to 122,000, and of the latter 108,000 are kept by women. Here is encouragement certainly for those of our sisters who would earn their own support, in that nearly all kinds of employment have been available to them.

WHAT IS INEBRIETY?

THE specialists in nervous diseases are, for the most part, inclined to regard inebriety as a disease of the nervous system. This was the view taken by that independent and progressive observer, Dr. George M. Beard. In the "Encyclopedia of Family Medicine," which he edited shortly before his lamented death, he presented his views at some length on the subject, and from which the following article is compiled:

"The public mind understands with ease that small-pox, typhoid fever, and ague are diseases, although the poisons that cause these diseases are not revealed to the senses, because the symptoms are seen as well as experienced by the sufferer. It is not necessary to depend on the statements of the patient; we know that he is sick, even if he insists that he is quite well. Inebriety, on the other hand, is purely subjective, and only exhibits itself by drinking, which is a habit common to thousands who are not inebriates, but are simply drunkards. One need not wonder at the slowness with which inebriety has taken its position as a disease, when we consider that besides being a subjective malady like neuralgia, neurasthenia, and hypochondriasis, it is also obscured by being confounded with the habit of drunkenness, which in its external appearance it so closely resembles. The superficial observer, forsooth, sees no difference between a drunkard

and an inebriate, just as he sees no difference between a hypochondriac and a malingerer, between one who is really depressed in mind and one that only pretends or fancies that he is so.

"Approximate analogies to inebriety may be found in various other mental disorders. Take the passion of anger, which is a normal faculty and indicative of health rather than disease. It may, however, become a disease. Morbid anger is perhaps one of the very first symptoms of insanity; yet the differential diagnosis of morbid anger from healthy anger may be as hard as the differential diagnosis of eccentricity and insanity in general, or of drunkenness and inebriety. Over-indulgence in the healthy passion of anger may invite and prepare the way for the morbid passion of anger; the brain, if used too long in a certain function, becomes diseased in that special function; over-indulgence of anger leads to morbid anger; over-indulgence of the love of acquisition leads to morbid avarice; over-indulgence in drinking alcohol leads to opium or chloral mania; the chief difference between opium and chloral mania on the one hand, and morbid anger and avarice on the other, is that the former is created by indulgence in the use of a substance, as alcohol, opium, and chloral, that appeals to the senses; whereas anger and avarice are purely psychical, and like all the great forces of

nature, can only be studied through their efforts.

"The third difficulty in the way of recognizing inebriety as a disease, is the fact that it exists in persons who are otherwise apparently perfectly well. Inebriates are frequently so strong and even sturdy in appearance, so free sometimes from other functional diseases, that their friends are slow to believe their weakness in this particular.

"Here, also, recur to analogy. Many other nervous diseases besides inebriety are consistent with apparent and real health and strength in other respects. A man may suffer every week from sick headaches, may have attacks of hay-fever, may be tortured with neuralgia, may experience the deepest horrors of hypochondriasis, and even insanity in certain phases, and may all the while increase in flesh and be capable of great muscular, if not mental endurance; and many patients of this kind suffer more from want of sympathy than from this disease. Hysterical women, and men also,—and some of the worst cases of hysteria are in men,—grow fatter and stouter as their symptoms grow worse. I am persuaded that in some cases increased strength and real vigor in other directions is one of the symptoms of increasing nervous disease, as though the morbid activity was concentrated in one function, leaving other functions to operate healthfully and vigorously. One day there came into my office an inebriate who told me he had been walking over forty miles consecutively without anything to eat, and he was but little wearied.

"Besides these three general things there are three special things in the way of recognizing inebriety:

"1. It is not seen to any extent in ordinary hospitals or public institutions. Our hospitals are filled with drunkards, those who are victims of the vice of drinking. The class of people who frequent hospitals are not the class from which, as a rule, inebriates come, for inebriety is usually a disease of refinement, of a fine organization, of indoor life, of brain-workers, of civilization.

"2. Inebriety is mostly, although not entirely, an American disease. By this I mean that it is more common in the United States than in any European country, not even excepting England. The ancient world knew a great deal of drunkenness, but little of inebriety. The disease was first observed in modern times; and in this country, and at the present time, it is more common than in any other part of the world.

"The group of ten diseases to which inebriety belongs, and which includes cerebral irritation, spinal irritation, general neuralgia, sick headache, physical hysteria, hay-fever, pathophobia in its different varieties, neurasthenia, or nervous excitement, and nervous dyspepsia are least abundant in Germany, more abundant in France, decidedly more abundant in England, and still more abundant in the northern and eastern parts of the United States, where there are more of these diseases than in all the rest of the world. The frequency of these diseases in this country, and especially in this section of it (the northeastern), is the manifold result of extremes of heat and cold, degrees of the air, our constitutions, and mode of life.

"3. A third special difficulty of recognizing inebriety as a disease is that it can not be studied exclusively by the senses. To master functional nervous disorders, we must use deduction as well as induction, the reason even more than the eye and ear. We can not see or hear, or touch or smell the pathology of inebriety; nor with the aid of a microscope could we solve the problem of its nature. Only by reasoning from general principles already established, and by analogy, with the aid of observation of cases, can we reach the heart of this or of any kindred affection. The successful study of subjects of this nature requires the philosophic mind. Inebriety is a disease of the brain, and it takes brain to comprehend brain. There are many diseases and various states of the system that are best studied with the eye, but the eye alone, with all its aids, will teach but little of inebriety.

"Understanding, then, that *inebriety* is a *disease*, our next and most natural inquiry is, What is the precise seat of the disease? On what part of the nervous system does the injury done by alcohol fall so as to make one an inebriate? My own view is, that in inebriety the centre of the brain that presides over the appetite is the part especially diseased.

"Inebriety has four characteristics that are common to it with other neuroses, of which I have spoken—the *automatism* of its symptoms, *periodicity*, *transmissibility*, and *relapsibility*. The symptom of drinking to excess that belongs to inebriety is as much beyond the control of the sufferer oftentimes as neuralgia or sick headache; whatever responsibility attaches itself to the patient must be referred to a time prior to the outbreak of the disease, when exposure to the exciting causes might perhaps have been avoided, or when the early temptation might have been successfully resisted. Dr. Crothers, of Hartford, has given me the details of four cases of inebriety where the malady was excited by breathing the air of the seaside; whenever they came near the sea-coast, as at Long Branch or Coney Island, or when they crossed the ocean, the symptoms of headache, debility, depression, and morbid craving for alcohol came upon them with irresistible power. We may blame a man for exposing himself to danger of taking cold, but no one blames a man affected with bronchitis for coughing. A boy struggling in the middle of a deep river, borne down by the current, may be blamed for not having learned to swim when he had opportunity, or for going beyond his depth, or for venturing too near the edge of the bank against parental injunction; but surely he can not be blamed for his inability to keep his head at the surface, or for not resisting with success the force of the stream. Just here is the *responsibility* of inebriates, so far as they can be said to be responsible for the disease from which they suffer. There are some inebriates who directly inherit the tendency to their disease, just as they might inherit the tendency to insanity, or epilepsy, or neu-

ralgia, or hay-fever, and who are no more and no less responsible in one case than in the other.

"One important result of researches in the physiology and pathology of the brain is to limit responsibility, or rather to decline its limitations, and to reduce the causes for blame and for praise of human actions to a scientific basis. A type and test of this relation of disease to responsibility is found in inebriety.

"The second characteristic of inebriety—*periodicity*—is common not only to nervous, but to various other forms of disease.

"All nature moves in rhythm; health as well as disease has its tides, its flowings and refluxes, its lulls before the storms. All the great forces are, or appear to be, results of wave motion. Under this universal law inebriety takes its own proper place. All inebriates are not periodical drinkers, but many of them are, and in those who seem to drink irregularly there may be, and probably is, an irregular rhythm in their cravings that is beyond ready analysis.

"In regard to the *transmissibility* of inebriety from parents to offspring through different branches and generations, and its correlation with insanity, epilepsy, and other nervous diseases, there is far less known, in spite of all that has been written on the subject, than is needed to be known. It is not the disease, it is the tendency to disease, that is inherited, and this tendency is not transmitted to all the children, but is liable to be transmitted to some of them, and one form of nervous disease, as inebriety in one or both parents, may, in some of the children or more remote descendants, reappear, as epilepsy, or insanity, or hypochondriasis. There is a general tendency to disease of the nervous system, developed and fostered under our modern civilization and institutions, which I call the nervous diathesis, and which subdivides itself into various phases of nervous disease—such as neuralgia, sick headache, spinal and cerebral irritation, hysteria, and hypochondriasis, as the hand branches out into the thumb and fingers."

ÇI, ÇI, ÇI.

THE RHYME OF THE CIGARETTE.

WHAT is that reeking flavor
That is neither scent nor savor?
It floats through the air,
Steals everywhere,
But it meets with no disfavor.
—Çi-çi-çi—'tis the fu-fu-fume, of the
çi-çi-çi-cigarette.

A beastly fume it seemeth,
That the youth himself esteemeth
As, sauntering by,
With his head on high,

In a cloud enwrap't he dreameth!
—Çi-çi-çi,—'tis the cha-cha-charm of
the çi-çi-çi-cigarette.

O, why doth the youngster wear
Such a visionary air?
He is all engrossed,
Is completely lost,
Who was once "broke up" with care!
—Çi-çi-çi,—in the qua-qua-qualm of
the çi-çi-çi-cigarette!

H. CLARK.

CATARRH "REMEDIES."

