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Spurzheim

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ARTICLE I.

BIOGRAPHY OF DR. SPURZHEIM.

"Friend of man—of God, the servant;
Advocate of truths divine;
Nature's priest—how pure and fervent
Was thy worship at her shrine!"—PIERPONT.

John Gasper Spurzheim was born on the 31st of December, 1776, at Longuich, a small village on the river Moselle, a branch of the Rhine, and within the bounds of the Prussian empire. His father was engaged in agricultural pursuits, and appears to have been a man of considerable standing in society, though little is known respecting his character, or that of the family. Young Spurzheim acquired the first rudiments of Latin and Greek in his own native village, and afterwards obtained a thorough collegiate education at the University of Treves, where he matriculated in 1791, in the fifteenth year of his age. Being destined by his parents to the clerical profession, he entered upon the study of divinity and philosophy, of both of which branches he became a profound master.

While Spurzheim was pursuing his studies at Treves, the southern parts of Germany and Prussia were invaded by the republican armies of France, and many of the inhabitants were compelled to flee their native country. Spurzheim retired to Vienna, the capital of Austria, where he was received into the family of Count Spangen, who entrusted to him the education of his sons. At that time, Dr. Gall was a settled physician in Vienna, and had under his charge many of the hospitals, and other public institutions requiring medical superintendence. His own house was also open to every one who desired any information respecting his new discoveries. He delivered his first private course of lectures in 1796, but it does not appear

that Spurzheim attended his lectures till near the close of the year 1799. In the mean time, he had made considerable advancement in medical studies, and, by some means with which we are not made acquainted, he became interested in Dr. Gall's discoveries. This occurred in the twenty-third or fourth year of his age. As Gall's time was greatly occupied in his professional duties, he employed a student, by the name of Niclas, to make his dissections; but the anatomical investigations of this individual were conducted so much in accordance with the old school of anatomy, and with such mere mechanical views, that they proved entirely unsatisfactory. During this period, Spurzheim was a regular attendant on the lectures of Dr. Gall, and had become well acquainted with his views on the anatomy and functions of the brain. He was soon associated with Gall as his assistant, and took special charge of the anatomical department; and in their public and private demonstrations, he always made the dissections, and Gall explained them to the students. Spurzheim afterwards made many discoveries in the anatomy of the brain, as well as other important improvements, to which Dr. Gall was greatly indebted for his success.

In the year 1802, Dr. Gall was prohibited from delivering lectures on this subject, by an edict from the Austrian government. He remained in Vienna, however, three years after this prohibition, remonstrating with the officers of government, and his friends interceding in his behalf; but all their efforts proved unavailing, and Dr. Gall, seeing that there was no longer any prospect of propagating his new discoveries in Austria, determined to leave the empire. Accordingly, in the year 1805, on the 6th of March, says Dr. Spurzheim, "we left Vienna for Berlin, where we repeated our anatomical demonstrations in the presence of the medical professors and numerous auditors. Outlines of our anatomical and physiological propositions were published during that spring by Professor Bischoff. From Berlin we went to Potsdam, then to Leipsic, where Dr. Knoblauch published an account of our doctrines of the brain. Then the usual demonstrations and lectures were delivered in Dresden, where Mr. Blode published outlines of our anatomical and physiological views. From Dresden we went to Hallé, where Professors Reil and Loder, and numerous gentlemen of the profession, honoured us with their presence at the public lectures and demonstrations. We then continued to lecture and demonstrate the brain, that very same year, in Weimar, Jena, Göttingen, Braunschweig, Hamburg, Kiel, and Copenhagen. In the year 1806, anatomical demonstrations were made in Bremen, Münster in Westphalia, Amsterdam, Leyden, Frankfort, Heidelberg, Mannheim, Stuttgart, and Friborgh.

In the year 1807, we went to Marbourg, Wurtzbourg, Munich, Augsburg, Ulm, Zurich, Berne, Bale, and in the autumn of the same year, to Paris, where we dissected the brain first in the presence of Cuvier, Fourcroy, Geoffroi de St. Hilaire, Dumeril, Dr. Demangeon, and others, and successively before many learned societies.”*

In the fall of 1807, and the succeeding winter, Dr. Gall, assisted by Spurzheim, delivered several courses of lectures and demonstrations in Paris, which produced quite an impression on the minds of the Parisians. On the 14th of May, 1808, they presented a joint memoir on the anatomy of the brain, containing an exposition of their discoveries, to the French Institute. This memoir was referred by the institute to a committee of five, the chairman of which was the celebrated Cuvier. Their report was favourable to Gall and Spurzheim in some parts—they differed from them in others; and as to some of their discoveries, they very unjustly gave the merit to other anatomists. In the following year, Gall and Spurzheim published an extended reply to this report, vindicating their claims to originality, and maintaining the utility of their discoveries, as well as the truth of their demonstrations, with so much vigour and perspicuity, that no answer was ever made to it on the part of the institute. They now commenced the preparation of their great work on the “Anatomy and Physiology of the Nervous System in general, and of the Brain in particular.” Spurzheim assisted in getting out only the two first volumes; the two remaining were prepared by Gall alone, and were not completed till the year 1819. The whole work was accompanied with a splendid folio atlas, containing one hundred plates.

In the year 1813, Gall and Spurzheim separated, and ever afterwards prosecuted their labours independently of each other. The cause of this separation has never been very clearly or satisfactorily accounted for. Spurzheim first returned to Vienna, to take his degree of M. D., and in the following year he passed over to England. He arrived in London in March, 1814, and soon after delivered in that city his first course of lectures. There were many circumstances existing in Britain at this time, of a nature unpropitious to the introduction of new discoveries from a *foreign* nation, and the reception of these lectures was consequently not so favourable as might otherwise have been expected. About this time, Dr. Spurzheim published his work on Physiognomy in connection

* Spurzheim's notes to Chevenix's article on Phrenology in the *Foreign Quarterly Review*.

with Phrenology, and also his Observations on Insanity. The first of these works was most virulently attacked in the *Edinburgh Review*, by the late Dr. John Gordon, who applied to it, and the doctrine which it expounded, the epithets of "trash," "despicable trumpery," "a collection of mere absurdities, without truth, connection, and consistency," and "a piece of thorough quackery from beginning to end."

"It was the intention of Dr. Spurzheim," says Mr. Chevenix, (in the article in the *Foreign Quarterly Review*, already referred to,) "to visit the Scottish Athens, but this article confirmed it. He procured one letter of introduction for that city, and but one; that was the reputed author of the vituperating essay. He visited him, and obtained permission to dissect a brain in his presence. The author himself was a lecturer on anatomy, and the dissection took place in his lecture-room. Some eyes were a little more or a little less clear-sighted than others, for they saw, or thought they saw, *fibres*. A second day was named. The room was as full as it could be, particularly as an intermediate bench was reserved for Dr. Spurzheim, to carry round the subject to every spectator. There, with the *Edinburgh Review* in one hand, and a brain in the other, he opposed fact to assertion. The writer of the article still believed in the *Edinburgh Review*, but the public believed the anatomist; and that day won over near five hundred witnesses to the fibrous structure of the white substance of the brain, while it drew off a large portion of admiring pupils from the antagonist's lectures. Thus aided by success, Dr. Spurzheim opened a course of lectures on the anatomy and the functions of the brain, and its connection with mind. He used to say to the Scots, 'You are slow, but you are sure; I must remain some time with you, and then I will leave the fruits of my labours to ripen in your hands. This is the spot from which, as from a centre, the doctrines of phrenology shall spread over Britain.' " This last remark of Dr. Spurzheim proved emphatically true. It is well known that Edinburgh has been the chief seat of phrenological warfare. That city has, as yet, had the honour of raising up the ablest advocates of the science, and of sending out the most important works on the subject.

During Dr. Spurzheim's stay in Edinburgh, an incident occurred which is here worthy of notice. Out of courtesy and respect, he thought it proper to honour Dugald Stewart, the celebrated Scottish philosopher, with a visit. He waited on him, with an introductory letter, at his country residence, but *Dugald Stewart* refused, either through envy or prejudice, to receive this distinguished visitor. Whether Stewart lived long enough to regret the folly and weakness

of his indignant treatment to Spurzheim, we know not ; but posterity will do ample justice to the merits of these two distinguished philosophers, and there can be but little doubt which will ultimately occupy the highest niche in the temple of fame.

Dr. Spurzheim spent, at this time, three years in Great Britain. He visited many of the large towns in Scotland, Ireland, and England, and delivered lectures in the following cities—Bath, Bristol, Cork, Dublin, Liverpool, Edinburgh, and London. He created considerable interest on the subject in many parts of Britain, though the number of converts to the new science was by no means numerous. His doctrines called forth some of the most bitter and vituperative attacks from the leading periodicals of the day, that ever disgraced the pages of a review. Dr. Spurzheim was induced to publish a reply to these objections, in which he completely exposed the ignorance, the sophistry, and reckless presumption of these critics. Such was its candor and ability, that it commanded even the respect of his opponents. After his return to London in 1817, he delivered a second course of lectures, and became a licentiate of the Royal College of Physicians in that city.

In the month of July, in the same year, he went to Paris, where he determined to settle for life. "For at this juncture," says Mr. Carmichael, (in his Memoir of Spurzheim,) "he married Mademoiselle Perier, and so attached were her relatives to this amiable man, that they induced him to make that city his biding place. At that period, the press of France was comparatively free, and the progress of truth, if not encouraged by the government, was at least not repressed. He delivered his lectures to large and attentive classes, and was prosperous, comfortable, and happy. Mrs. Spurzheim was a pleasing, accomplished, and valuable woman. In the year 1820, I had the gratification of witnessing their prosperity, comfort, and happiness, at their hospitable mansion in the Rue de Richelieu, in Paris. But their enjoyments were not long permitted to continue. The Jesuits contrived to mine their way to a predominating influence with the French government—the liberty of the press was curtailed—and public lectures were forbidden without a state license." As the name of Mrs. Spurzheim has here incidentally been introduced, we cannot forbear quoting the following beautiful remarks, respecting her character, by the late lamented Dr. Follen,* in his Funeral Oration at the burial of Spurzheim in Boston, 1832. After mentioning his marriage, Dr. Follen remarks thus:—"She was a widow,

* Dr. Follen was one of the unfortunate number whose lives were lost by the burning of the steamboat Lexington on Long Island Sound, in January, 1840.

and had three daughters when he married her. Dr. Spurzheim had no children of his own. Several ladies in this city (Boston) who were introduced to Mrs. Spurzheim in Paris and London, remember her with the highest esteem and delight. Her whole manner expressed a union of true humility, tender attachment, and conscious power, which excited at once affection and confidence. She entered fully into her husband's pursuits, and aided him by her uncommon skill in drawing. To her pencil, we are indebted for a number of those excellent drawings used by Dr. Spurzheim in his lectures. But far more important to him was the aid which he derived from the unseen and inexhaustible treasures of a true and devoted heart. It was often observed how well their characters seemed to be fitted for each other. They were both adepts in that profoundest of all sciences, and most pleasing of all the fine arts, Christian benevolence shone forth in beautiful manners. Dr. Spurzheim was devotedly attached to his wife, and he remained so after her death to the end of his own life. While he was in this country, though surrounded by many whom he had made his friends, he often mourned the loneliness of his situation, particularly when indisposition or fatigue made him long after those small services of domestic affection and ever watchful care, of which those who devote themselves wholly to one of the great general interests of mankind, be it the cause of religion or of science, stand in special need;—that wholesome atmosphere of constant love, the absence of which seems to be felt more painfully, the more unconscious we are while we inhale it. In his last sickness, he in a mournful manner ascribed his illness to the want of warm linen on his return from his lectures, saying, with a sigh, that if his wife had been living, it would have been before the fire ready for him. The disease of his heart he ascribed to his loss of her, which occurred three years ago, saying, that his pulse had intermitted ever since her death."