SO many inquiries are coming in from day to day about catarrhal affections that we think it fitting to supply the reader with such information as we consider trustworthy concerning methods of treatment, and especially to warn him against the unnecessary and injurious. From Dr. Rumbold's article published in the *Medical Review*, the following extracts are taken. Dr. R. states at much length his observations on the current catarrh nostrums, and concludes his paper with the following:

"Most of the inhalers are apparatuses for the generation of nascent muriate of ammonia, which is seen to issue from the nostrils in quite a large volume. The vapor is made by passing air through muriatic acid and aqua-ammonia; the combination of these two agents forms a dense white vapor, which in itself is not very injurious, and if used alone would not do much harm; but the discoverers of a remedy that has long ago been laid aside always mix with the water through which the vapor passes carbolic acid and other injurious agents that produce an immediate alleviating effect, but which, as I have said, are harmful in their results.

"I have collected every catarrh, asthma, and hay-fever 'Sure Cure' that is in the market, numbering in all 58, and have carefully examined them. Eighteen of these 'Sure Cures' are bald-faced frauds.

One ounce of quassia chips, a pound of table salt, and forty gallons of water will make one barrel of 'sure cure' that sells for \$1 a bottle, holding six ounces; the same quantity of water, a pound of muriate of ammonia, a pound of ground cubebs, and a little common potash will make another 'cure' that sells for 50 cents a bottle, holding four ounces. These two are the best of the eighteen frauds. I have no doubt that some of the proprietors think that they have 'just the thing,' for the simple reason that most of the agents used are now recommended by those of the profession whose practice is almost exclusively confined to the treatment of this disease, and their methods of application also agree with the methods now used by these physicians.

"I stated at the beginning of this paper that Americans especially were greatly injured by these advertised cures. I am satisfied, from conversation with physicians in all the large cities of Europe, that they do not see this third class, that is, those who resort to newspaper remedies, for the simple reason that very few of the European catarrhal sufferers resort to advertised remedies, nor do their newspapers advertise catarrh 'cures' to a great extent. It is because this class, who are very numerous, complain so much and so loudly of their symptoms, that makes it appear as though nasal catarrh was far more frequent now than formerly

and far more severe and frequently seen in this country than in Europe. Both conclusions are erroneous.

"Those of us who have arrived at our fortieth or fiftieth year of age will remember that very many of our schoolmates had 'dirty noses,' and that sniffing up the nasal secretions was a most common practice by both the boys and girls of our young days. None but the most ignorant need be informed that this was due to a profuse catarrh of a semi-chronic form. I do not think that any one will say that they observe to-day more children with profuse secretions running from their nostrils than they saw in their youth. My observations lead me to say that there were as many children affected with this kind of nasal catarrh 20, 30, 40, and 50 years ago as at present. Our attention was not called to it at that time, consequently we did not see it. That there are as many persons suffering from nasal catarrh in Europe as in America I know from observation; but because of the proneness of Americans to patronize advertisers, and because of their numerous loud complaints after being injured by these advertised catarrhal cures, this disease appears, as I have said, more frequent nowadays than for-

merly, and more frequent in this country than in Europe."

CARE OF THE EARS.—"Picking the ears" is a most mischievous practice; in attempting to do this with hard substances an unlucky motion has many a time pierced the drum and made it as useless as a bursted rubber life-preserver; nothing sharper or harder than the end of the little finger, with the nail pared, ought ever to be introduced into the ear, unless by a physician. Persons are often seen endeavoring to remove the "wax" of the ear with the head of a pin; this ought never to be done: first, because it not only endangers the rupture of the ear by being pushed too far in, but if not so far, it may grate against the drum, excite inflammation, produce an ulcer which may finally eat all the parts away; second, hard substances have often slipped in, and caused the necessity of painful, dangerous, and expensive operations; third, the wax is manufactured by nature to guard the entrance from dust, insects, and unmodified cold air, and when it has subserved its purpose it becomes dry, scaly, and light, and in this condition is easily pushed outside by new formations of wax within.

STEAM-COOKED FOODS INNUTRITIOUS.

THE popularity of steam-cooked or partly cooked cereal foods is due to their convenience to both the grocer and the housekeeper. They will "keep" on the shelves of the store or the pantry, and need but little preparation for the table. It does not seem to be understood that the partly-cooked hominy, oatmeal, or wheat grits have actually suffered by the steaming process, and lost in nutritive quality, because their albumen has been coagulated and rendered difficult of digestion. This idea of steam-cooking may have been taken from the practice so common for many years past among farmers, to cook food for their stock; but now it is dawning upon their intelli-

gence that to feed cattle with warm cooked messes is far from beneficial, and that in spite of the praise given it in agricultural papers. Prof. Sanburn warns farmers against it, and in proof of this statement he quotes from certain "full and satisfactory tests" at the Maine Agricultural College, continued during nine years with results like these:

"In 1870, value of cooked meal to raw meal as 95.5 is to 100; in 1871, as 74.8 is to 100; in 1872, as 82 is to 100; in 1873, as 91.6 is to 100; in 1874, as 98.8 is to 100; in 1875, as 73.3 is to 100; in 1876, as 88.8 is to 100; in 1877, as 64.2 is to 100; in 1878, as 78.5 is to 100; average for nine years as 83.3 is to 100. As these trials

continued for the season and for nine of them, and not for a week, much weight must be attached to the results."

Prof. Sanburn, by combining practice with science, has won his way to the deserved respect of intelligent farmers, and appeals further, in his letter on the subject in *The Rural World*, to results of various methods and degrees of cooking, which he concludes does not pay even in the case of concentrated food for hogs:

"Kuhn found that pouring boiling water on bran and allowing it to stand twenty-four hours positively retarded digestion. . . . Kreusler and others found that souring and fermenting caused, as we might expect, a loss of raw material, while boiling, steaming, and scalding diminished the digestibility by the large amount of water. Steaming of hay diminished the digestibility. . . . Homberger found that steaming hay for oxen

resulted in a decreased digestibility of the nitrogenous matter of foods, and that only 68 per cent. of the digestible albuminous matter was assimilated. . . . Other tests by the German experimenters have given similar results, and justify those thousands who have tried cooking food in abandoning the process. However, they are not justified in starting out in praise of the process and then winding up in silence. . . . In visiting the herd of one of the famous breeders of this continent, I found a very elaborate and costly system of cooking food listless. Said the proprietor: 'I was kept trotting for the veterinarian while feeding cooked food and abortion increased.'"

We may take these conclusions as applicable to the farinaceous materials used by the higher animal, man, and condemnatory of the cooked food, of commerce.

D.

HOME RELIEF IN VEGETARIANISM.

A CORRESPONDENT of one of our "family" publications writes in a vein of zeal concerning the benefit to his housekeeping and "women folk" arising from a disuse of butchers' stuff. To quote a part of his letter:

"Heretofore the 'good angel' of our house has spent many years in catering to the appetites of a herd of careless, thoughtless feeders, filling tables full of rich, highly-seasoned foods, pastries, puddings, fat meats and lean, fish, fowl, and every good thing else to be had in the country, in the usual approved styles. We have paused to draw a contrast.

"Now we neither kill, cook, nor eat flesh of any kind. We do not make or eat rich pastries, puddings, or sauces. We need and use but few luxuries. Pie-crust without shortening, cookies ditto. We do not taste of food with lard in it; and if we must shorten anything we use butter, butter-milk, cream or milk, as being comparatively harmless. Our meals are therefore very simple as well as economical. Eating but twice a day our

meals, breakfast and dinner, do not differ very widely. Our staple article is good wheat-meal coarsely ground, and cooked in a variety of ways, but chiefly gems and pudding or mush. We use garden vegetables and all kinds of fruits, and the world is full of delicious fruits. We use but little fine flour, a little buckwheat, oat-meal, cracked wheat, and starch. We strive to eat slowly, taking small mouthfuls at a time. And really, we have just our choice of all the food materials of the world. We are not ambitious to get what is better, for we can not. If we sit at the tables of our friends and neighbors, inconsistent with our usual course, we partake as little as we can. It is better to go hungry than to eat impure food.

"No one can fully realize the greatness of the burden thus taken off the housekeeper. What a multitude of utensils are dispensed with—stew-pans, kettles and frying-pans, broilers and tormentors, meat-tubs, salt pickles, brines, and choppers, all an offensive and horrid group of things banished forever. We have

now lived nearly four years in this pure and simple way, and we could not be induced to go back to our old habit. Pure food makes pure blood, pure bodies, and pure thoughts. Says the grand old philosopher Porphyrius, 'The eating of flesh fills us with a multitude of evil diseases and multitudes of evil desires,' all of which it is better to avoid.

"Our food is substantial and we do not want for strength. We can labor, we can rest. We have no fear of epidemic or contagious diseases. Mankind with pure food and cleanly habits will avoid cancer, cholera, catarrh, consumption, diphtheria, and a multitude of afflictions. If we are true to ourselves in these matters we can give all the doctors a good-bye shake.

"That which is best to give us health and strength is best to cure our ailments. Thus pure food cures what medicine can not reach. It is fearful to contemplate the wretchedness caused by impure food

and gluttony. Poisonous drinks alone destroy millions."

RELIEF FOR TOOTHACHE.—For ordinary nervous toothache, which is caused by the nervous system being out of order or by excessive fatigue, a hot bath will so soothe the nerves that sleep will naturally follow, and, upon getting up, the patient will feel very much refreshed and the toothache gone. For what is known as "jumping" toothache, hot, dry flannel applied to the face and neck is very effective. For common toothache, which is caused by indigestion, or by strong, sweet acid or anything very hot or cold in a decayed tooth, a little piece of cotton, steeped in strong camphor or oil of cloves, is a good remedy. Care in the diet, especially when the bowels are disordered, is helpful to mitigate toothache. If the tooth is much decayed, nothing is better than its extraction.

PREVENTION OF SMALL-POX.

THE Montreal excitement over the small-pox outbreak should have a good effect in the States bordering on Canada, so far as precautionary measures are concerned. Experience has proven that vaccination does not prevent the disease, but that hygienic measures furnish the best protection. We take the following hints from the *Philadelphia Record*, thinking that they may be serviceable to our readers, both physicians and laymen :

"Many deaths from small-pox may be prevented by knowing how to treat the disease. A gentleman in this city found that a child of his, one with two good vaccination marks, had small-pox. The child was immediately placed in an upper room, which had been stripped of everything but the bed and bedstead, a chair, and small table. The father took charge of the child, attended to everything; no one else was allowed to come on that floor; food was left in the second story hall, which the attendant, after washing

his hands with carbolic soap, transferred to other dishes, which were washed and disinfected in the sick-room. Nothing touched by the patient was allowed to go down-stairs; all the slop was thoroughly disinfected with chloride of lime, carbolic acid, and sulphate of iron; soiled clothing was covered with chloride of lime and immediately burned in the furnace. When the patient was well the bedding was sent to the small-pox hospital, the room thoroughly scrubbed, and the walls and floor wiped over with a solution of carbolic acid in water, just so weak as not to change the color of the wall paper. Then a good strong earthen vessel was placed in the room and about half a pound of chloride of lime put into it. On this was poured half a pound of muriatic acid, and the door immediately closed. The chlorine gas thus generated permeated every crevice in the room. This was done three times a day for several days, the adjoining rooms being also filled with the gas. The result was,

that with a large family, small-pox all around, and many fatal cases in the neighborhood, no other member of the

family had it, and that room is just as free from small-pox taint as if the disease had never been there."

THE COMBINATION DRESS.

A CORRESPONDENT of the Boston *Herald* is of opinion that the highly respected article of woman's apparel, called chemise, is in danger of supersession, on account of the acceptance which is generally accorded the "combination dress," by those who have given it a fair trial. She says:

"Every one is supposed to have a chemise 'to her back,' but that this supposition is not wholly true was proved to me some time ago. When at the seaside, two girls, mutual friends of mine, and whom I introduced to each other, went one warm day with me to bathe.

"One said to the other: 'I am afraid you will be awfully shocked when you see me undress.' 'Shocked! Why?' 'Well, I hardly like to tell you; but the fact is I have so little on.' 'I don't wear much,' said the other. 'All I have is combinations, stays and one petticoat under my dress.' Curiously enough, both those girls were dressed in precisely the same way, in woollen combinations, stays (well shaped and not tight), one petticoat, and a dress, which, from its elegance, gave no suspicion of the state of affairs underneath. As I had an opportunity of observing, these young ladies were dressed in perfectly sanitary style, although none but myself had any idea of the fact; and, in spite of it, they passed for two of the best-dressed girls at the fashionable watering-place where we were staying.

"I have since had several opportunities of observation, and I find that quite a number of the best-dressed women of my acquaintance have renounced the use of the chemise in favor of woven combinations. The majority, however, I believe, are not induced to do so by sanitary considerations, but simply because the

chemise is a bulky article and makes them look stouter than is natural to them, whereas the combinations, being made of a stretchy material, fit somewhat closely and show the symmetry of the figure. This is, to my mind, a very good reason why the chemise should be given up; but, from a health point of view, we can find a still better one. Chemises are generally made of linen or cotton, both of which materials, as I have already said, are unsuitable for clothing, because they are good conductors of heat, bad absorbers of moisture, and bad ventilators."

HOW A CIGAR MAY COMMUNICATE DISEASE.—A man of information was smoking and chatting with a physician on a Hudson River ferryboat when a stranger stepped up and asked for a light. "Let me give you a match," replied the man of letters, adding, after his petitioner had withdrawn, "I don't know how you feel about it, doctor, but for my part I very much dislike to put the end of my cigar back into my mouth after it has been fingered by Tom, Dick, or Harry. I always carry matches with me, and make it a point to offer one of them instead." "And quite right you are," said the doctor. "I believe that some of the worst diseases can be conveyed by one man to another through the contact of his fingers with a borrowed cigar. I personally know of a case where varioloid was transmitted by means of a two-dollar bill, and I firmly believe that varioloid and things much worse can pass from a man's fingers into a cigar, and thence into the smoker of it."

It is said that in California cigars are manufactured by leprous Chinamen; the idea is startling!

LOCALIZATION OF THE FUNCTIONS OF THE BRAIN.—A REVIEW.—No. 3.

THE experimentalists seek to ascertain the functions of the brain by isolating portions which may be organs, and by stimulations or lesions to obtain their functions. Now all they desire to obtain can be obtained by Phrenology in another way. I have already stated that there are two aspects of proof in the observation method of Phrenology, the positive and negative. When an organ is excessively developed it is positive, and when excessively small it is negative; that is, when large the person exhibits the quality in a high degree, and when small in a low degree.

Now in these cases, when an organ is excessively small, we have a mutilation, and when large we have isolation and stimulation, and that too in as great a degree as the experimentalists can ever hope to reach; but there is this advantage, however, the animal is not under the influence of anæsthesia, and we have human beings to deal with in the full possession of their senses, and all injury, irritation, or conduction of electricity to adjoining parts is avoided. The organs being small, serve as well as if they were removed, but it is a natural removal, and the experiments can be made not on a few mutilated animals, but on multitudes of human beings to the full satisfaction of all. The other methods of injuries to the brain, and comparative anatomy, also give the advantages of natural mutilation, but it is harder to establish the functions of the brain by these methods, and it is necessary to know them beforehand, and takes a greater period of time. The experimentalists are beginning to recognize the importance of injuries to the brain in discovering the functions, and their works on aphasia, or loss of speech, and the color sense are fast bringing them into the right track. They have already got so far that they locate the power of speech in a convolution in the same region that the phrenologists locate Language, sometimes called the convolution of Broca, from the investigations of

Broca into loss of speech. So with the investigations into color-blindness, they will result in placing an organ for color in that part of the frontal lobes where Gall placed it. Since the investigations of Broca they have been seeking for examples of the loss of speech by injuries to the brain, and if they would only look through the various works on Phrenology they would get an abundant supply.

In order that the functions should be discovered by Gall's method, it is necessary to observe exceptional cases; thus one or more organs need to be excessively large, while the others need to be moderate, thus making them distinguishable from each other. On this account some have called Gall's method Craniology or "Bumpology," and have maintained that what was discovered by exceptional cases could not apply to ordinary cases. The utter uselessness of such an argument is very apparent; for the experimental method is open to the same objection, and we might just as well deny the truths of botany or any other science, for they are all founded on exceptional cases. A great many of the facts of botany have been obtained not from the ordinary run of plants, but from monstrosities. Every plant is composed of stem, root, leaf, and axis, and every part of the plant can be referred to leaf and stem. How could we have ever known these facts if botanists had not observed and drawn their conclusions from monstrosities or exceptional cases? Although Gall made his discoveries by means of exceptional cases, yet these cases were compared with ordinary cases, and the location being discovered it is just as easy to tell the development of the brain of such men as have their brain functions all equally developed.

It should be remembered that in building up the science of mind, and the art of reading character by the phrenological method, Gall and Spurzheim speak of protuberances only as necessary in discovering the seat of the organs, but when

the seat is known they are no longer necessary. "They require that every one who wishes to form an opinion of the reality of Phrenology must make himself acquainted with (1) The situation of the organs; (2) With the true meaning of each fundamental faculty of the mind as adopted in Phrenology; (3) With the different temperaments, giving more or less energy to the functions of the organs; (4) With the relative development of the four regions of the head, occipital, lateral, frontal, and sincipital; (5) With the proportionate size of the three great divisions of the inferior feelings, superior sentiments, and intellectual faculties; (6) With the relative development of the special organs of each individual." In considering all these things it is necessary to remember that "size, other things being equal, is the measure of power." The other things are texture or quality, activity, physical power, disease, etc. The statement made by some that "in Phrenology size is everything," is thus seen to be without a shadow of foundation.