During his residence in Paris, Dr. Spurzheim published several works in the French language, among which were, one on insanity, one on education, and one on phrenology. As the French government, in its consummate wisdom, had again prohibited the delivery of all lectures without its special permission, Dr. Spurzheim determined to revisit England, where he could enjoy greater liberties of propagating his doctrines. As an additional inducement, a phrenological society had been formed in London during his absence, of which Dr. John Elliotson, one of the most distinguished physicians of Great Britain, was president. Dr. Spurzheim arrived in London in March, 1825, and immediately commenced two courses of public lectures in different parts of the city. The state of public opinion

had materially changed since his last visit. Several of the leading periodicals of the day spoke very favourably of his labours. The *Medico-Chirurgical Review* of April, 1825, alluded to the subject of phrenology as follows:—"While we award the meed of praise to our own distinguished countrymen, we must not be insensible to the genius, talents, and acquirements of an illustrious foreigner, who, after an absence of more than ten years, has again appeared among us. Every one knows the illiberal treatment which Dr. Spurzheim received in the 'intellectual city,' when last in these islands. Time has worked a wonderful change in his favour. He has been hailed in this metropolis with distinguished marks of respect and attention; and he is now lecturing to a crowded audience, which is daily increasing, and which evinces the most intense interest in every observation that falls from the professor's lips."

Near the close of the year 1826, Dr. Spurzheim visited the University at Cambridge, where he was received with very marked respect. He was there honoured with the most respectable and attentive audiences. He subsequently lectured in Bath and Bristol, with much success; the managers of the literary institutions at each place acknowledging that no other lecturer had created so great an interest. In 1827, he delivered another course of lectures at the London Institution, which was attended by upwards of seven hundred auditors. By invitation of the Hull Phrenological Society, he visited that place, and lectured with very great acceptance. While there, he received a most urgent request, from the phrenologists of Edinburgh, to visit again that city, with which he complied, and arrived there in January, 1828. His present reception presented a very great contrast with his previous visit in 1817. The cold indifference, the silent contempt, and the coarse ridicule then exhibited, were now exchanged for sincere respect, profound attention, and anxious cordiality. He delivered two popular courses of lectures, which were attended by audiences the most intelligent and respectable. He delivered, also, a separate course on the anatomy, physiology, and pathology of the brain, to a large number of the medical profession. But the most interesting incident of all, was a dinner given in honour of Dr. Spurzheim by the Edinburgh Phrenological Society. This society was then at the height of its prosperity. That was a proud day for Spurzheim. Among the most conspicuous phrenologists present at that dinner, were George Combe, Esq. Sir G. S. Mackenzie, Hon. D. G. Haliburton, P. Neill, LL. D. Dr. A. Combe, and J. Simpson, Esq.

The impression on that occasion must have been powerful and almost electrical, when Mr. Combe, after proposing the health of

Dr. Spurzheim, and avowing the great pleasure he took in repeating that he owed every thing he possessed in the science to him, addressed the company in the following beautiful and eloquent strain:—"How would we rejoice to sit at table with Galileo, Harvey, or Newton, and pay them the homage of our gratitude and respect; and yet we have the felicity to be in company with an individual whose name will rival theirs in brilliancy and duration; to whom ages unborn will look with fond admiration as the first great champion of this magnificent discovery—as the partner in honour, in courage, and in toil, with Dr. Gall—as the rival in genius of him by whose master-mind the science of man started into existence. Dr. Spurzheim, my friends, is an historical personage;—a glory dwells on that brow which will never wax dim, and which will one day illuminate the civilised world. His greatness is all moral and intellectual. Like the sun of a long and resplendent day, Spurzheim, at his rising, was obscured by the mists of prejudice and envy; but, in ascending, he has looked down upon and dispersed them. His reputation has become brighter and brighter, as men have gazed upon, and scrutinised, his doctrines and his life. No violence and no anguish tarnish the laurels that flourish on his brow. The recollections of his labours are all elevating and ennobling; and, in our applause, he hears not the voice of vain adulation, but a feeble overture to a grand strain of admiration, which a grateful posterity will one day sound to his name."

Dr. Spurzheim was so deeply affected at these remarks, that he could scarcely give utterance to his feelings. After some hesitation, he rose and made the following impressive and affecting reply:—"I never felt so much before, gentlemen, the want of mental powers necessary to express the gratification and gratitude I feel. This day is to me a day of joy, which I never hoped to see. My joy would be complete, were Dr. Gall amongst us. Dr. Gall and myself often conversed together about the future admission of our doctrines. Though we relied with confidence on the invariable laws of the Creator, we, however, never expected to see them in *our life-time* admitted to such a degree as they really are. I often placed my consolation IN MAN BEING MORTAL, or in *future generations*, to whom it is generally reserved to take up new discoveries; BUT WE ARE MORE FORTUNATE."

While in Edinburgh, Dr. Spurzheim visited the city Lunatic Asylum and the Hospital for the Children of Paupers, accompanied with several scientific gentlemen, where he made numerous successful applications of the science. In March, 1828, he visited, by special invitation, Glasgow, and delivered two courses of lectures,

which were attended by very large and intelligent audiences. During the same year, he lectured in Manchester, Liverpool, Leeds, and several other large towns in England. Near the close of this year, he was most sorely afflicted by the death of his wife. So great was the effect of this affliction on Dr. Spurzheim, that he ceased almost entirely his labours in behalf of the science, for the space of nearly two years. He had previously given a pledge to the Dublin Phrenological Society to visit that city, and deliver his lectures there again. This pledge he felt it his duty to redeem in the spring of 1830. Here he was treated with great attention and respect. At a public dinner given him in Dublin, the Rev. Dr. Drummond, after having proposed Dr. Spurzheim's health, and alluded to the names of Galileo, Newton, and Locke, in connection with the great opposition which all new discoveries meet, closed his remarks as follows:—"And should any new science spring up, and come like another revelation from heaven to pour light on the world of mind—to penetrate the dark recesses of thought—to display all the exquisite machinery of the brain—to tread the labyrinth of intellect, and unfold the matchless wisdom and benevolence of the Creator in the constitution of man; should such a science ever appear, and should its great expounder and demonstrator be seen among us, I dare venture to affirm that he would have a just claim to be classed with those illustrious sages who have been named—a claim founded not less on his having the same exalted ideas of God, and of all moral and religious truth, than on his being animated by the same sublime spirit of philosophy. Yes; he would be a congenial spirit—a kindred star in their magnificent constellation. Such a science has appeared; such a man is among us; and you already anticipate the name of the esteemed and eloquent advocate and founder of that unlooked-for science, Dr. Spurzheim, who this day honours our company by his presence." During his stay in Dublin, the Royal Irish Academy, by an act which reflected equal honour on themselves and on Dr. Spurzheim, added his name to the list of their honorary members.

In the autumn of 1831, Dr. Spurzheim returned to Paris, where he lectured the succeeding winter. During his absence from Paris, a great change had taken place in public opinion respecting the new science. A phrenological society had been formed, consisting of more than one hundred members, sixty of whom were physicians. Its members were composed of many of the most distinguished men in the professions of medicine, philosophy, and law, with some of both chambers of the legislature. The celebrated Andral, Bloudeau, Broussais, and Cloquet, were among the number.

It was the intention of Dr. Spurzheim to make Paris ever after his permanent home—to live and die among his friends and the relations of his wife, who were most ardently attached to him. But he had not been settled long in his new residence, when he received pressing invitations from Boston, and other cities in the United States, for him to visit this country and teach them the true philosophy of mind. And such was his deep interest in the advancement of the science, that, in spite of the remonstrances of friends, and the dangers as well as hardships of so long a tour, he determined to go. Accordingly, on the 20th of June, 1832, Dr. Spurzheim sailed from Havre for the United States, and landed at New York on the 4th of August.

As the cholera was then raging in that city, and the weather being exceedingly warm, Dr. Spurzheim remained there only a few days. On the 11th of August he went to New Haven, Ct. The time of his arrival there happened to be commencement week at Yale College, on the exercises of which he attended. While in that city, he dissected the brain of a child that had died of hydrocephalus, and gave great satisfaction to the medical gentlemen present. From New Haven he proceeded to Hartford, on the 16th. Here he visited the Asylum for the Deaf and Dumb, and the Retreat for the Insane. He also visited the State Prison at Weathersfield, near Hartford. On the 20th of August he went to Boston, and first took lodgings at the Exchange Coffee House. He afterwards engaged rooms in Pearl street, at a Mrs. Le Kain's, where he remained till his death.

His arrival in Boston was announced in the public journal, and excited a very general curiosity among all classes to see this illustrious visitor. Many of the most distinguished citizens of Boston soon honoured him with a call. The first time that he appeared in this country before a public audience, was at a meeting of the American Institute in the Representatives' Hall. Here, at the request of that literary institution, he delivered a lecture on education. It being known that he was to speak, a very large audience was present on the occasion, and listened to his remarks with the most profound attention. "On the 17th of September, he commenced a course of eighteen lectures on phrenology at the Athenæum Hall, in Boston, and, soon after, another course at the University, Cambridge. These lectures occupied six evenings in the week. He delivered, besides, in the afternoon of every other day, a course of five lectures before the medical faculty, and other professional gentlemen of Boston, on the anatomy of the brain. His lectures, both in Boston and at the University, excited great and lively interest; they attracted aliko the fashionable and the learned, the gay and the

grave, the aged and the young, the sceptic and the Christian. Our most eminent men, as well as humble citizens, were early at the hall to secure eligible seats; and they were alike profoundly silent and attentive to the eloquence and philosophy of the lecturer. Whether conviction or doubt followed his words in the minds of his hearers, all uniformly yielded to thoughts and feelings of admiration. The simplicity of his views, his unaffected and amiable manners, his strict adherence to facts, and candid discussion of doctrines, all bespoke the Christian and philosopher. Some of those who at first attended with a view to collect materials for amusement or for ridicule, were among the earliest to become converts to his system; and among those of his most constant and devoted auditors, were some of our most intelligent and respectable ladies.

"During the day-time, Dr. Spurzheim was mostly engaged in visiting the various institutions of our city and the vicinity, and returning the calls of his friends. In his visits to our prisons, and institutions of beneficence, he uniformly discovered great interest for the welfare of man, by his observations and inquiries with respect to all the details of discipline, peculiarities, and results. On invitation from President Quincy, he was present at the exercises of Harvard University, on commencement day, and attended those of the Phi Beta Kappa Society on the following day."*

But the labours of Dr. Spurzheim proved too great for his health, though he had, naturally, a very strong and vigorous constitution. Over-exertion, change of climate, and protracted exposures to the evening air, brought on a general debility, and, finally, an attack of fever. His disease soon made such ravages, that neither the best medical aid, nor the kindest attentions of his friends, could avail any thing. Death had commenced his work, and nothing could avert the fatal stroke. During his sickness, he was never known to murmur or repine, or utter one word of complaint at the dealings of Providence with him. When it became evident that he was near his end, he said to a friend standing by, "I must die;" his friend replied, "I hope not;" "Oh yes, I must die," said he; "I wish to live as long as I can, for the good of the science, but I am not afraid of death." And on the evening of November 10th, he died, in the fifty-sixth year of his age, without a struggle or a groan.

On the next day, a meeting of his friends and the citizens of Boston was held, which appointed a committee to make arrangements for celebrating his funeral obsequies. His funeral was held in the old South Church, where the Rev. Dr. Follen delivered a very

* N. Capen's Biography of Dr. Spurzheim.

impressive and appropriate oration. An immense number of spectators were present. The death of no other individual in Boston, ever caused so deep sympathy, or awakened such universal interest. The death of Spurzheim was truly regarded as a public loss, and all felt that they were mourners—that they had lost a friend and benefactor. His remains were carried to Mount Auburn for burial, where they were followed by a very large concourse of citizens. A fine monument has since been erected over his grave, by the munificence of Mr. William Sturgess, merchant, of Boston. This monument stands near the entrance to that beautiful cemetery, and bears on it, as an inscription, engraved in large letters, simply the name of SPURZHEIM. *This was regarded as a sufficient epitaph.*

Such was the life and death of John Gaspar Spurzheim. Our object has been to present a plain and simple, though brief narrative of his history and labours. Did space permit, we might give a far more critical and extended analysis of his character and writings, but this is not the place; we would urge, however, the reader to examine for himself the writings of this great man, and other phrenological works on the subject. And as to the relative merits of the two great founders of phrenology, Spurzheim and Gall, we deem it a waste of words to institute a comparison, or to enter into any discussion on their comparative claims. The names of *both* are IMMORTAL, and will exist as long as the great truths of the science that they discovered, which *can never perish*; FOR IT IS EVERLASTING, LIKE ALL THE OTHER TRUTHS OF GOD.

The death of Dr. Spurzheim was felt by none so severely as by those who were personally acquainted with him, and had long been engaged in defending the doctrines to which he had devoted his life. When the news of his death reached France and Great Britain, it caused a thrilling and painful sensation in many a heart. And perhaps we cannot give a better description of its reception, or more appropriately close this biographical notice, than by presenting a part of a speech delivered on this occasion before the Edinburgh Phrenological Society. James Simpson, Esq. then president of the society, after announcing this afflicting intelligence, remarks as follows:—"The death of Dr. Gall, the great founder of phrenology, was not without its alleviations. *He* had run his course—had done all that seemed, in the decrees of the All-wise, allotted to him on earth to do, and fell 'like a shock of corn fully ripe.' Above all, Dr. Spurzheim, his great pupil, survived, heir of all his master's wealth, and richer than even that master in treasures of his own. But Dr. Spurzheim himself is now snatched away—in the midst of his usefulness—at the summit of his power—about to pour the true

philosophy of man, like a flood of light, on the transatlantic world. This is indeed a blow almost devoid of alleviation. And yet hope deserts us not. To his own genius, we owe the discovery of the organ of Hope, and a beautiful exposition of its functions. As we bend over his early grave, a ray breaks forth even from that dark abode. America has celebrated his obsequies with public honours, and ranks him with the illustrious dead. Europe will sanction the reward. His philosophic page will live, and even pride and prejudice will look into the philosophy, when the philosopher, whom they shunned when alive, is no more. Galileo, Newton, and Harvey, were all destined to teach from the tomb. So are Spurzheim and Gall; they, too, are among the great departed, 'who though dead, yet speak,' and many a kindred genius will yet arise to listen to their voice. The minds already labouring in the great work, by them bequeathed, will be stimulated by the very thought that they are bereft of their leaders. A hand to grasp *all* the inheritance, may not be; but there does live a prophet who will wear gracefully the mantle that has now descended upon him. May all of us, however humble each, make redoubled exertions—do that which our teacher would have urged us to do with his dying accents—promote, by all that in us lies, the *CAUSE* for which he lived, and in which he died. *His* labours were as expansive as they were indefatigable—no scope was too great for him—he had gone to add the new world to the old in one wide empire of truth. Alas! that America's first tribute to her illustrious guest should be a grave and a monument! Be her's the care and the custody of his honoured remains; the spirit of his genius is over every where—his memory is the cherished legacy of the human race."

ARTICLE II.

PHYSICAL AND MENTAL SCIENCE.

Much is said and wrote, at the present day, about the wonderful discoveries and improvements in the physical sciences. By new applications of principles, derived from this source, great and important changes are effected in almost every department of society. All unite in praising and extolling the invaluable benefits of *modern science*. Its praises are heard, both in private and public, from the merest tyro to the greatest adept in learning, and are proclaimed to

the world through the pages of the penny sheet up to the laboured quarterly. All this is well: but why should the discoveries and applications of *mental science* be omitted? what will be the record of history on this subject? what explanation or apology for this neglect can be given to posterity? The signs of the times are not to be misunderstood, as it respects *mental science*. The interest in the old school of philosophy, or, in other words, in *metaphysics*, is gradually dying away; as a system of mental philosophy, it has, comparatively, no practical value, neither are its principles susceptible of any useful applications. Therefore, no reference at the present day is scarcely ever made to it. Even the professorships in our colleges and literary institutions on this science are merely *nominal*; their lectures and instructions on the subject amount to but little, and the interest taken in them by their pupils is still less. Society, as it respects this department of knowledge, is evidently passing through a *transition* state. The truth and importance of phrenology, as a system of mental philosophy, are beginning to be acknowledged and appreciated. Its principles will ere long supersede entirely the vague theories and groundless hypotheses of the metaphysicians. Nearly all young men who take an interest in such studies, are becoming the strong advocates of phrenology. Another generation will witness its complete triumph. Then will the principles of *mental science*, in point of practical value and utility, challenge comparison with those of *physical science*.

These remarks are elicited by observing some strictures on the performance of a man whom we greatly respect, and whose writings have deeply interested us. The strictures referred to, appeared in the *Congregational Observer*, of August 22d, published at Hartford, Ct. and were upon the oration of Rev. Albert Barnes, "*On the Progress of Science*," delivered before the Phi Beta Kappa Society of Yale College. We make the following quotations from that paper:

"The Oration of Mr. Barnes was greatly admired, and considered as fully sustaining his high reputation. We were greatly surprised, however, that no mention was made of the highest of all sciences, the sciences of being and of mind, and that no attempt was made to delineate their progress. We were the more surprised, inasmuch as the onward progress of these sciences can be distinctly traced, has been marked by the most obvious and beneficial results to mankind, and furnishes the historian with striking and interesting facts for the purposes of illustration.

"If the design of Mr. Barnes were merely to speak of physical science, he should have said so at the outset, and not have given to mental science the implied dishonour of not being worthy to be called

a science at all. We know very well that it receives this dishonour most abundantly from some hands, but we were hardly prepared to have it come from the hand of Mr. Barnes. The *object* of science, according to Bacon, is truth. It is, however, universal truth. Not simply nor supremely the laws of the planets and the laws of steam, but also, and of highest worth, truth in regard to man, as it lies hidden in the primary laws of man's inward self, and makes itself visible in literature, law, and religion. The use of truth is, not that it promotes the comfort of man's body, but, that it promotes man's *well-being*—as it furnishes the means of man's development, and opens to him room for his continued activity—and so results in his highest perfection.

“This is a poor and pitiful representation of the practical uses of Baconian science, which illustrates it by its results in railroads, patent churns, and improved window glass, and which does not place first and foremost ‘the forming of the soul of man,’ and its high culture, as that is secured and advanced by the progress of science.

“What wonderful thing is it, that a man should be able to say, that within the same month he has been in Rome, and Paris, and St. Louis, if he be but a fool, a rake, or a fact-gatherer; that every physical comfort is multiplied, while *man* himself is uncultivated as to his fitness for his duties here and his destiny hereafter.

“Mr. Barnes might perhaps say, that the science of mind does not properly come under the head of “modern science,” inasmuch as it has not been pursued with the spirit, nor partaken of the distinctive features which distinguish modern science, properly so called. But even if this was his view of the subject, yet what this science should be, and what it is to be, under the guidance of the Baconian method, is a most interesting topic, which deserved at least a passing notice.

“We honour the physical sciences in their place, but we must protest against the habit so common at this day, of making them to constitute *all science*—or even of giving them the highest place in the scale of universal science. The science of man stands first and foremost in the judgment, not merely of Plato, but also of Lord Bacon and Sir Humphry Davy, and it will yet assert its claims to supremacy, and gain for these claims their due honour from all whose judgment is deserving of reward.”

ARTICLE III.

Lectures on Moral Philosophy, delivered before the Philosophical Association, at Edinburgh, in the winter session of 1835-36. By GEORGE COMBE. Boston: Marsh, Capen, Lyon, and Webb. 1840. pp. 464. 8vo.

No sooner were the truths of phrenology originally disclosed to the enlightened and unprejudiced few who had the sagacity to understand, the judgment to appreciate, and the independence to receive them, and admit them to a place among the elements of science, than their unrivaled importance in the exposition and improvement of the morals of man was perceived and proclaimed. Nor has this belief undergone any other change than that of increase in strength, popularity, and extent. What was opinion at first, is conviction now. The direct and almost boundless utility of the science, in the cultivation of the mind in all its departments, is no longer a problem presented for solution. It is a truism, the result of observation and experience. Teachers have proved and experienced its efficacy in schools and academies, parents its influence on their children and servants, and individuals in the discipline and improvement of themselves.

As far, however, as we are informed on the subject, Mr. Combe has been the first to avail himself of phrenology as the basis of a system of moral philosophy, expounded and inculcated in a course of public lectures. Nor will his fitness for the enterprise, inmomentous as it is, be denied or held doubtful. Far otherwise. For talents, attainments, and aptitude of mind and manner for the project, he is inferior to no one—if he does not stand foremost. His equal, as a didactic writer or lecturer, it would be difficult to find; and his superior, hardly less difficult to imagine. Should any portion of this statement be gainsaid or questioned, we would deem it sufficient to point, in reply, to the volume whose title-page is prefixed to this article, confident that that would be abundantly competent to its verification and defence.

But it is not alone because Mr. Combe is distinguished as a philosopher, and highly accomplished as a writer and a lecturer, that he has imparted so much of interest and excellence to the work we are considering. It is because he has selected for that work, the foundation designed and prepared for it by nature, which neither time nor circumstance can conflict with or impair, and constructed it of materials correspondingly imperishable. In language, simpler and more

to the purpose ; it is because, being himself a thorough-bred and profound phrenologist, he has founded his book on phrenological principles, composed it of positive facts and phrenological doctrines received as correct by the ablest judges, given to it the tone and tenor of a master, and breathed into it a bold phrenological spirit. Thus consisting of what would seem to be unassailable truth, we cannot, we say, perceive that, in its fundamental principles, it has any thing to dread from opposition or time. For the soundness, however, of all its details, we are as unwilling to become sponsors, as we are unprepared at present to reveal their defects. We therefore leave them to time, the supreme ordeal for the trial of opinions, whose rectitude is unimpeachable, and from whose decision there is no appeal.

Though many men of great and well-deserved distinction and renown have heretofore written and lectured on morals, and bestowed on their productions the lofty title of moral philosophy, we doubt exceedingly the *justice* of such title. More correctly would we speak, in expressing our entire persuasion of its *injustice* and *misnomer*. The labours of those writers and teachers, able and eminent as they were, did not eventuate in systems of *philosophy*. Far from it. Their products bore a much closer approximation to *fiction* and *fable*. Philosophy consists in a correct interpretation of the volume of nature, in the autograph of the Deity. In other words, it is a faithful exposition of nature *as she is*—not a mere fancy-piece of her, as her votaries, in their notions and hypotheses, choose to delineate her. And we do not hesitate to say, that, as far as we have examined them, in that light, which might be well called *fabulous*, are we compelled to regard every work on moral philosophy, that has issued from the pens of the members of the metaphysical schools of Plato and Aristotle. And to those schools belonged essentially all such writers, from the time of their establishment to the epoch of Dr. Gall.

In their notions of the very foundation of morals, have all metaphysical writers been mistaken. They have regarded them as the exclusive offspring of the human *spirit*, unconnected with, and uninfluenced by, any thing partaking of organised matter. As soon would they have ascribed the existence, condition, or attributes of morals to the flexion of the fingers, or the expansion of the lungs, as to the functions of any of the subdivisions of the brain. And their fabric of philosophy being thus defective at the base, could be neither sound nor secure from that to its summit. It was essentially a building erected on the sand, to yield to the earliest assault of the flood.