Some say that "Phrenology was established by Gall and Spurzheim when very little was known about the brain, and when its physiology was entirely undiscovered, hence it could not have been established on just grounds. It is true that great ignorance existed concerning the anatomy of the brain, but that ignorance was not with Gall and Spurzheim. They were far ahead of the anatomists and physiologists of their day, and their views of anatomy are the views of the anatomists of to-day. To Gall and Spurzheim is due the improved method of dissecting the brain which is now used, and they established the fact that the brain is the organ of the mind; that it is composed of white and gray matter, that the white matter is composed of fibres, and that the gray matter is cellular, or has cells in it. The ramification of the nerves in the brain was also made known by them, also the different parts of the brain and their functions. They even maintained that there must be sensory and motor nerves, that is, afferent and

efferent. This latter fact was afterward fully proved by Sir Charles Bell. It would take too much time to enumerate the discoveries of Gall and Spurzheim in brain anatomy alone, but they can be seen in their own works and in the report of Baron Cuvier to the Museum of Anatomy in Paris. It is sufficient to say, however, that although their discoveries were opposed by the anatomists of their own day, yet they have each one been proved by the researches of anatomists since their time. At present it may be said that Gall and Spurzheim and the anatomists of this decade are one and the same in anatomy, and Spurzheim's "Anatomy of the Brain" might just as well be used in medical schools as the best works on the subject, as it is better than the majority of those that are used. It makes one smile now when he reads of the first brain Spurzheim dissected in Edinburgh before some of the anatomists of his time, among whom was the famous Dr. John Gordon. The method was entirely new to them, as they had simply cut the brain in slices from above downwards, thus spoiling the parts of the brain, and making it impossible to notice the different parts. Spurzheim commenced from below upward, tracing the nerves as he went along, and carefully noticing each part of the brain, its position and connection with other parts. As he dissected the brain some of the anatomists thought they could see the fibres as he pointed them out, while others did not know whether they saw them or not. These are the anatomists whose views we are expected to accept in preference to those of such men as Gall and Spurzheim. There have been objections brought against Phrenology from physiologists at different times, and perhaps it would be well to examine some of the most important. I can only allude to the discussion between Sir William Hamilton and Dr. Spurzheim and George Combe, as it would take too much time, and is of very little importance now. Hamilton is thought by some to have wiped out Phrenology, but if they will only read

the discussion they will see that he had decidedly the worst of it. The very evidence which he brought forward to disprove Phrenology was declared by the umpires as unfit to be received as testimony, and the famous fourteen propositions which he afterward issued have been proven to be false, while the counter phrenological propositions, freed from Hamilton's misstatements, have been proven to be correct. It would have been better for Hamilton if his propositions had been burned; for we would then doubt that a man of his caliber ever held such opinions as that in old age the walls of the skull do not thicken, and that after the seventh year the brain does not grow; that the increase of the head which does take place is due to the greater development of the cranial bones, muscles, integuments, and hair; that the cerebellum reaches its full proportion many years before puberty and probably as early as three years, and that it is larger in women than men.

The utter fallacy of Hamilton's propositions can be seen by looking into any of the later anatomists, such as Dr. John Gray, Dr. Dalton, Prof. Ecker, and Prof. Turner, of Scotland. Hamilton's objections have done one good thing, they have shown the ignorance of the anatomists of his day, and how much Gall and Spurzheim were ahead of their time. I have the greatest respect for Hamilton and his philosophical writings, but whenever I think of his phrenological controversy, I seem to see him running through the streets of Edinburgh with fourteen malformed skulls seeking for a Spurzheimite on whom to hurl his metaphysical venom and demolish the phrenological system into thin air. With all his energy he did not dare to meet and discuss with one of them before the public, but his discussion was carried on through the penny post.

It is curious to see how some physiologists, opposed to Phrenology, have been compelled to change their views as one or another phrenological proposition has been fully established by recent in-

vestigation. Prof. Wilder, of Cornell, at one time opposed Phrenology, and maintained that the brain was not the organ of the mind; but in 1873 he delivered a lecture on Brain and Mind in New York, in which he gathered together all the old objections to Phrenology that had been refuted time and again, and hurled them at his audience; but in this lecture he showed a change of views, for he believed that the brain was the organ of the mind. He maintained stoutly, however, that it was not a congeries of organs. After the results of Ferrier's experiments were made known, he again changed his views, and said that the time for reaction had come; that the brain was certainly a congeries of organs, each having its special function. This is an example of what has been the case with the majority of those physiologists who have been opposed to Phrenology. Their opposition usually shows great ignorance of what Phrenology teaches, and sometimes misrepresentations. Here I can not help alluding to Wilder's crowbar argument, as I have seen it in nearly every work on physiology I have examined. It is called the famous Cardiff Giant Crowbar Story of America. A man while blasting rocks, by the premature explosion of the mine, had a crowbar (it was a miner's tamping-iron) forced through his head. The bar entered the lower part of the skull and passed out of the head near the median line. He was rendered insensible, but was not killed. By proper medical skill the wound was healed, and he lived for twelve years afterward, but finally died of spasms. Now it has been said that his powers were unimpaired by the wound. Wilder uses this as an argument against Phrenology, saying "that if the science were true his powers would have been impaired."

Now, according to Phrenology, the organs are double—that is, there is one in each hemisphere of the brain, located in a similar place, and having the same function; hence it is possible that an organ in one hemisphere might be injured and the duplicate in the other

hemisphere still carry on the function to such an extent that the impairment of the faculty by the injury to the other part could not be noticed. Now, as the iron bar entered the head in one place and came out at a different place, no organ could have been destroyed in both hemispheres, and so he might manifest the same powers as before the accident. It seems to me that if Prof. Wilder had known anything about Phrenology he would never have used this case as an argument against it; for if it proves anything on his side, it proves that the brain is *not* the organ of the mind, and Wilder, at the time he advanced this argument, accepted the proposition that the brain is the organ of the mind. Again, the bar was smooth, tapering, and pointed, so that it might pass through the brain without tearing or lacerating the brain substance, but simply part it as is done by the electrodes in the galvanic experiments, and hence the man's faculties might be unimpaired after recovery. But Wilder also shows ignorance of the case in saying that his faculties were not impaired by the wound; for they were very much impaired. His physician and friends noticed that while he was a man of intellectual power and steady habits before the accident, after it he became stupid, irritable, forgetful, careless, and not to be depended upon. He had to give up his position of overseer, which he had filled well before the accident, because he was unable to attend to it after the injury; besides, it is generally concluded that his death in spasms at the last was really the result of a derangement of his brain from the effects of the accident. An account of the injury of his powers by this accident can be seen in the *Popular Science Monthly* for March, 1881, in an article on "Cerebral Experiments for Brain Functions."

Mr. Lewes in his "History of Philosophy" reviews Gall's system at considerable length, and makes objections to it. His objections are mainly a mass of misstatements or deliberate falsehoods; but as he has been sufficiently answered by Morgan in his book "Skull and Brain,"

and his assertions shown to be false, I will not deal with them here. There is one statement of his, however, that Morgan has not replied to, which I have often heard, and which is so common at Harvard University, that it is necessary to examine. Lewes says, "Phrenology would not be so much behind the times if its advocates had followed in the footsteps of Gall and kept up with the new discoveries in anatomy." Now this statement is not correct; for as I have already said there is hardly any difference between the anatomy of the brain as given by Gall and Spurzheim and that of the anatomists of to-day. The phrenologists have not only kept up with the advance in physiology, but some of them have been the most prominent physiologists of their day. Dr. Vimont and Dr. Broussais were the greatest anatomists in Paris, yet they were phrenologists, and wrote excellent works on Phrenology. In Germany there was Dr. Hoppe, of Berlin, and many others. In Britain the anatomists who embraced Phrenology have been so numerous that it is impracticable to mention them, and the same may be said of America. We will mention a few, however, as an example: The Combe brothers, of Edinburgh; Prof. John Elliotson, M.D., F.R.S.; Dr. Robert Hunter, Prof. of Anatomy; Prof. John Bell, M.D.; Dr. Samuel George Morton, Prof. of Anatomy; Dr. W. A. H. Brown, Psychological Consultant of Crichton Royal Institute and Commissioner of Lunacy, and Dr. J. P. Brown; all prominent anatomists, writers, and teachers of Phrenology. In America, Prof. Dunglison, M.D., author of "Materia Medica" and "Medical Dictionary"; Dr. Charles Caldwell; J. V. C. Smith, Prof. of Anatomy and editor of the *Boston Medical and Surgical Journal*; and Nathan Allen, M.D. These are only a few of the distinguished anatomists of Phrenology, and yet Lewes tells us they are not up in anatomy. In fact, the great Prof. Turner has a leaning that way, and it would not be surprising to see him a phrenologist before long.

Bastian, in his "Brain as an Organ of the Mind," has a few objections against Phrenology, if they can be called objections; for it seems to me that he has not read any phrenological work, or else he intended to make a deliberate misstatement. He says, "Phrenology was considered by Gall and Spurzheim to be perfect and complete." Gall and Spurzheim never made any such statement, but they were very particular to say they did not regard the science as complete, and thought that it would take centuries to perfect it. The statement of every phrenologist since that time is that they do not consider the system as perfect, and expect to see it improved slowly. Bastian also says, "Gall and Spurzheim considered the gray matter to have no function, and disregarded it in localizing the functions, regarding it as a mere matrix." Was there ever such a barefaced misstatement! I need only refer Bastian to Spurzheim's "Anatomy of the Brain," where he will see the organs located in the gray matter and on the convolutions of the brain. The very means by which Gall discovered the functions made it necessary that he should consider the gray matter as part of the functions, and he undoubtedly did so. The reason why Bastian made this mistake was probably from the fact that Gall and Spurzheim, in describing the course of the white or nervous fibres through the gray matter, say that the gray matter is like a matrix to the white in position, but by so doing they did not mean that it was nothing but matrix. Of course there is more known now about the composition of the gray matter than in the time of Gall and Spurzheim, but it does not militate against Phrenology.