But we must not rest satisfied with the bare *assertion*, that all meta-

physical writers have shown themselves strangers to the elements of morals. Such an assertion, unaccompanied by proof, could hardly fail to be regarded, by a generous public, as groundless at least, if not slanderous and dishonourable. To prevent an imputation, therefore, so unmerited and exceptionable, we shall proceed to show that our assertion is true. Nor do we consider the task as either difficult in itself, or doubtful in its issue.

The subject of Mr. Combe's first lecture, is "THE FOUNDATION OF MORAL SCIENCE." And, as respects such "*foundation*," having first disclosed the views of other writers of the highest order, he then states his own. We shall here give a summary of the whole—a brief one of necessity, but we trust sufficiently clear and abundant in matter to be fully understood, and to accomplish the purpose for which it is intended.

"Our present inquiry," says our author, "is into the basis of morals regarded as a *science*; that is, into the *natural* foundation of moral obligation.

"The first observation, then, which I make, is, that there are two questions, very similar in terms, but widely different in substance, which we must carefully distinguish. The one is, what actions are virtuous? and the other, what *constitutes* them virtuous? The answer to the first question, fortunately, is not difficult. Most individuals agree that it is virtuous to love our neighbour, to reward a benefactor, to discharge our proper obligations, to love God, and so on; and that the opposite actions are vicious. But when the second question is put—*why* is an action virtuous,—why is it virtuous to love our neighbour, or to manifest gratitude or piety? the most contradictory answers have been given by philosophers. The discovery of what constitutes virtue, is a fundamental object in moral philosophy; and hence the difficulties of the subject meet us at the very threshold of our inquiries. It appears to me, that man has received a definite bodily and mental constitution, which clearly points to certain objects as in themselves excellent, to others as proper, and to others as beneficial; and that endeavours to attain these objects, are prescribed to us as duties by the law written upon our constitution; while, on the other hand, whatever tends to defeat their attainment is forbidden. The web-foot of the duck, for instance, clearly bespeaks the Creator's intention that the creature should swim, and He has given it an internal impulse which prompts it to act accordingly. The human constitution indicates various courses of action to be designed for man, as clearly as the web-foot indicates the water to be a sphere of the duck's activity."

Here Mr. Combe points distinctly, and, in our opinion, correctly,

to the ground-work of morals—to the true reason why some actions are *virtuous* and others *vicious*. The native constitution of the human mind is his text; and his commentary on it, which is unanswerable, is a lucid and satisfactory exposition of the point he is discussing. The mind he finds to be an aggregate of different faculties, some of a higher and nobler caste, and others of a lower and less noble one. And to act in conformity to each of these, there exists in every one a propensity, urgent in proportion to the activity and vigour of the faculty itself. Hence there prevails in the mind a perpetual conflict, more or less intense, according to circumstances, between its *higher* and *lower* faculties. And virtue consists in actions performed in obedience to the *former*, and agreeable to them; the cravings of the *latter* being subdued or disregarded. According to this understanding of the matter, the constitution of the human mind, and its entire and practical accordance with itself and with creation around us, is the genuine source of moral obligation. Conformity in action to that accordance, is virtue; and any intentional departure from it, is vice.

Such are the views of Mr. Combe, and of all other enlightened phrenologists, who have informed themselves on the subject, to the extent it deserves. Such, however, are not the views of the champions of metaphysics. Nor are there, we believe, any two of them who concur with each other in their notions respecting it. Of the multiplex discrepancy of their hypotheses on this point, our author gives the following succinct account—containing, we think, abundant evidence that they are all immersed in ignorance, and entangled in error. For to us it seems palpable, that such clashing of opinion between writers and teachers of equal standing, whose opportunities to arrive at truth have been alike favourable, testifies conclusively that the whole of them are wanting in correct information. Some of them may be nearer to their aim than others; but none of them have reached it. And had not Mr. Combe been directed, in the present case, by the lights of phrenology, the rule would have been as applicable to him as to others. He would have been incompetent to the masterly elucidation of his subject, which, under the lights and resources he possesses, he has so happily effected. Our author gives, we say, the following brief narrative of the conflicting theories of several distinguished and popular writers, respecting the foundation of moral science.

“Hobbes taught that the laws which the civil magistrate enjoins, are the ultimate standards of morality. Cudworth endeavoured to show that the origin of our notions of right and wrong is to be found in a particular faculty of the mind, which distinguishes truth from

falsehood. Mandeville declares that the moral virtues are mere sacrifices of self-interest, made for the sake of public approbation, and calls virtue the 'political offspring which flattery begot upon pride.' Dr. Clarke supposes virtue to consist in acting according to the fitnesses of things. Mr. Hume endeavoured to prove that 'utility is the constituent or measure of virtue.' Dr. Hutcheson maintains that it originates in the dictates of a moral sense. Dr. Paley does not admit such a faculty, but declares virtue to consist 'in doing good to mankind, in obedience to the will of God, and for the sake of everlasting happiness.' Dr. Adam Smith endeavours to show that sympathy is the source of moral approbation. Dr. Reid, Mr. Stewart, and Dr. Thomas Brown, maintain the existence of a moral faculty. Sir James Mackintosh describes conscience to be compounded and made up of associations. Dr. Ralph Wardlaw, of Glasgow, in a work on ethics, published in 1834, can see nothing in conscience except judgment."

That some of these views are correct, as far as they extend, Mr. Combe does not deny. On the contrary, he admits it. But, in consideration of the narrowness of their limits, he pronounces them severally defective and insufficient. Neither of them covers the whole ground of moral obligation. In neither of them are embodied all the reasons why an action is regarded as virtuous. Nor does either of them, therefore, harmonise with all the faculties of the human mind that minister to morality. They harmonise with but a few of them. In his exposition of their several deficiencies in these respects, he thus expresses himself:—

"We are now able to understand the origin of the various theories of the foundation of virtue, to which I adverted at the commencement of this lecture, and which have been the themes of so much discussion among philosophers. According to the majority of the authors whom I have quoted, the three great foundations of virtue are, 1st, That all actions are virtuous which tend to promote the happiness of sentient and intelligent beings, and that they are virtuous because they possess this tendency; 2dly, That all actions are virtuous which are conformable to the will of God, and that they are virtuous for this reason, and no other; and 3dly, That all actions are virtuous which are in conformity with the dictates of our moral sense or moral faculty, and that this conformity is the sole requisite of virtue. The partisans of each of these foundations of virtue have denied the reality or sufficiency of the other foundations. These differences of opinion may be thus accounted for: The sentiment of Benevolence desires universal happiness, or the general good of all beings. When we wantonly sacrifice the happiness of any being, it is pained, and

produces uneasy emotions in our minds. Those philosophers who place the foundation of virtue in the tendency of the action judged of, to produce happiness, are right, in so far, because this is one foundation, but they are wrong in so far as they teach that it is the only foundation of virtue.

"In like manner the organ of Veneration desires to yield obedience to the will of God, and it experiences painful emotions when we knowingly contravene its dictates. Those philosophers who place the essence of virtue in obedience to the will of God, are sound in their judgment, in so far as this is one essential element in virtue, but they err in so far as they represent it to be the only one.

"And thirdly, Conscientiousness produces the feeling of duty, obligation, incumbency, and of right and wrong. It desires to do justice in all things. It enforces the dictates of our other moral faculties. Benevolence, for instance, from its own constitution, desires to communicate happiness; and Conscientiousness enforces its dictates, by proclaiming that it is our duty to act in conformity with them. It causes us to feel that we are guilty or criminal, if we wantonly destroy or impair the enjoyment of any being. It enforces, also, the aspirations of Veneration, and tells us that we are acting wrong if we disobey the will of God. Further, its own special function is to enforce justice, when our own rights or feelings, and those of other men, come into competition. Those philosophers who founded virtue in a moral sense, were right, in so far as this faculty is one most important foundation of virtue; but it is not the only one. The phrenologist considers the virtue of an action to consist in its being in harmony with *all of these faculties*."

Again: our author offers the following remarks, which are as interesting as they are well founded; but which phrenologists alone can fully appreciate.

"The idea of resolving morality into intellectual perceptions of utility; into obedience to the will of God; or into any single principle, has arisen, probably, from the organ of that one principle having been largest in the brain of the author of the theory, in consequence of which he felt most strongly that particular emotion which he selected as its foundation. Those individuals, again, who deny that there is *any natural* basis for moral science, and who regard the Bible as the only foundation of moral and religious duty, are generally deficient in the organs either of the moral sentiments or of the intellect, or in both; and because *they* feebly experience the dictates of a natural conscience, they draw the inference that it is the same with all mankind."

But we have not yet referred to the most striking and radical errors that prevail among metaphysical writers respecting the foundation of morality and virtue. Some of those writers contend that such qualities or conditions of mind have no foundation in nature at all; but that they are mere *abstractions*, created alone by *positive* and *arbitrary* laws. And those laws are recorded exclusively in the Scriptures, as the word and will of God, without which virtue and morals would be insignificant names.

According to this doctrine, it would not be criminal to kill, steal, dishonour parents, commit adultery, or bear false witness, were not those acts forbidden in the decalogue. The principles of nature, as practically manifested in the works of creation, attach to such deeds, in the opinion of the advocates of the doctrine, neither turpitude nor vice. They are wicked only because the Deity, in manifestation of his power, will, and pleasure, has so pronounced them; and had he pronounced them otherwise, they would have *been* otherwise—innocent and neutral, if not virtuous and praiseworthy.

If all this be true, then was Cain no criminal, on account of the murder of Abel; because at that period the commandments of the decalogue had not been issued. Nor had the Deity proclaimed that murder was a sin.

We believe we do not state this doctrine too strongly. Certainly we do not so treat it intentionally; because we consider it too grave and momentous to be made a subject of caricature, irony, or jest. It is a notion narrow and fallacious in its nature, disrespectful to the Deity, and injurious to man, in consideration of the fetters of prejudice, superstition, and bigotry, in which it enthrals him. Were it true, it would abrogate one of the most beautiful and magnificent attributes of creation, which the united wisdom, and goodness, and power of the Creator have bestowed on his works. We allude to the attribute of *universal adaptation*—to that faultless correspondence of parts to each other, and that fitness of parts to the whole equally faultless, which every where pervade the universe of God, and render it a system of glorious perfection.

Nor is there any portion of this system more gloriously perfect, than that which relates to moral obligation. Every duty that man has to perform, instead of being the product of an abstract and arbitrary law, imposed on his being, is the native product of himself. It arises from the constitution of his own mind, and the corresponding aptitude of his body, as directly and naturally, as light issues from the sun or from a blazing substance, or as a ponderous body, when unobstructed, descends from a higher to a lower position. True, in

each case there is a law to be obeyed. But it is a law, not of despotism or caprice, but of reason and fitness, the offspring of the wisdom and beneficence of the Most High.

Are children called on to honour, protect, and maintain their parents, to whom they are indebted for life, education, and years of subsistence? In complying with the call, they but obey the impulses of Veneration and Adhesiveness, the dictates of reflection, and the mandate of conscience. Are we summoned to bestow charity, relieve pain of body or anguish of mind, save life, or perform our part in diffusing around us happiness and joy? In doing so, we but act in conformity to the prompting of Benevolence. Is it demanded of us that we neither testify falsely against our neighbour, dishonour his bed, defraud him of his possessions, nor withhold from him what he is justly entitled to receive from us? In complying with these several claims and duties, we act as strictly in conformity to the native injunctions of Conscientiousness, Caution, Approbativeness, and our reflective faculties, as we do in conformity to the laws of our country. And were it not for the influence of the laws *within us*, those *without* would be inoperative and fruitless—as utterly so, as if they were designed for the government of our domestic animals. And when we are commanded to do homage to the GREAT SUPREME, we obey the requisition from the impulses of Veneration, Wonder, Hope, and Ideality, much more than from the influence of the call from without, whatever may be its character and penalty, or the source from which it comes. And were it not for our feelings and impulses to that effect, we *could not obey it*. In a word, had not the commandments, issued from Mount Sinai, been in strict conformity to our mental constitution, bestowed on us by the Creator, they would have been as inoperative and unproductive, as if they had been designed for the government of quadrupeds and birds. So true is it, that when, for his moral direction and government, man has no external law, he is a law to himself. And that law is inscribed on the structure and constitution of his mind by the finger of his Creator. In following the moral law, therefore, we but follow the emotions and injunctions of our nature, as literally and necessarily, as the weightier body sinks and the lighter one ascends. It is idle and unmeaning, therefore, or rather it is a perversion of what ought to be meant, (not to pronounce it irreverent toward the Deity,) to talk about *making* man, by human means, either *moral* or *religious*. He is both moral and religious already, as he comes from the immaculate hands of his Creator—provided he so train and discipline himself, as to give to his moral and religious faculties the control that belongs to them, by the constitution of his mind. And

such discipline, an acquaintance with phrenology enables him to attain for himself, and to bestow on others. Hence the falsity and deep injustice of the charge of friendliness to immorality and irreligion, preferred against phrenology by the ignorance or perversity, or both, of its reckless defamers. Without the aid of that science, the true foundation of neither morality nor religion can be understood; because without it the constitution of the human mind, the seat and nursery-ground of morality and religion, is not understood. We shall only add, that although man is as truly a moral and religious being, without education and training, as with them, he is not so to the same extent. His moral and religious faculties may be strengthened and improved by suitable discipline, but not created by it. As easily could the tiger have morality and religion implanted and made to flourish in him, by artificial means, as man, had not the latter received from his Creator the high and distinguishing endowment of moral and religious organs and faculties.

Having, on these principles, given a much more natural and intelligible, as well as a more just view of the foundation of morality, than had been previously given by any other writer, Mr. Combe proceeds to treat his subject under four different heads, the statement of which we shall submit to the reader in his own words. "I propose, in the following lectures, to consider—

"1st, The constitution of man as an *individual*; and endeavour to discover what duties are prescribed to him by its qualities and objects.

"2dly, I shall consider man as a domestic being, and endeavour to discover the duties prescribed to him by his constitution, as a husband and a father.

"3dly, I shall consider man as a social being, and discuss the duties arising from his social qualities. This will involve the principles of government and political economy.

"4thly, I shall consider man as a religious being, and discuss the duties which he owes to God, so far as these are discoverable from the light of nature."

The volume before us consists in all of twenty lectures, besides an Appendix; and we have yet spoken of only one of them. We need hardly observe, therefore, that our notices of the remainder must be so brief and imperfect, as to communicate to the reader an exceedingly limited and incompetent degree of knowledge of their matter and merit. For, contrasted with their moderate amount of letterpress, they contain an unusual abundance of both. We know of no other work of near the same size, the "Constitution of Man," by the same author, perhaps excepted, that does not fall greatly short of it,

in the extent, variety, and accuracy of the knowledge which it embodies respecting the human system, considered in its varied attributes and relations—physical and organic, intellectual and moral. And one of its excellences of a high order, in which it is nearly unique, is, heretofore intimated, its interesting and satisfactory representation of the harmony that should exist between those attributes or modes of being of human nature, the importance of such harmony, and the means by which it may be produced and preserved.

Our author's second lecture, "*On the sanctions by which the natural laws of morality are supported*," is also altogether excellent—the matter sound, and the style and manner highly creditable. His definition of a moral action is concise, correct, and worthy to be remembered, as being in harmony with his whole doctrine.

"Every act is morally *right* which is approved by enlightened intellect, operating along with the moral sentiments of Benevolence, Conscientiousness, and Veneration; while all actions disapproved of by these faculties are wrong."

This lecture, throughout, is an able and satisfactory vindication of the "ways of God to man." It clearly shows that, even in this world, those ways are undeviatingly just; that suffering, in some shape and degree, is the inevitable result of every violation of the natural laws, established by the Deity for the government of his works; and that, without such violation, suffering would be injustice and cruelty, and would not, therefore—*could* not, indeed—be permitted under a wise, and just, and benevolent administration of things. And, in illustration and proof of this doctrine, he adduces many facts and arguments not to be resisted. Nor can any thing be more salutary in its tendency than the result of this disquisition. How, indeed, can it be otherwise. It elicits and establishes truth, which cannot, in its influence, fail to be beneficial. The plain language of it is—"Transgress not, and be happy; infringe any of the natural laws of God, and *here—even here*—in this world of trial, and at no distant period of time, the penalty will be exacted of you—inexorably exacted, in some form and degree of suffering or sorrow." Let this doctrine be universally proclaimed and demonstrated, (*and the task is an easy one*,) and a speedy and striking reformation will be the issue. By such a course, if rendered general, and vigorously and steadily pursued and executed, vice will be much more discouraged and prevented, and virtue and morality more promoted, in a *few years*, than they can be by an adherence to the present course of proceeding in as many *life-times*. The *demonstrable certainty* of incurring *immediate* suffering, though comparatively light, is much better calculated to deter men from vice,

than only a *probability*, however strong, of the infliction of a heavier punishment, at a remote period. All experience admonishes us of this—that it is not the grievousness and weight of the penalty, but its *certainly* and *instantaneousness*, that operate most efficiently in preventing the violation of the natural laws.

Mr. Combe's third lecture is an able dissertation on the "*Advantages of a knowledge of the principles of morals*;" on the "*Duties prescribed to man as an individual*;" and on "*Self-Culture*."

A practitioner of medicine who is ignorant of the philosophy of his profession, is an empirick, and can never become the author of any improvement in the treatment of diseases, except by accident. Of those who devote themselves to moral philosophy, as writers or teachers, the same is true. Unless they are versed in the grounds and principles of morals, they are pretenders in their vocation, and can never contribute to the advancement of the science, which they spuriously profess. And such was necessarily the condition of all moralists, until the discoveries of Gall. They were ignorant of the constitution of the human mind, more especially with that of its moral compartment. In truth, they hardly, if at all, believed in the existence of such a compartment, as distinct from the intellectual. Hence their entire ignorance of the philosophy of morals; and hence, again, the *absolute stationariness* of that branch of knowledge for more than *twenty centuries*. Seneca and Cicero, Aristotle, Plato, and Socrates, knew as much of the true foundation and principles of morality, as did Stewart, Beattie, or Brown, or any of the other Scottish philosophers. But on that subject, so transcendent in its importance to the welfare of man, a light has gone forth, from the discoveries of Dr. Gall and the labours of his followers, which has brought it already to the same level with other branches of physiological science. For, though heretofore regarded as one of the most abstract and untangible portions of metaphysics, it belongs as exclusively to anatomy and physiology, as does digestion, respiration, or the circulation of the blood. And it will be treated hereafter with a corresponding degree of facility and success. The mysteriousness which had overshadowed it for centuries will disappear, and it will be no longer, beyond other matters, a barrier in the path of the student of anthropology.

(To be continued.)

ARTICLE IV.

REMARKS ON THE DEVELOPEMENTS AND ATTAINMENTS OF E. BURRITT,
THE LEARNED BLACKSMITH, OF WORCESTER, MASS.

The above cut presents a correct outline of the head of E. Burritt, who has recently distinguished himself by his attainments in the ancient and modern languages. As the individual is still living, we do not feel at liberty to enter into particulars respecting his phrenological developments, and shall therefore be brief, as well as general, in our statement.

The history and character of Mr. Burritt are truly remarkable and peculiarly interesting. After some remarks on his organisation and mental faculties, we shall let him speak on this subject for himself. Considering the time, and limited opportunities for study, which he has had, he has been wonderfully successful in his acquaintance with the ancient and modern languages. It might be supposed that, if there is any truth in phrenology, the head of this individual must possess some marked and striking peculiarities. But, to a person unacquainted with the principles of this science, and the particular faculties necessary to render one successful in such studies, the portrait presents nothing very singular or remarkable. And, in fact, as far as his *phrenological* developments are concerned, they are in no respect so very remarkable, or such as to distinguish him *naturally* from a multitude of others. He is more indebted for his success to *close industry, intense application*, and

unwearied perseverance, than to any *natural* abilities. His own letter affords sufficient evidence of this fact. Still, there are some conditions in his organisation which are calculated to favour, decidedly, *mental* pursuits, and could not fail to have important bearings on the course and character of any individual.

His temperament is nervous bilious, creating a greater fondness for *mental*, than for *physical* exercise. His constitution is very strong and vigorous, giving great powers of application and endurance. His head appears to be considerably above the average size, and, as indicated by the cut, is very fully developed in the anterior region. The reader will perceive, by the cut, how great the distance is from the ear to the forehead—particularly to the organs of Individuality and Comparison. The anterior lobes of the brain (which are the seat of the intellectual faculties) are decidedly large, compared with the middle and posterior lobes. The organs of the perceptive faculties, as a class, are remarkably developed. And it is these faculties, with Eventuality and Comparison, which have so distinguished him as a scholar in the acquisition of languages. The organ of Language may have its influence, but this faculty aids more essentially in learning by conversation to *speak* a *foreign* language, than by study to translate merely its meaning from books. *Comparison*, *Eventuality*, *Individuality*, *Form*, and *Size*, are the most important faculties concerned in the study of different languages; and all these Mr. Burritt possesses, very strongly developed. The cut also shows a very large organ of Firmness, and rather deficient Self-esteem, which explains his extreme diffidence and modesty as manifested in his letter. The organs of Benevolence and Veneration appear also very large. We would state, that the above cut is drawn from a plaster bust, which was taken from the *living* head, and is therefore a *correct* representation of the same.

The following correspondence, respecting the history and attainments of Mr. B. appeared first in the Southern Literary Messenger, and we present it entire, as it will explain the particulars on the subject better than any statements of our own can do. We may have occasion to refer to this case again at some future time:—

We invite the attention of the public to the subjoined communication of Dr. Nelson, of this city, accompanied by a letter to him from Mr. Burritt, already distinguished by Governor Everett as the learned blacksmith of Massachusetts. Mr. Burritt's extraordinary acquirements, under the peculiar circumstances of his life, are only equalled by the modesty with which he shrinks from notoriety. We doubt whether there is a parallel instance on record of the same application to mental improvement, under such striking disadvantages. The most learned linguist now living, we believe, is Mezzofanti, the Professor of Oriental Lan-

guages in the University of Bologna, Italy. He is said to speak and write fluently, eighteen ancient and modern languages, and twenty-two different dialects of Europe; but Mezzofanti has not been obliged to labour one-third of his time at the anvil for subsistence. Lord Byron said of him—"He is a monster of languages—the Briareus of parts of speech—a walking polyglot; and one who ought to have existed at the time of the tower of Babel, as universal interpreter." What would Lord Byron have said to the self-taught Massachusetts linguist, whose wonderful acquisitions have been treasured up amid toil and poverty, and in those intervals which are usually devoted to repose or recreation? If any of our readers should be incredulous in this matter, we need only refer them to the address of Governor Everett, and also to the personal testimony and observation of Dr. Nelson, of whom it may be said that no declaration of ours is necessary to entitle his statement to the fullest confidence.—*Ed. Messenger.*

To the Editor of the Southern Literary Messenger.

With a few friends, who have seen the following communication, I entirely concur in the opinion that it ought to be given to the public. It is a brilliant, an unsurpassed example of what may be achieved by persevering application to study. To all persons, especially to the young mechanics of our country, it may prove a beacon of light to guide them to higher destinies, by a diligent improvement of their "little fragments of time."