In recent times a greater knowledge of the composition of the gray matter has been obtained by the aid of high-power microscopes, so that it is now known to be mainly composed of cells of various shapes. Bastian says, "The other material composing the gray matter is merely matrix"; but I am afraid that by this statement he makes an error similar to the

one he accused Gall and Spurzheim of making. The cells are thought to be the main elements in the operations of thought. The opinion seems to be gaining ground that these cells are the extremities of the white or nervous fibres, and thus they may be said to be a part of the fibres; but there is a difference of opinion among microscopists on this point, as some hold that the cells are not the extremities of the fibres. This point, then, is still undecided, but the cell theory is accepted, and is called by some a localization of the functions. Some may think this conflicts with Phrenology, but instead of doing so it confirms it. The cell theory is a very reasonable one, and is a good means of explaining how the brain acts; for when a thought occurs a certain tract of cells are excited to produce the thought, and afterward, if one or more of the cells of that tract are excited, the whole tract would tend to be excited, and thus the thought would be remembered or come into the mind again. To make this theory conflict with Phrenology, it would be necessary to prove that cells having entirely different functions are close together, and those having the same functions are in different parts of the brain; but when the brain is stimulated by galvanism it is found that this is not the case. The cells are found to be in groups, each cell of the same group having the same function, except that the centre cells seem to have the function in the strongest degree, while the others of the group, although fainter in their responses, seem to aid those in the centre. Ferrier found this to be the case in his experiments; and this is as far as Goltz and Munk got toward localization. This theory is sometimes called the cell theory of localization of brain functions, because the functions of the different groups are different. This coincides with Phrenology; for the groups themselves are the organs, although the experimenters have not been able to localize them sufficiently, and the responses have been only movements. The cells are the nervous substances of the organs which perform the

work of thought, and the theory may yet be of great use in making perfect the phrenological system. Dr. Brown-Sequard, M. Foster, and other eminent anatomists, are the supporters of the cell theory.

I will now conclude by saying a few words on the organ of the generative instinct. The phrenologists locate it in the cerebellum, but some of the physiologists have been opposed to this. Some of them seem to take delight in ridiculing this location of the sexual instinct, and all they can see the cerebellum to be good for is to preside over equilibrium, and serve as a centre for general muscular co-ordination. The experiments on animals which they advance to prove this, present the most contradictory and confusing phenomena. Dr. Flint says: "There is still the widest difference of opinion among physiologists in regard to the functions of the cerebellum." This statement of Flint's is very true; for if we examine the works of Bastian, Foster, Ferrier, Flourens, Eckhard, Schiff, Dalton, Carpenter, and others, the differences and inconsistencies are so great that there is nothing for us but to fall back on Gall and the phrenologists, who seem to have clearly established the location of Amativeness in the cerebellum. There is a magnificent work on the Functions of the Cerebellum by Drs. Gall, Vimont, and Broussais, translated from the French by George Combe, with additional proofs by Combe and others, that Amativeness is in the cerebellum. The proofs are simply numberless, and any one who reads this book will be convinced of the truth of the location. The location of the sexual impulse in the cerebellum does not deny that it has to do with muscular co-ordination, etc.; for these can exist in it also. The cerebellum is large enough for both. There have been physiologists who thought both could be located there, and they are not phrenologists either. Among these is M. Serres, who was contemporary with Combe. He was of the opinion that the median lobe presided over the generative

instinct, and the lateral lobes over muscular co-ordination. Dr. Carpenter, although opposed to Phrenology, says that certain facts which he has seen lead him to think there may be a connection between these functions. (See the late edition of his "Human Physiology," page 684.) Dr. Dalton thinks a part of the interior medial region of the cerebellum may be connected with the sexual impulse. (See his article on pathology and the data of vivisection.) In his experiments on animals, Dr. Fairfield paid more attention to cutting out the gray matter and cutting out particular nerves than did either Goltz or Ferrier, and he came to the conclusion that the innervation of the generative organs proceeds from the cerebellum by way of the posterior cord, the vital by the gray portion of the spinal marrow, and the consciously voluntary by way of the anterior. This was proved by cutting out the gray matter of the corpora fimbriata of the medulla oblongata. Ferrier might just as well have placed equilibrium in the skin; for when he took off the skin the animal fell like a log. It is well known that in sickness and injuries the sexual instinct is not very active, but is rather kept under; hence stimulation of an animal's cerebellum, when mutilated or partly insensible, would not excite the function, but stimulation of the connecting cords might, as the electricity might take the place of the brain.

Injuries to the cerebellum are generally, if not always, attended with disorder of the generative instinct, and a great mass of such cases have been collected by the phrenologists. They are sufficient to convince me of the correctness of this doctrine; besides, in my own experience I have noticed, as every one else has who has paid any attention to the subject, that men and women with full, round necks, prominent chins, and with the brain wide and deep in the base, at the back part of the head, have a greater fondness for the opposite sex than those with narrow, little heads, long, thin necks, and small chins. I have noticed that

those who were old maids or old bachelors from a dislike or fear of the opposite sex, were sadly wanting in the signs of a large cerebellum, and in their actions in the presence of the opposite sex showed a timidity and a lack of feeling, or warmth and sympathy. If those anatomists who oppose Gall's conclusions would only set themselves to work on Gall's methods of observation, they would soon come to the same conclusions as he did. They ought, at least, to collect a quantity of facts by Gall's method contradictory to his conclusions, which could easily be done if the phrenologists are wrong; but this they do not, for all who have tried it have been converted to Phrenology.

WILLIAM HYDE.

Cambridge, Mass.

(CONCLUSION OF "SELF-ESTEEM AND APPROBATIVENESS," p. 310.)

If kind measures fail to bring repentance, you must punish. But the object of that punishment must be to bring repentance. Otherwise it will prove a failure.

One of the worst cases in every school is the pupil who is over-anxious to make a display, to show off at every occasion, where every look and movement seem to say: "Look at me. See what I do. Now, is not that about the thing?" He is ever saying or doing something to attract attention. He is usually nicknamed "Smarty."

The weapon to use against him is public sentiment. That is the most painful to him. You show that such conduct is despicable in the eyes of the school, and when he sees that his deeds are condemned by the school, he will soon cease

to practice them. If there is a sentiment against the teacher among a large number in the school, this pupil becomes the teacher's greatest annoyance. He will go just as far as he can, even if he is punished for it, because then he receives the greater applause from his fellow-scholars, and this causes him to bear the punishment gladly. The teacher should keep the great majority with him always. If he loses their support his power is gone. Public sentiment in school, as everywhere else, is a great force.

Let a teacher punish the worst boy in school, every one will say he richly deserves it. But if the teacher in his passion punishes too severely, the sentiment of the school will go against him. Their sympathies are then extended to the culprit, whom before they all disliked. He is made a hero, and glories in his victory. The teacher's influence is gone and it is doubtful if it can ever be regained. Always do the right and keep the public sentiment of the school with you.

If you have pupils who are vain, show them that true worth and the right are the only reputable things; that fine clothes or rich friends are no marks of superiority; that honesty, kindness, good sense, and real work deserve praise.

Especially should the teacher avoid showing vanity. Never do anything for the sake of showing what you can do. Never display your learning for the sake of having it seen. Go about your work modestly. Nothing will so soon bring the contempt of the school upon you as cringing and begging for notice and compliments.—U. J. HOFFMAN, "*Science of the Mind in Teaching*."

NOTES IN SCIENCE AND AGRICULTURE.

Women in Horticulture.—We have no patience, says an exchange, with the superficial observers who twaddle about the degrading effect of outdoor work upon women. They must be peculiar women who can be more "degraded" by working in God's pure air, amid the beautiful sights and sounds of nature, among the wonderful plants of garden and field, than by being cooped up in a hot kitchen, handling pots and kettles, doing chamber work and mending old clothes. No

honest work is degrading to any man or woman, unless it injures the moral nature or weakens the body. We owe to our husbands and wives and children and our Maker the duty of performing the work before us to the best of our ability. We also owe to them the duty of doing the work we are best fitted for, and to take good care of our bodies in order that we *may* do our work well.

No industrial pursuit is better fitted for women, and they to it, than horticulture, the

culture of fruits, flowers, and vegetables, for pleasure or profit. Already millions of women cultivate and love as pets the few flowering plants and vines in their windows; thousands know the pleasure of flower-beds; and hundreds are practicing the art of gardening on a larger scale as a profession. May their efforts succeed, and may thousands more join their number! Thus will horticulture be honored, their own lives be made more beautiful and useful, and mankind be blessed by the better health and higher aims of the mothers of Christendom.

Water Gas.—Inquiry is made with regard to this substance, and it may be defined to be the gaseous product resulting from the interaction of steam and carbon at a high temperature. Generally speaking, the mode of its manufacture is to pass superheated steam through a thick layer of white-hot coal. The result of the procedure will be readily understood by reference to the following explanation: The glowing coal (carbon) seizes upon the oxygen of the steam, uniting with it to form carbonic acid. (In chemical language the reaction would be expressed by the formula $C + 2(H_2O) = CO_2 + 4H$.) The carbonic acid thus formed is, however, forced to pass through a considerable layer of glowing coal before it may escape, and, in its passage through it, this white-hot carbon deprives the carbonic acid of one-half of its oxygen, reducing it to the state of the lower oxide of carbon, known as carbonic oxide. (This chemical reaction would be expressed as follows: $CO_2 + C = 2CO$.) The product which results from these several reactions is, therefore, composed of four equivalents of hydrogen and two equivalents of carbonic oxide (*e. g.*, $4H + 2CO$). This product is what is known as water gas.