Of the verity of the statement made by the writer, there cannot be a doubt. In the summer of 1838, Governor Everett, of Massachusetts, in an address to an association of mechanics in Boston, took occasion to mention that a blacksmith of that state had, by his unaided industry, made himself acquainted with *fifty languages*. In July of the following year, I was passing through Worcester, the place of his present residence, and gratified my curiosity by calling to see him. Like any other son of Vulcan, Mr. Burritt was at his anvil. I introduced myself to him, observing that I had read with great pleasure, and with unfeigned astonishment, an account of him by the governor of his state, which had induced me to take the liberty of paying him a visit. He very modestly replied that the governor had done him more than justice. It was true, he said, that he could read about fifty languages, but he had not studied them all critically. Yankee curiosity had induced him to look at the Latin grammar; he became interested in it, persevered, and finally acquired a thorough knowledge of that language. He then studied the Greek with equal care. A perfect acquaintance with these languages had enabled him to read with facility the Italian, the French, the Spanish, and the Portuguese. The Russian, to which he was then devoting his "odd moments," he said, was the most difficult of any he had undertaken.

I expressed my surprise at his youthful appearance. He informed me he was but *twenty-seven years of age*—to which statement I gave ready credence; that he had been constantly engaged at his trade from boyhood to that hour, and that his education, previous to his apprenticeship, had been very slender.

Mr. Burritt removed from a village near Hartford, in Connecticut, where he was born, and where he learned his trade, to Worcester, to enjoy the benefit of an antiquarian library, stored with rare books, to which the trustees gave him daily access. "Yes, sir," said he, "I now have the key to that library," showing it as if it were the most precious jewel, the real key to knowledge, "and there I go every day, and study

eight hours. I work eight hours, and the other eight I am obliged to devote to animal comforts and repose."

The stage drove up, and I most reluctantly left him, exacting, however, a promise that he would write me some account of himself—of his past and present studies.

The following is the first, but not the only letter which he has done me the favour to write. I have assurance that Mr. Burritt would not be so false to his professions as to object to its publicity. But I am equally well assured that it will give him more pain than pleasure.

TH. NELSON.

Richmond, Feb. 4th, 1840.

WORCESTER, Dec. 10th, 1839.

Dear Sir,—I sit down to write to you under a lively apprehension that you will accept of no apology that I can make for my long silence. But before you impute to me indifference or neglect, I beg you, my dear sir, to consider the peculiar nature of my occupations—to reflect that my time is not at my disposal, and that my leisure moments are such as I can steal away from the hours which my arduous manual labours would incline me to allow to repose. I deferred writing some time, thinking to address you a letter on your return from the Springs; but the nature of my business became such in the fall, that I was compelled to labour both night and day up to the present time, which is the first leisure hour that I have had for several months. I cannot but be gratefully affected by the benevolent interest which you manifest in my pursuits, both in our interview in Worcester, and in the letter for which I am indebted to your courtesy and kind consideration. I thank you most cordially for those expressions of good-will. They are peculiarly gratifying—coming as they do from one whose personal acquaintance I have not long had the means and pleasure of enjoying; a fact which proves, I fear, that I have been thrust before the world very immaturity. An accidental allusion to my history and pursuits, which I made, unthinkingly, in a letter to a friend, was, to my unspeakable surprise, brought before the public as a rather ostentatious *debut* on my part to the world; and I find myself involved in a species of notoriety, not at all in consonance with my feelings. Those who have been acquainted with my character, from my youth up, will give me credit for sincerity, when I say, that it never entered my heart to blazon forth any acquisition of my own. I had, until the unfortunate *denouement* which I have mentioned, pursued the even tenor of my way unnoticed, even among my brethren and kindred. None of them ever thought that I had any particular *genius*, as it is called; I never thought so myself. All that I have accomplished, or expect or hope to accomplish, has been, and will be, by that plodding, patient, persevering process of accretion which builds the ant-heap—particle by particle, thought by thought, fact by fact. And if I ever was actuated by ambition, its highest and farthest aspiration reached no farther than the hope to set before the *young* men of my country an example in employing those fragments of time called "odd moments." And, sir, I should esteem it an honour of costlier *water* than the tiara encircling a monarch's brow, if my future activity and attainments should encourage American *working-men* to be proud and jealous of the credentials which God has given them to every eminence and immunity in the empire of mind. These are the views and sentiments with which I have sat down, night by night, for years, with blistered hands and brightening hope, to studies which I hoped might be serviceable to

that class of community to which I am proud to belong. This is my *ambition*. This is the goal of my aspirations. But not only the *prize*, but the whole *course* lies before me—perhaps beyond my reach. “I count myself not yet to have attained” to any thing worthy of public notice or private mention; what I *may do*, is for Providence to determine.

As you expressed a desire in your letter for some account of my past and present pursuits, I shall hope to gratify you on this point, and also rectify a misapprehension which you, with many others, may have entertained of my acquirements. With regard to my attention to the languages, a study of which I am not so fond as of mathematics, I have tried, by a kind of practical and philosophical process, to contract such a familiar acquaintance with the head of a family of languages as to introduce me to the other members of the same family. Thus, studying the Hebrew very critically, I became readily acquainted with its cognate languages, among the principal of which are the Syriac, Chaldaic, Arabic, Samaritan, Ethiopic, &c. The languages of Europe occupied my attention immediately after I had finished my classics; and I studied French, Spanish, Italian, and German, under native teachers. Afterwards, I pursued the Portuguese, Flemish, Danish, Swedish, Norwegian, Icelandic, Welsh, Gaelic, Celtic. I then ventured on further east into the Russian empire; and the Slavonic opened to me about a dozen of the languages spoken in that vast domain, between which the affinity is as marked as that between the Spanish and Portuguese. Besides those, I have attended to many different European dialects still in vogue. I am now trying to push on eastward as fast as my means will permit, hoping to discover still farther analogies, among the oriental languages, which will assist my progress. I must now close this hasty, though long letter, with the assurances of my most sincere respect and esteem.

ELIHU BURRITT.

TO TH. NELSON, M. D.

ARTICLE V.

REMARKS ON THE NATURAL LAWS OF MAN.*

The reception of phrenology by the generation which witnessed its discovery, forms an interesting object of contemplation. Old and young, grave and gay, learned and unlearned, almost unanimously treated it with derision. Nevertheless, they could not themselves rely on the judgment of condemnation, which they had so confidently pronounced. In their opposition, a pertinacity of hatred and a depth of vituperation appeared, never excited by a trivial subject, or manifested where the mind is at ease as to its own opinions. Phrenology carried with it a weight of reason, and an array of facts, that made

* From the 19th number of the Edinburgh Phrenological Journal.

a deep impression on reflecting men, even while they publicly scoffed; and we appeal to the consciousness of many, whether in their inward thoughts the idea did not more frequently present itself, that "this doctrine may be true," than they had courage to avow?

In a few years, when the truth of the science shall have ceased to be a subject of debate, the envious will endeavour to detract from its importance, by asserting that it communicated no information which mankind did not previously possess: but the phrenologist will point to the pages of wit, argument, and ridicule, directed against it by Jeffrey, Dugald Stewart, Gordon, Roget, and other men of undoubted talent and information, and ask, how could doctrines be familiar to an age whose leaders, on their appearance, were affected with the astonishment and scorn manifested by these individuals? Of thousands, however, who are now convinced by observation of the truth of phrenology, there are few who have formed an adequate conception of its consequences. It appears to us, after the most sober and sedulous reflection, that no effort of human genius, which the world has yet seen, carries in its trains results of such magnitude as the discovery of Dr. Gall; and we shall endeavour briefly to unfold the grounds on which we entertain this opinion.

In surveying the external world, we discover that every creature, and every physical object, has received a definite constitution, and been placed in certain relations to other objects. The natural evidence of a Deity and his attributes is drawn from contemplating these arrangements. Intelligence, wisdom, benevolence, and power, characterise the works of creation; and the human mind ascends by a chain of correct and rigid induction to a great first cause, in whom these qualities must reside. But we fear that hitherto this great truth has rather excited a sublime but barren admiration, than led to beneficial practical results. Men have long been convinced, by their intellects, that God governs the world, and their moral sentiments have exulted and rejoiced in the contemplation of his attributes; but so little has been understood philosophically of the principles of his moral government, that in secular affairs his sway has been in a great measure treated as a phantom. When God is called upon by men, a common expectation is, that he will exert some secret divine influence, or make some special exceptions from general rules, to aid them in their designs; and only the reflecting few have conceived of him as the great Architect of the Universe, who has created all things, bestowed on them a constitution, and established among them definite physical, moral, and religious relations, by acting in accordance with which, sentient beings are assisted, cherished, and benefited, while they are rendered miserable

in proportion as they depart from them. And even they who have arrived at this view, have rather adopted it as a matter of faith, borne out and warranted by partial glimpses of the Creator's goodness and power, than been convinced of it by complete demonstration. If the world, and all that it contains, have received a definite constitution, and if enjoyment can be found only in acting in accordance with it, every individual ought in his daily life to regulate his conduct by that constitution; every community ought to form its institutions in harmony with it, and every nation ought to adhere to it in its laws and its foreign and domestic arrangements. Every individual ought to feel, that in departing from it he acts against the will and the power of God; while in following it, he has the pledge of Omniscience for success, and a beneficial result to his undertakings. Farther, if men were practically convinced that God is good, they would not doubt of his design to permit their enjoyment; and as a consequence, when they felt unhappy, they would be certain of a departure from his laws, and be led to inquire into their offences, that they might return to obedience. If they were satisfied to demonstration that He is intelligent and wise, they would not hesitate in believing, that consistency and unity of purpose pervade the whole of creation, and consequently that the happiness of each individual, of each community, and of each nation, is perfectly compatible with that of all other individuals, communities, and nations, whenever all of them shall place themselves in accordance with the divine arrangements, while none can be happy by neglecting them. The practical end to which this conviction and belief would tend, would be, that from infancy to the close of life each individual would perceive that he is part of a great whole; that his happiness or misery is inseparably connected with that of the world around him; and he would be led to dedicate his efforts, intelligently and constantly, to the promotion of the great scheme of creation, in place of habitually losing sight of God's arrangements in secular affairs, concentrating his whole views and feelings on his individual circle and its interests, mistaking the way of gratifying even these, and in the end reaping only vanity and vexation of spirit.

In no inquiry is it more necessary to be deeply imbued with the conviction of the Creator's benevolence, wisdom, and power, than in the survey of human nature. Man obviously stands pre-eminent among sublunary objects, and is distinguished by remarkable endowments above all other terrestrial beings. Nevertheless, no creature presents such anomalous appearances as man. Viewed in one aspect, he almost resembles a demon; in another, he still bears the impress of the image of God. Seen in his crimes, his wars, and his

devastations, he might be mistaken for an incarnation of an evil spirit; contemplated in his schemes of charity, his discoveries in science, and his vast combinations for the benefit of his race, he seems a bright intelligence from heaven. The lower animals exhibit a more simple and regulated constitution. The lion is bold and ferocious, but he is regularly so; and, besides, is placed in circumstances suited to his nature, in which at once scope is given and limits are set to the gratification of his instincts. The sheep, as a contrast, is mild, feeble, and inoffensive; but its external condition also is suited to its constitution, and it apparently lives and flourishes in as great enjoyment as the lion. The same remarks apply to all the inferior creatures; and the idea which we wish particularly to convey is, that the bodily organs, mental instincts, and external circumstances of these creatures, form parts of a system in which adaptation and harmony are discoverable; and that the enjoyment of the animals depends on the adaptation of their constitution to their external condition. If we saw the lion one day tearing in pieces every animal that crossed its path, and the next oppressed with remorse for the death of its victims, or compassionately healing those whom it had mangled, we should exclaim, what an inconsistent creature! and conclude that it could not by possibility be happy, owing to this opposition among the principles of its nature. In short, we should be strikingly convinced that two conditions are essential to enjoyment: first, that the different instincts of an animal must be in harmony with each other; and, secondly, that its whole constitution must be in accordance with its external condition.

When, keeping these principles in view, we direct our attention to man, the most formidable anomalies present themselves. The most opposite instincts or impulses exist in his mind; actuated by Combativeness, Destructiveness, Acquisitiveness, and Self-esteem, the moral sentiments being in abeyance, he is almost a fiend; on the contrary, when inspired by Benevolence, Veneration, Hope, Conscientiousness, Ideality, and intellect, the benignity, serenity, and splendour of a highly-elevated nature beam from his eye and radiate from his countenance. He is then lovely, noble, and gigantically great. But how shall these conflicting tendencies be reconciled? And how can external circumstances be devised that shall accord with such heterogeneous elements? Here, again, a conviction of the power and goodness of the Deity comes to our assistance. Man is obviously an essential and most important part of the present system of creation, and, without doubting of his future destinies, we ought not, so long as our knowledge of his nature is incomplete, to consider his condition here as inexplicable. The nature of man has

hitherto, to all philosophical purposes, been unknown, and both the purposes of the Creator and the situation of man have been judged of ignorantly and rashly. The sceptic has advanced arguments against religion, and crafty deceivers in all ages have founded systems of superstition, on the disorder and inconsistency which are too readily admitted to be inseparable attributes of human existence on earth. But we venture to hope that man will yet be found in harmony with himself and with his condition; and it is because we anticipate that phrenology will be the means of bringing these great truths to light, that we have said that its consequences are unknown, or perceived only by a few.

We are aware that some individuals, whose piety we respect, conceive that as the great revolutions of human society, as well as all events in the lives of individuals, take place under the guidance of the Deity, it is presumptuous, if not impious, in man to endeavour to scan their causes and effects. But it is obvious that the Creator governs man with reference to the faculties bestowed on him. The young swallow, when it migrates on the approach of the first winter of its life, is impelled by an instinct implanted by the Deity, and it can neither know the causes that prompt it to fly, nor the end to be attained by its flight. But its mental constitution is wisely adapted to this condition; for it has no organs of Causality stimulating it to reflect on itself and external objects, and to inquire whence came its desires, or to what object they tend. Man, however, has been framed differently. The Creator has bestowed on him faculties to observe phenomena, and to trace cause and effect; and *he has constituted the external world to afford scope to these powers*. We are entitled, therefore, to say, that it is the Creator himself who has commanded us to observe and inquire into the causes that prompt us to act, and the results that will naturally follow; and our whole design is to show that it has been from non-performance of those duties that much of human misery has arisen.

But as long as man remained ignorant of his own nature, he could not of design form his institutions in accordance with it. Until his own faculties became the subjects of his observation, and their relations the objects of his reflection, they operated as mere instincts. He adopted savage habits, because his animal propensities were not at first directed by moral sentiment or enlightened by reflection. He next adopted the condition of the barbarian, because his higher powers had made some advances, but had not yet attained supremacy; and he now manufactures, because his constructive faculties and intellect have given him power over physical nature, while his Acquisitiveness, Self-esteem, and Love of Approbation, are predomi-

nant, and are gratified by these avocations. Not one of these changes, however, has been adopted from design, or from perception of its suitableness to the nature of man. He has been ill at ease in them all; but it does not follow that he shall continue for ever equally ignorant of his nature, and equally incapable of framing institutions to harmonise with it. The simple facts, that the Creator has bestowed on man reason capable of discovering his own nature, and its relations to external objects; that He has left him to apply it in framing suitable institutions to ensure his happiness; that, nevertheless, man has hitherto been ignorant of his nature and of its relations, and that, in consequence, his modes of life have never been adopted from *enlightened views of his whole capacities and qualities*, but sprung up from the instinctive ascendancy of one blind propensity or another—warrant us in saying, that a new era has begun with the discovery of phrenology, and that the future may exhibit man assuming his station as a rational creature, pursuing his own happiness with intelligence and design, and at length attaining higher gratification to his whole faculties than he has hitherto enjoyed.

ARTICLE VI.

LAWS OF HEREDITARY DESCENT.*

On looking abroad upon society, we perceive some families apparently surrounded by every external advantage, yet in which it is found difficult to rear any of the children to maturity. Either from *scrofula*, consumption, or some other form of bad health, one after another is carried off; and those who survive, are characterised by great delicacy of constitution, and require the most assiduous care for their preservation. As a contrast to this, we meet with other families seemingly much less fortunate in their outward circumstances, but in which one child grows up after another as if no such thing as disease existed; or as if the ordinary disorders of infancy were merely mysterious processes for the farther development of the bodily organisation. That such remarkable differences exist, must have been observed by all who notice what is passing around them; and, granting them to exist, the very important question occurs, On what do they depend?

* From Combe on Infancy.

To some extent, at least, we have no difficulty in answering the inquiry. The very terms of our statement imply, that the unusual susceptibility of disease in the one case, and the immunity from it in the other, arise from no peculiarity of treatment or external situation, and must, therefore, depend on some inherent difference of constitution derived from one or other, or from both, of the parents. Such, accordingly, is the truth; and so manifest is the influence of hereditary constitution upon the organisation and qualities of the offspring, that, from the earliest ages, the attention of mankind has been directed to its observation. Where interest does not blind the judgment, there is thus an almost instinctive preference of a sound and morally respectable stock over one which is either unhealthy or remarkable for any moral or personal peculiarity. Apparent exceptions occur in cases where the children differ widely from their progenitors; but they are so few in number, and usually so easily explained, that the general principle remains unshaken.

Admitting, then, the reality of hereditary influence, the next point of practical importance is, to discover what are the conditions in the parents which affect most powerfully the future welfare of the child. The following are, perhaps, the most deserving of notice:—

1st, Natural infirmities of constitution derived from their own parents.

2dly, Premature marriages, especially of delicate females, and persons strongly predisposed to hereditary disease.

3dly, Marriages between parties too nearly allied in blood, particularly where either of them is descended from an unhealthy race.

4thly, Great disproportion in age between the parents.

5thly, The state of the parents at the time of conception; and, lastly, The state of health and conduct of the mother during pregnancy. Of these I shall speak in succession.

It may be said, that, in a work like the present, destined chiefly for the guidance of parents and young practitioners, it is altogether superfluous to treat of any of the first four heads; seeing that the child is supposed to be already in existence, and that it is no longer in our power to avert the consequences of a well or ill assorted marriage, or infirm constitution. But this objection does not apply with much force; for the more delicate the infant is, the more necessary does it become to detect the true source of the delicacy, that the means of remedying it may be applied with that discrimination which is essential to success. The same treatment, for example, which is suitable for an infant whose infirm health arises from its inheriting the constitutional tendencies of the race of either parent, may not be equally suitable for another whose delicacy is caused by

disease occurring accidentally during the pregnancy of the mother. Here, then, is a strong practical reason why we should not only be aware of all the sources of infant delicacy, but also be able to discriminate between them in every individual case.

But even supposing, what is not the case, that the children already born are beyond the reach of benefit from the inquiry, it is quite certain that, by improving the health of the parents, the *future* offspring will participate in their increased vigour, and more easily escape the evils which assail the earlier born. Nor is this the only consideration, important though it be; for parents have an advising and controlling power over the marriages of their children, and by convincing the understandings of the latter, may call into operation, in early life, before the passions become enlisted in the decision, a guiding influence which shall insensibly put them on their guard against forming an alliance with a very unhealthy or defective race. A kind and judicious parent may exercise more influence in this respect than is commonly imagined; and if the young were accustomed to find their parents and guardians acting habitually and consistently under the guidance of principle, they would be much less apt than at present to follow heedlessly the bent of their own passions, in a matter so directly involving their permanent happiness. But when nothing is done, either by example or precept, to put the young on their guard, it is not surprising that mere inclination, family interest, and money, should be more important considerations in forming alliances, than family endowments of mind and body, or soundness of family health; and so long as this shall be the case, so long will much misery continue to be produced, which might otherwise have been foreseen and prevented.

The influence of original constitution on the qualities and health of the progeny, is remarkably shown in the families of some of the reigning princes of Europe, and of our own aristocracy; and is exemplified in the histories of long-lived persons, almost all of whom are found to have been descended from long-lived ancestors; indeed, nothing is more certain than that, other circumstances being favourable, robust and healthy parents have robust and healthy children. The same law, indeed, holds good throughout animated nature. In the vegetable world, for example, quite as much importance is attached to the quality of the seed as to a good soil and good cultivation, and the highest prices are offered to obtain it. Among the lower animals the same principle equally operates. The genealogy of the race-horse, of the hunter, or even of the farm-horse, is looked upon as a sure criterion of the qualities which may be expected in its progeny. In the dog, the sheep, and the different varieties of

cattle, also, we calculate, with perfect certainty, on the reappearance of the qualities of the parents in their young. Man himself, as an organised being, constitutes no exception to the general law, and it is a false and injurious delicacy which would try to divert attention from a truth so influential on happiness, and which has long forced itself upon the notice of physiologists and physicians. In alluding to this subject, the great Haller mentions, that he knew "a very remarkable instance of two noble ladies, who got husbands on account of their wealth, although they were nearly idiots, and from whom this mental defect has extended for a century into several families, so that some of all their descendants still continue idiots in the fourth, and even the fifth generation."*. The late Dr. Gregory also graphically describes the same influence of the parental stock, when he says, "Parents frequently live over again in their offspring; for children certainly resemble their parents, not merely in countenance and bodily conformation, but in the general features of their minds, and in both virtues and vices. Thus the imperious Claudian family long flourished at Rome, unrelenting, cruel, and despotic; it produced the merciless and detestable tyrant Tiberius, and at length ended, after a course of six hundred years, in the bloody Caligula, Claudius, and Agrippina, and then in the monster Nero."† Facts of a similar description might easily be multiplied; but as their counterparts may be observed in a more or less marked degree in ordinary society, it is needless to adduce them.

We are perfectly warranted, then, both by experience and reason, in maintaining that the possession on the part of the parents of a sound and vigorous bodily constitution, and an active, well-balanced mind, exerts an important influence in securing similar advantages for the offspring. If either parent inherits the feeble delicacy or mental peculiarities of an unhealthy or eccentric race, the chances are, as we have already seen, very great, that the offspring will be characterised by precisely similar tendencies. But, in compensation for this, the very same law by which the liability to gout, insanity, and consumption, is transmitted from generation to generation, enables us to reckon with equal certainty on the transmission of health and vigour, wherever these have been the hereditary features of the race.

Those, then, who desire bodily and mental soundness in their offspring, ought carefully to avoid intermarrying with individuals who are either feeble in constitution, or strongly predisposed to any

* Elem. Physiol. lib. xxix, sect. 2. 8.

† Conspectus Medic. Theor. cap. 1, sect. 16.

very serious disease, such as insanity, scrofula, cancer, or consumption; and above all, the *greatest care should be taken against the union of the same predisposition to both father and mother*. Where any peculiarity of constitution is confined to one parent, and is not very strong, it may be kept in abeyance by a judicious marriage; but where its influence is aggravated by being common to both parents, the children can scarcely be expected to escape. I am acquainted with families, in which the consequences of acting in opposition to this principle have been not less deplorable than manifest—where several of the children have fallen victims to scrofula and consumption, and others survived in idiocy, induced solely by the imprudent intermarriage of persons nearly allied in blood, and both strongly predisposed to the same form of disease.

In thus insisting on the necessity of greater attention to the law of hereditary predisposition, I do not mean that the actual disease which afflicted the parent will certainly reappear in every one of the offspring; but only that the children of such parents will be much more liable to its invasion than those belonging to a healthier stock, and consequently will require unusual care and good management to protect them against it. One of the chief advantages, indeed, of being aware of the nature and extent of the influence, is the power which it gives us of diminishing its operation by a system of treatment calculated to strengthen the weaker points of the constitution. Thus, if a child inherits a very scrofulous habit from both of its parents, and is brought up under the same circumstances which induced or kept up the disease in them, there is next to a certainty that it will fall a victim to some form or other of scrofulous affection, or will escape only after a long and severe struggle. But if timely precaution is exercised, and the child transferred for a few years to a drier and warmer climate, put on a proper regimen, and kept much in the open air, it may altogether escape the disease, and even enjoy permanently a higher degree of good health than either of its parents ever experienced.