Great Salt Lake as a Geological INDEX.—The Great Salt Lake of Utah is an example of a modern saline sheet of very different origin, since it is in fact not a branch of the sea at all, but a mere shrunken remnant of a very large fresh-water-lake system, like that of the still-existing St. Lawrence chain. Once upon a time, American geologists say, a huge sheet of water, for which they have even invented a definite name, Lake Bonneville, occupied a far larger valley among the outliers of the Rocky Mountains, measuring three hundred miles in one direction by one hundred and eighty miles in the other. Beside this primitive Superior lay a second great sheet (Lake Lahontan, the geologists call it) almost as big, and equally of fresh water. By and by—the precise dates are necessarily indefinite—some change in the rain-fall made the waters of these big lakes shrink and evaporate. Lake Lahontan shrank away like Alice in Wonderland, till there was absolutely nothing left of it; Lake Bonneville shrank until it attained the diminished size of the existing Great Salt Lake. Terrace after terrace, running in long parallel lines on the sides of the Wahsatch Mountains around, mark the vari-

ous levels at which it rested for a while on its gradual downward course. It is still falling, indeed, and the plain around is being gradually uncovered, forming the white salt-encrusted shore with which all visitors to the Mormon city are so familiar. But why should the water have become briny? Why should the evaporation of an old Superior produce at last a Great Salt Lake? Well, there is a small quantity of salt in solution even in the freshest of lakes and ponds, brought down to them by the streams or rivers; and as the water of the hypothetical Lake Bonneville slowly evaporated, the salt and other mineral constituents remained behind. Thus the solution grew constantly more and more concentrated, till at the present day it is extremely saline.

Domestic Habits in Alaska.

From a letter by Mrs. Willard, published in connection with Lieut. Schwatka's paper on the Yukon River in the *Century*, we take the following:

"The Chilcat people long ago gained for themselves the reputation of being the most fierce and warlike tribe in the Archipelago. Certain it is that, between themselves and southern Hy-dah, there is not another which can compare with them in strength, either as to numbers, intelligence, physical perfection, or wealth.

"A diseased person among the Chilcats is rather the exception, and prostitution as defined by them is punishable with death. At first thought their marriage laws seem very elastic, but such is not the case. Though they do not bind tightly they bind strongly, and the limits which are fixed are fixed indeed. The children always belong to their mother and are of her totem. This totemic relation is considered closer than that of blood. If the father's and mother's tribes be at war the children must take the maternal side, even if against their father. It is this law which makes illegal any marriage between members of the same tribe; though the contracting persons may be entire strangers, and unable to trace any blood relation. At the same time a man may marry his half-sister (one having a different mother) or a woman and her daughter—either at the same time or consecutively; for plural marriages are not uncommon, though they are by no means general. In very rare cases a woman has two husbands, oftener we find a man with two wives, even three; but more frequently met than either is the consecutive wife."

Swedish Deliberation.—One of the great peculiarities of travelling in Sweden is the extreme quiet and lack of flurry. The Swedish are a taciturn and noiseless people. They do much by signs, and never shout; a Swedish crowd makes singularly little sound. Swedes, even of the lowest class, never push or jostle. It is the custom to do so much bowing and hat-lifting that one is obliged to move quite slowly to give time for this cour-

tesy. When a train leaves a platform, or a steamboat a pier, all the lookers-on lift their hats to the departing passengers and bow to them, a compliment returned by the travelers. If you address the poorest person in the street, you must lift your hat. A gentleman passing a lady on the stairs of a hotel must do the same. To enter a shop or a bank with one's hat on is a terrible breach of good manners. If you enter or leave a coffee-room, you must bow to all occupants. Passengers on board the little steamers which ply about Stockholm invariably raise their hats to the occupants of any other boat which passes near them. The men in charge of the locks on the canal bow politely to the sailors as the boats go through.

The Progress in a Century.—

From 1784 to 1884 is only a century, but it embraces almost all the inventions which we find so useful in daily life. Even many inventions once deemed indispensable, but now being rapidly superseded by others, were born within this century. It was only in 1784 the first mail coach was seen, and yet "the Wild Irishman" and "the Flying Dutchman" express trains, travelling a mile a minute, have become household words the world over. The first fire balloon was sent up in 1784, and to-day monstrous developments of the ideas are being used in warfare. A century ago the oil lamps, so familiar, were unknown; candles would not burn without snuffing; the wax candle, even, was unknown, and gas for illumination was uninvited. Since then gas is being abandoned for illumination, but applied for heat and cooking purposes as fuel-saving inventions. The flint and tinder were the means of obtaining a light until as late as 1827, when the matches we value so lightly were invented. Really good locks and the manifold adoptions of the spring, were all discovered during this century, the locks of the past being clumsy and easily disarranged contrivances. Labor-saving machinery in almost every branch belongs to this century; and in agricultural machinery the inventions have received their great incentive through the abundance of land and scarcity of labor upon this continent. Photography, too, has placed within the means of the masses a priceless boon—the facility of preserving correct impressions of their relative features—and strengthened the hands of justice in tracing criminals. This wondrous invention belongs to this century also. So on we might proceed with an astonishing list embracing every branch of science, and affecting every walk of life.

A New Kind of Lumber.—We now hear of the manufacture of lumber from the pulp of wheat and rye, straw, and other vegetable fibres, combined with some sort of a chemical cement. The mixture is formed in layers, perhaps a quarter of an inch in thickness, and then pressed together by powerful machinery, making it as hard as the hardest

wood, and much more dense. It takes a high polish, is water-proof, does not warp, can be sawed, split, or planed, and boards made of it are free from knots. Moreover, it takes natural lumber years to grow, but this artificial kind can be produced in a single season.

Balata.—A New Rubber-Tree.—

The dried milk of the bullet-tree, or *Minusops globosa*, from Guiana, is likely to come into greater use as a substitute for india-rubber and gutta-percha. According to Sir William Holmes, it possesses much of the elasticity of india-rubber without intractability, and much of the ductility of gutta-percha without its friability, while an American firm of manufacturers recently pronounced it "the best gum in the world." According to a recent report of Mr. Denman, Government Botanist of British Guiana, its strength is very great, and it is specially applicable to belting for machinery. Balata withstands exposure to light and air, whereas gutta-percha is apt to deteriorate under exposure. The electrical properties of the gum are also said to be equal to those of gutta-percha. Balata is now regularly collected in British Guiana, but it is usually worked up at home as a superior kind of gutta-percha; whereas it is a different gum, being softer at ordinary temperatures and less rigid in cold ones. It appears, in fact, to occupy an intermediate place between india-rubber and gutta-percha, and is growing in use as it becomes better known.

Flood Rock, which has stood

for centuries in the way at Hell Gate, dividing the channels of the East River, was blown up on October 10th by charges of dynamite and rack-a-rock, amounting to 325,000 pounds. The sight was witnessed by thousands upon thousands. The rock that has narrowed the main channel to a mere trough, and reared its head above all tides, was torn to pieces, and its removal will be begun soon. As the area of the rock covered upward of eight acres, some time will be occupied before the channel will be fully cleared, and then the improvement to East River navigation will be incalculable.

Swiss Watches.—

About 40,000 individuals are employed in Switzerland in the watch and clock trade, the canton of Neuchâtel having 13,700 who turn out annually 1,000,000 watches, of the value of 50,000,000 francs. In the Val de Saône there are 7,700, some of whom make musical boxes; in Berne there are 1,300, producing to the amount of 30,000,000 francs. The total annual production of watches in Switzerland averages 1,600,000, of the value of 88,000,000 francs. The export of 1882 was to the amount of 184,900 kilogrammes of watches, 25,300 in excess of the previous year. The import was 65,400 kilogrammes, consisting of watches in the rough brought into the country to be finished.



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SCIENTIFIC PHILANTHROPY.

IN the city of New York a movement is on foot with the purpose of prosecuting charitable work in a manner that shall be not only systematic and economical,—for that is an avowed characteristic of all established charities,—but that shall be restorative of the beneficiary's ability to care for himself and become an independent and useful citizen. The prevalent idea regarding charity has been that of ministering to the necessities of people in the way of food, clothing, and shelter—it being assumed that such ministration will be a matter of a few days or weeks, the poor ones meanwhile getting into a better physical and mental state and becoming competent to take care of themselves. But in our great cities the result of observation shows an increase of applicants for help, in response, as it were, to the extension of the ordinary methods of benevolent work, so that it may be said that mendicity is increased rather than diminished by popular kindness. Our churches have their mission stations and societies for the help of the sick and poor, and annually dispense hundreds of thousands of dollars in the city of New York alone. Much good is done; hun-

dreds of men and women are saved from starvation and redeemed from lives of vice and degradation; but the amount of good accomplished is really insignificant when one considers the very large sums of money it has cost and the number of persons who have devoted time and labor to it.

The results of benevolence should have a degree of permanence, otherwise society is not benefited. If frequent repetitions of a kindness do not bring about an improvement in the person for whom the kindness is given, discouragement and distrust are awakened; the benefactor feels that he is wasting his substance, and the warm sentiment that made him a "cheerful giver" changes to indignant protest, or cools down into careless indifference. Most frequently the latter.

Scientific philanthropy is a deliberate, cautious method of dealing with the poor and wretched. It is cool, discriminating, and practical, setting the worthy and unworthy in classes, measuring individual capacities, and discovering the causes of weakness and failure in its beneficiaries. Its fundamental motive is to help men to help themselves—in other words, to render them better able to use their faculties in the affairs of every-day life, and to meet and master the obstacles that are the common lot of men who must rely upon their own heads and hands for support.

It is the part of the scientific benefactor to show how vice and crime entail an unfortunate organization; how habits tolerated by society conduce to intellectual and moral weaknesses, and, in the end, to the suffering and degradation that charity would relieve. Scientific philanthropy would show further that much of what

society terms recreation, and even encourages as healthful stimulation, is depressing and injurious to both the moral and physical tone. It charges society with high responsibilities, and points out how prevalent evils are due to a disregard of individual right, of protection against common abuses and temptations. In the family, in the church, in the shop, school, factory, and warehouse, scientific benevolence has its field of reform—to instruct with regard to personal constitution, need, and duty.

THE ARGUMENT FROM EXPERIENCE.

“WISDOM is the guide of life.” This apothegm we learned in our school-days. It had a pleasant sound; it appeared to involve profound truths, both metaphysical and practical, and we surveyed it from different points of view to apprehend, if possible, its essential meaning; but our youthful mind seemed incompetent to grasp it. We perceived that knowledge bore a close relation to wisdom, and we had a deep respect for knowledge, but we saw clearly enough that encyclopædic learning did not necessarily involve wisdom, and that the man of data, the scientist, the historian, the linguist, might be crammed with details and technicalities and yet be far from wise. As we grew older and learned more of the world's methods and of human nature, we began to see that wisdom consisted largely in that application of knowledge which should conduce to the attainment of the end in view; therefore it was a skilful, well-adjusted mode of exercising the mental faculties rather than the possession of extensive knowledge, or even the possession of special gifts of faculty. We saw how men said to have genius failed, often miserably, in the career of life. We saw how shining capabilities in certain directions were not certainly conducive to business success or social happiness. And we also saw

that commonplace faculties guided by a sober, discreet judgment, and exercised patiently and perseveringly, usually won place, esteem, and wealth. Here we discerned wisdom, and were led to believe that the Creator of man had designed it for no particular class of persons, but that it was for the most part the outcome or reward of self-training and development. It was not to be purchased by gold, but to be the reward of patient culture of the faculties, and an eager appropriation of the best fruits of experience.

But how was one to secure that mental development, that orderly education of the faculties that was conducive to the wise use of one's time and strength? We scrutinized history and philosophy in vain to find a definite formula that, like the chemist in his analysis, we could follow with confidence. We had studied the treatises of the schools on logic and metaphysics in vain; they afforded us only dry propositions, conjectures, lifeless syllogisms, intricate terminologies, elaborate analyses, and controversies. The rules that one man had set up for his guidance were shown to be inadequate and impracticable for the following of another, and here and there the intimation was vouchsafed by “authority” that the elaborate composition of mind and its subtle essence rendered technical formularies impossible. But later on we stumbled on a simple, unpretentious category of propositions entitled Phrenology, and lo, we found many of our doubts cleared away, and assurance given that it was possible to study the human mind analytically, and that there were certain principles that had a general application to every man. Further investigation proved to our satisfaction that here were no impracticable formulæ, and the testimony of hundreds of scholars added strength to our convictions that Gall and Spurzheim had found a precious key that unlocked the mysteries of mental action and disclosed the fundamental principles of a rational method of individual development and culture. Here was a lamp that lighted the way to the attain-

ment of that goal of a true ambition, the wise use of faculty. Phrenological science by disclosing the organization of mind, by defining the nature of special faculties,

and explaining the laws of their operation and inter-relation, had resolved the secret that the philosophies of ages had vainly endeavored to unravel.



To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.

TO OUR CONTRIBUTORS.—It will greatly aid the editor, and facilitate the work of the printer, if our contributors generally should observe the following rules when writing articles or communications intended for publication:

1. Write on one side of the sheet only. It is often necessary to cut the page into "takes" for compositors, and this can not be done when both sides are written upon.
2. Write clearly and distinctly, being particularly careful in the matter of proper names and quotations.
3. Don't write in a small hand, or in pencil, as the compositor has to read it across his case, a distance of nearly two feet, and the editor often wants to make changes and additions.
4. Never roll your manuscript or paste the sheets together. Sheets about "Commercial note" size are the most satisfactory to editor and compositor.
5. Be brief. People don't like to read long stories. A two-column article is read by four times as many people as one of double that length.
6. Always write your full name and address plainly at the end of your letter. If you use a pseudonym or initials, write your full name and address below it.

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE contributions unless the necessary postage is provided by the writers. IN ALL CASES, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters will be considered by the Editor if this is done.

FOOD FOR BONE.—C. F. S.—The farinacea, especially wheat, oats, barley, and corn, supply abundant material for the bones. There is also considerable bone-material in milk, eggs, and the lean of beef and mutton.

"Nervousness" has a great many phases, and its treatment must, of course, vary in accordance with the phase. Fundamentally, it arises from defective nutrition, therefore the treatment should specially consider the nutritive needs of the patient. To be sure, some "nervous" people appear to enjoy high health; they may be plump and ruddy; such need a change of pursuit, place, association. We know a prominent Methodist divine who became so neurasthenic, or "nervous," that life was simply intolerable; he went away, and spent several months in constant travel, chiefly tramping over the hills, and finally brought about a balance of organization that restored the grateful in life.

This department is usually so crowded with in-

quiries, that months sometimes elapse before we can reach a correspondent in his proper order; this is the reason your question has not been considered sooner.

STUDENT IN PHRENOLOGY.—F. B. W.—The books named in the "Student's Set" are among the best for the beginner in Phrenology. If you have read Combe and Fowler's lectures partly, you have made a good beginning. You should read a treatise on the Temperaments, and next a work like "Brain and Mind," which deals with phrenological questions, and then go on farther. It would be well for you to study also a good treatise on Anatomy and Physiology. To be sure, a little knowledge of phrenological principles helps one to understand character and open up views of people with whom he comes in contact, but a rudimentary knowledge of our subject is always found to be unsatisfactory to an educated man.

TO CLEAN BONES.—M. D.—The common practice is to boil the subject; this, kept up long enough, will clean the bones well. Another way, if you live in the country, would be to place the body, if it be that of a small animal, near an ant-hill; for in a comparatively short time these little industrious scavengers would denude a small skeleton of every particle of soft matter.

CHANGES IN AMERICAN VEGETATION.—L. D. J.—The references to Swedenborg in the clipping sent us, have a bearing, certainly, upon the subject of modifications in plant-life; but the meaning of the seer is, of course, spiritual rather than physical. "To show that the character of plants and animals depends upon those who have been transplanted into the spiritual world, rather than upon those still living in this world," is to announce a proposition which most scientific men would regard with smiling scepticism. Swedenborg appears to have been a man of remarkably broad views; that is, his doctrines had some application to everything relating to life; but the spiritual or transcendental meaning which he impressed upon his subjects would not receive very earnest consideration from the modern scientist.

HEALTH JOURNALS.—E. L.—Some of our better known magazines relating to health are published in connection with private institutions, and may be said, therefore, to reflect special or pri-

vate opinion more than independent thought. Attempts from time to time have been made to establish a popular health magazine of a general or independent character, but after an existence, even of years, it has failed for want of support. The *Sanitarian* of New York is vigorously edited, and is of an advanced character, intended rather for the use of medical and scientific men than for popular use. Questions of drainage and town hygiene are its chief topics. Among the monthlies issued in the interest of institutions or of private physicians, and which nevertheless have features that are not undeserving of encouragement because of their hygienic value, are *Good Health*, of the Battle Creek Sanatorium; *Law's of Life*, of the Dansville Sanatorium; *Herald of Health*, Dr. Holbrook's; *Health*, of Walter's Mountain Park Cure; *People's Journal of Health*, Chicago; *The Southern Journal of Health*, Asheville, N. C.



Communications are invited on any topic of interest; the writer's personal views, and facts from his experience bearing on our subjects, being preferred.

A LATER CRITIC (in the "Encyclopædia Britannica").—I have given a great deal of study and observation to Phrenology, and my belief in the importance of its principles grows stronger as I continue my investigations. D.D.'s, medical men, and others with whom I take occasion to converse upon the subject, and who reject Phrenology, have thus far failed to impress me with any reason or to produce a single fact in support of their pretended disbelief. Last spring I made it the subject of an essay. My professor looked over it with me, and after opposing his attacks as best I could and carefully weighing his arguments, I left him with a firmer conviction than ever that Phrenology *will stand*. One of the best weapons of defence that I have gotten hold of is an article by a Prof. A. Macalistar, in Vol. XVIII. of the "Encyclopædia Britannica." Its author, whose downright dishonesty would seem to be the only excuse for his ignorance, says, in speaking of the organs: "The size of each of these regions is the measure of power manifesting the faculty associated with it." A statement original with himself and not to be found in the doctrines of Phrenology. He is very fond of omitting the clause, "other things being equal." Further on, he merely mentions temperament, referring to it as if it were a back-door, whose existence phrenologists were careful to conceal, until a failure for "coincidences" makes an escape in that direction necessary. Yet his article is, we suppose, recognized by the readers of the "Encyclopædia" generally, as a reliable scientific treatise on the subject of Phrenology, notwithstanding the fact that he ignores one of its fundamental principles, and reaches conclusions by

false statements that could not be reached by adherence to the truth. As a specimen of ignorance and misrepresentation "boiled down," this article is the latest and best, and in some degree is typical of the occasional attempts made to disprove Phrenology. Some men of prominence, in the course of lectures relating to mental subjects, take occasion to speak disparagingly of Phrenology; they utter personal opinions for the most part, yet it must be regretted that such opinions go a great way with their audiences. I have often wondered why the majority of such men can not be brought to see the importance of phrenological science, and thus contribute to its usefulness among the people.

E. E. DAVIS.

PERSONAL.

DR. CHARLES PHILLIPPE ROBIN, the famous French physician and scientist, died at Paris Nov. 6th, at the age of sixty-four.

DAN RICE, the old circus clown, has set up a claim to the whole island on which stands the city of Galveston, Texas. Mr. Rice has in his possession an old Mexican land grant, obtained from Daniel McLaren, an original Spanish settler, which covers the claim. The gobbler!

LADY DUFFERIN, wife of the "coming man" in British affairs, has formed in India a National Association for supplying "female medical aid"—i. e., women doctors—to attend the wives of natives in sickness. Hitherto these women have been deprived of skilled medical attendance, no European man being allowed to approach them.

JENS JACOB ASMUSSEN WORSAAE, whose death occurred in Denmark on August 15th, was not only one of the most famous Danes, but also one of the greatest archæologists of our day. He was born in Veile, in 1821, and was at the time of his death Director of the several royal museums and of the archæological monuments of Denmark. The Museum of Northern Antiquities in Copenhagen was established by the very clever archæologist, C. J. Thomsen, who may almost be called the founder of northern archæology, and, when he died in 1865, Worsaae became his successor in office as Director, and also his undisputed heir as authority in this field of research.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

A HEART unspotted is not easily daunted.—*Shakespeare*.

IN things of the mind we look for no compulsion but that of light and reason.—*Oliver Cromwell*.

ALL nations have agreed on the necessity of a strict education, which consisted in the observance of moral duties.—*Swift*.

If you go about telling people you have an inheritance worth a million worlds, and yet get out of temper about the loss of a nickel, they will not believe you.

OUR education can never be perfect unless, like an ancient temple, it is lighted from the top. Only an education of religion can give us happiness and permanent success.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

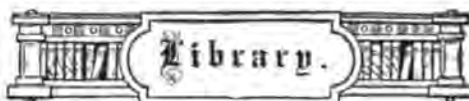
"WHAT is your name, little girl?" "Minnie."
"Minnie what?" "Minnie Don't, mamma calls me."

"WHAT is a house without a baby?" asked a lady, and an old bachelor replied, "It is comparatively quiet."

"I AM astonished, my dear young lady, at your sentiments; you make me start." "Good! I have been wanting you to start for the last hour."

A MAN writes to an editor for \$4, "because he is so infernally short," and gets in reply the heartless response: "Do as I do—stand up on a chair."

A UNIONTOWN, N. J., woman, by the free use of carbolic acid, removed all the freckles from her face. The doctor thinks a new skin will set in in about nine weeks.



In this department we give short reviews of such NEW BOOKS as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.

A MISSION FLOWER. By G. H. Picard. 12mo, pp. 342. White, Stokes & Allen, New York.

Mr. Picard is entitled, without question, to the name of author. His book is in some respects a remarkable production. From first to last, there is not a tiresome or an overdrawn paragraph. Smoothly, and without "lugging in" all the adjectives available, the story moves along, giving unmistakable evidence of the author's careful study of those phases of human nature so graphically depicted. There are several very strong pictures "drawn to the life." The story is, however, a sad one, leaving at its close a pain in the heart of the

reader. We all know that in real life there are just such tangles, just such incompleteness as is told so graphically in this volume. The author has had the courage to go out of the beaten track and write of life as it really is. The scenes are Western American. The principal characters are an aged priest, a convent superior, Dona Solace—the mission flower—Roger and Milly Paradise, and Manuel Silva. The father of Dona Solace, a reckless schemer, is found dead, and the verdict is "suicide." He has been the agent of John Paradise, a rich English brewer. After his death the elder children, Roger and Milly, come to America and occupy the home. Roger falls in love with Dona, but is rejected because she finds that she loves Silva. Confessing the truth to Father Caron, he tells her that Silva murdered her father. With a genuine insight into woman's nature, the author depicts Dona's interview with Silva, in which he confirms Father Caron's statement. True, the act was defensive, but in that hour Dona is metamorphosed, as many another woman has been; she says, "I am a ghost sitting at my own funeral feast; when I came to you I was a young girl fleeing across the fields with a singing in my heart."

Roger and Milly go home to England, leaving Silva in their home, where he shortly after dies of hemorrhage; from the window where death finds him he can see Dona in her nun's cap going to vespers.

DRIVEN BACK TO EDEN. By E. P. Roe. 12mo, cloth. Price, \$1.50. Dodd, Mead & Co., New York.

This is "a story with a purpose." Robert Dunham, one of the vast army of workers in New York, wakes up (as hundreds of others have done) to the fact that existence in tenement-houses and "flats" is not the sort of home-life designed by the All-wise Creator for man. The little Dunhams are beginning to learn of the unwholesome side of life; Mrs. Dunham is fading and growing fretful. They have managed by close economy to save a small sum, which they invest in a small fruit farm up the Hudson. Their first year's experiences, profits, and losses are very pleasantly told, and many good ideas on family government and unity of purpose are here and there thrown out. Such incidents as the redemption of the vagabond Bagleys occur frequently in books—and may possibly occur on very rare occasions in real life.

Many of the "white slaves" of New York of like refinement with Robert Dunham, would gladly seek an "Eden" such as his country home proved to be, but to let go of the "plough-handle" they now hold would mean starvation, as they lack the capital to back up the venture. There is but little opportunity in the circumscribed existence of a "flat" to teach children to be helpful. The tired, nervous mothers, and irritable, over-worked fathers, are in most cases so glad to get the children out of the way for a brief time, that they do not stop to con-

sider the harmful influence of their chance associates. Mr. Roe in this book is for the most part at home; he writes from personal experience, and his work has a practical value.

AN ORIGINAL BELLE. By E. P. Roe. 12mo, cloth. Price, \$1.50. Dodd, Mead & Co., New York.

One of the most important points to be considered in the making of a book is the need of it; we are at a loss in attempting to discover the need of "An Original Belle." To us the book seems quite too tedious for amusement and not strong enough to instigate reformation in the class of women to which Marian Vosburgh belonged, when she was waked up by learning that her maid copied flirtation's heartlessness from the gay young mistress of the mansion. The war is long past; we would fain forget its bitterness; there are as yet too many hearts all unhealed, that will bleed anew through grieving memories stirred unnecessarily by authors.

The description of the "draft riot" is certainly a well-executed piece of writing, and more accurate than most of the accounts of those terrible days that appear in the popular histories. The presence of several familiar names does not hide the fact that "An Original Belle" is fiction. It is pure and clean, of course, the author's name is a guaranty of that fact, but the action is overdrawn.

PUBLICATIONS RECEIVED.

THE OLD TESTAMENT STUDENT is the new title of a monthly lately introduced to the public. As its name implies, it is designed to assist students of the Bible, both philologically and exegetically, and while possessing technical features, it is also adapted to popular uses. Price \$1.50 a year. American Publication Society of Hebrew, Chicago.

NORTH AMERICAN REVIEW for November contains: Progress of Democracy in Europe, by Señor Castelar; Recollections and Letters of Grant; Statecraft and Priestcraft; Style and the Monument; Abraham Lincoln in Illinois; United Bulgaria; etc.

GERMAN SIMPLIFIED: Being a concise and lucid explanation of the Principles of the German Language, accompanied by numerous examples and exercises, and having a complete course of instruction for the purposes of reading, business, and travel, especially intended for self-instruction, etc. By A. Knoslach, author of "A Manual of the German Language," etc. Published by the Author.

This series of Pamphlet Numbers impresses us very favorably. The author takes pains to lead the student on gradually from the first rudiments in German to elaborate and more complex forms. Exercises are given in the alphabetical relations of the language both in the written and printed forms: and as the treatise advances from Number to Number, the author appears to keep constantly in view the practical needs of the student. Twelve Num-

bers constitute the series. The work appears to be well adapted for class-room use, as well as for private study.

MESSRS. HOUGHTON, MIFFLIN & CO., of Boston, have published two new calendars for 1886, named respectively the Whitney and Lowell Calendars, selections from the writings of James Russell Lowell and Mrs. A. D. T. Whitney being used in them. The Lowell Calendar has an excellent portrait of the poet and a view of Elmwood, his house in Cambridge. The Whitney Calendar is printed in gold and light tints, with a design emblematic of the four seasons. The color-printing is excellent.

DIANA: A Psycho-Fysiological essay on the Sexual Relations of Married Men and Women. Third edition, revised and enlarged. Price twenty-five cents. A brief essay, published by Burnz & Co., of New York, which has its merits. Careful consideration of the reasoning of this book would tend to purify the atmosphere of many a so-called Christian home.

THE SCIENTIFIC AMERICAN HANDBOOK. A treatise relating to patents, caveats, designs, trademarks, copyrights, labels, etc. Published by Munn & Co., New York. A convenient little pamphlet for the reference of those who are interested in mechanical problems.

THE GOOD THINGS OF LIFE. Second Series. Small quarto, fancy cloth. Price \$2.00. Published by White, Stokes & Allen, New York. By "Life," is meant the weekly illustrated paper published in New York City. It contains sketches and cartoons, hitting off in a humorous vein, often more or less pervaded with sarcasm, different phases of life in all classes of society. The handsomely printed volume under notice contains selections from this paper; of course, they are the better designs and fancies that have appeared, and make up a collection that will amuse one not altogether without furnishing a good and useful hint for an hour or so.

CATECHISM ON BEER. By Julia Colman. The National Temperance Society have just issued this pamphlet in the same style as "Catechism on Alcohol and Tobacco" and "Primary Temperance Catechism." It should be in the hands of children generally, that they may grow up informed about the facts regarding the composition of beer and its action upon the human system. Price five cents.

CURRENT EXCHANGES.—Lippincott's Magazine for November is distinguished for its high literary merit; Young Folks' Musical Monthly, Strongsville, O.; Publishers' Weekly—Fall Announcement Number; The Literary World, Boston; The Western Rural, Chicago; The Sanitary News, Chicago; Harper's Weekly; American Journal of Insanity, State Lunatic Asylum, Utica, N. Y.; Appleton's Literary Bulletin, New York; Leisure Hours, Rahway, N. J.; The Graphic, Cincinnati; Mind in Nature; The Household.