A precisely similar result will follow in other cases of family predisposition. The excitable and capricious children of parents who have been insane, or are strongly predisposed to become so, will run great risk of lapsing into the same state, if brought up under circumstances tending to increase the irritability of the nervous system, and to call their feelings or passions into strong and irregular activity. Of this description, are excessive intellectual exertion, keen competition at school, over-indulgence, capricious contradiction, and confinement in close warm rooms at home. Whereas, if subjected from the first to a mode of treatment calculated to allay nervous irrita-

bility, and give tone to the bodily organisation and composure to the mind, the danger in after life may be greatly diminished, and a degree of security enjoyed, which it would otherwise have been impossible to obtain.

It is, then, the *predisposition* or *unusual liability*, and not the actual disease, which is thus transmitted from parent to child, and against which we cannot too carefully guard. When we see individual features reappear with striking accuracy in the offspring, we can scarcely doubt that other qualities of a less obvious kind descend with equal regularity.

Next to the direct inheritance of an infirm constitution, *that derived from the union of parents too nearly allied in blood* is, perhaps, the most prejudicial to infant health, and its baneful effects are no where more strikingly shown than in the deteriorated offspring of some of the royal families of Europe, whose matrimonial choice is greatly more circumscribed than that of their subjects. They are, however, often observed in private life also; where very near relations marry who are themselves infirm, there is usually either no progeny, or one characterised by unusual delicacy of constitution.

The *period of life at which the parents marry*, exercises a great influence on the health and qualities of the offspring. If the parents have married at a very early age, and before the full development and maturity of their own organisation, the children are generally more deficient in stamina than those born subsequently and under more favourable circumstances. This, indeed, is one of the reasons why the children of the same family often present considerable differences of constitution and character, and why the first-born is occasionally puny in an otherwise vigorous race. Marriage, therefore, ought never to take place before maturity; because the system is not sufficiently consolidated for the labour of reproduction, and, as a consequence, both parent and child suffer from anticipating the order of nature. In this country, it may be stated as the general rule, that females do not attain their full development before from twenty to twenty-five years of age, and males between twenty-five and thirty. But, in defiance of this fact, it is not uncommon to encourage a precocious and delicate creature to marry at sixteen or seventeen years of age, at the manifest risk, not only of entailing infirm health upon herself and her future offspring, but of throwing away the best chance of her own permanent happiness.*

* Early marriage and deficient out-door exercise are causes, more powerful than climate, of that early decay of beauty and premature bodily infirmity of our American women, of which it requires not the aid of European travellers to make us sensible.—BELL.

Another cause of infirm health in children, which ought not to be overlooked, is *great disparity of years* in the two parents. When one of the parents is very young and the other already advanced in life, the constitution of the offspring is very rarely sound; but it is sufficient to call attention to the fact.

Another and very influential source of delicacy in children, is an *habitually deteriorated state of health in the parents*, not exactly amounting to active disease, but arising chiefly from mismanagement or neglect, and showing itself in a lowered tone of all the animal functions, and a general feeling of not being well. Of all the causes of this description, perhaps the most frequent and deteriorating to the offspring is habitual indigestion. Sir James Clark has shown very clearly, in his admirable work on consumption, that the appearance of scrofula in the families of persons not themselves tainted by it, is generally owing to the hurtful influence of dyspepsia in the parent, brought on and kept in activity by irregularities of regimen. It is in this way that many persons pass years of their lives in a constant state of suffering from "bilious" and "stomach" complaints, induced solely by inattention to diet, exercise, pure air, cleanliness, or other equally removable causes; and unthinkingly turn over a part of the penalty upon their innocent offspring. Not aware of the real consequences of their conduct, they cannot summon resolution to give up the indulgences to which they have accustomed themselves, or to take the little trouble required for the preservation of their own health; and they are surprised when assured, that while thus trifling with their own comfort, they are sporting with the welfare and fate of those on whom their whole affections are one day to be centered. Yet such is the fact!

It is a very common saying, that clever men have generally stupid children, and that those of men of genius are little better than fools; and the inference is drawn, that the constitution of the father has very little influence on that of the children. I admit the fact that the families of men of genius are rarely remarkable for talent; but deduce from it a directly opposite conclusion, and maintain that these very cases are proof of the reality of the father's influence on the constitution of his descendants, and consequently direct warnings for our own guidance. If we consider for a moment the state of health, and general mode of life of men of genius, what can be farther removed from the standard of nature? Are they not, as a race, enthusiastic, excitable, irregular, the sports of every passing emotion, and, almost without exception, martyrs to indigestion and often to melancholy? And are these the seeds from which nature has designed *healthy* vigour of mind and body to spring up in their

offspring? Take into account, also, the influence of the mother, and the well-known fact, that men of genius rarely select the highly-gifted in the opposite sex for their partners through life, and then say whether high talent can reasonably be expected to emanate from parents, one of whom—the mother—rises at best only to mediocrity, and the other—the father—falls temporarily to or below it, from sheer exhaustion of mind and broken health. Would it not rather be wonderful, if, in such untoward circumstances, the genius were to descend in unabated splendour even to the first line of the posterity? It is not from such materials that living genius has sprung, and never will be; for even were the child to inherit all the father's fire, he would receive along with it a morbid delicacy, and irritability of temperament, which would render it impossible for him to survive the period of early infancy. A genius might, in some favourable moment, be *born* to such a father; but he would die before the world could tell that a genius had lived. The circumstances in which the highest order of minds most frequently appear, are, where the father is healthy and active, and the mother unites an energetic character with vigorous bodily health, or with some high and sustaining excitement, animating all her mental and bodily functions. The mother of Bonaparte was of this description; and the mothers of most of our celebrated men will be found to have been more or less distinguished for similar characteristics; and, accordingly, how often in the biographies of men of genius do we remark, that it was the mother who first perceived and fanned the flame which burst into after brightness! Taking the whole circumstances, then, into consideration, the influence of the father, although often less strong than that of the mother, remains unquestionable, and the exception in the case of men of genius is not real, but only apparent from being imperfectly understood.

The last conditions which I shall mention as affecting the health of the future infant, are the state of mind, health, and conduct of the mother during pregnancy—conditions which are very little taken into account, but which are so vitally important, and so directly within the scope of the present work, that I shall devote a separate chapter to their consideration.

ARTICLE VII.

THE PRINCETON REPERTORY *versus* PHRENOLOGY.

This quarterly contained, about two years since, a most violent and abusive attack upon phrenology. Among other charges brought against the science, it was asserted by the writer, that if its principles were true, they could be of no use, because there were so many faculties, and their combinations being so numerous and diversified, they could never be applied. This same charge has also been brought against it from other sources. Mr. O. S. Fowler has very handsomely answered this objection in the following note, appended to a new edition of his work on phrenology :—

“A would-be-mathematico-anti-phrenological writer in the Princeton Review for April, 1838, page 313, employs the following knock-down argument against phrenology. He says,

“‘Now the possible permutations of thirty-five different quantities surpass our powers of conception; the number which expresses them contains forty-one places of figures. The difficulty of proving that any particular one out of this infinite number of possible permutations in the organs is actually marked upon the skull, is so great that we may, without presumption or discourtesy, pronounce it insurmountable. Ages upon ages of observation would be necessary to verify any particular hypothesis; and in the mean time, phrenology is not entitled to assume at best any higher character than that of a lucky guess.’

“Now let us apply this same argument, ‘*mutatis mutandis*,’ to the other natural sciences. Will the mathematical professor who penned this article please inform the world how many stars there are throughout the vast fields of space, and also ALL the motions and distances of each, together with *every thing* appertaining to each? You find the ‘difficulty insurmountable,’ do you? Then, by parity of reasoning, astronomy is no science, and all its predictions as to the rising, setting, eclipses, distances, &c. &c. of the sun, moon, planets, and all the heavenly bodies—all its predictions touching their courses, revolutions, motions, &c. are only so many ‘lucky guesses.’ Suppose all the phenomena of nature, all the chymical and philosophical, all the geological and botanical, and all the other changes, and conditions, and operations of nature, animate and inanimate, that ever have occurred, or are daily occurring, or ever will or can occur, with all their actual and possible modifications

and conditions, were enumerated, think you that 'the number which expresses them would be contained in' *twice* 'forty-one places of figures?' Would not all these not merely possible but *actual* 'permutations' of nature, equally with those of the phrenological organs, 'surpass our powers of conception?' And if so, are not chemistry and natural philosophy, geology and natural history, together with all the established laws and operations of nature, equally with phrenology, and for the same reason, too, 'entitled to assume at best no higher character than that of lucky guesses?' and do *they* not also *equally* require 'ages upon ages of observation to verify their hypotheses?' The plain fact is, that *all* God's works are *infinite*, whilst man is finite, and therefore incapable of comprehending *the whole* of any *one* branch of them. Your argument would unscience every science, rendering all our knowledge of astronomy, of chemistry, of natural philosophy, of anthropology, of phrenology, each and all *equally* merely 'lucky guesses;' and we rejoice that this is *no more* true of *phrenology* than it is of *every* work of God.

"Will this same mathematical professor please inform us how many different shades and phases of ideas and emotions, of sentiments and desires, of opinions and practices, of likes and dislikes, of feelings and talents, a single son or daughter of Adam is capable of experiencing, and actually does experience, in all the changes in regard to family, friends, property, objects of desire and pursuit, and ways and means of effecting his ends, throughout a long life of three-score years and ten? How many emotions throb through his heart? how many thoughts flit across his breast? how many desires and feelings arise in his mind, both musing, and walking, and talking, and sleeping? Hundreds of millions, to say the least. Another has a set of ideas, opinions, likes, repugnances, feelings, &c. entirely different throughout.

"Now, sir, with these data for the basis of your mathematical problem, will you decipher the *SUM TOTAL* of *ALL* the different feelings and mental manifestations 'of every nation, and kindred, and tongue under heaven' that ever has existed, or now exist, or may live hereafter, and then subtract from it your 'forty-one places of figures,' and tell the world the remainder? Tell us how many more changes are capable of being rung on the thirty-seven faculties than actually is, and has been, and can be rung upon the cords of the human heart. The fact is, your estimate falls far short of both the phrenological conditions and the mental manifestations, thereby forming an argument *for* phrenology instead of against it. How vastly more philosophical the phrenological hypothesis that this almost infinitude of mental phenomena should be exercised through thirty-seven media,

compounded with, and modified by each other, than through their own boasted single medium? Phrenology is bound to *make provision* for all these phenomena, even though the phrenologist may be unable to *observe all* the conditions on which they depend."

MISCELLANY.

Thoughts on the Action and Influence of the Nervous System, and on the means of strengthening and improving them. By CHARLES CALDWELL, M. D.

This is the title of an excellent essay in the *Western Journal of Medicine and Surgery* for September, which we can here only briefly notice. Dr. Caldwell, after making some general observations on the relative importance of the brain and nervous system, remarks:—"It is plain, therefore, that the improvement of the nervous system, to the utmost pitch of which it is susceptible, should constitute the leading object of all sorts of education and training. And on the attainment of that object depend the future standing, achievements, and happiness of our race, and the prosperity and glory of the world." Dr. C. here proceeds to point out the *means* by which so desirable an object may be attained; and that is, by a proper cultivation and exercise of the *brain*. This organ must be supplied with wholesome, and well arterialised blood, and every distinct portion of it must be duly exercised on its own appropriate objects. The most certain and effectual way to elevate man in the scale of intelligence and civilisation, virtue and morality, is by correctly understanding and obeying the laws of *organic matter as connected with mind*.

The relation which the brain sustains to the arterial system, and the necessity of the former's being well nourished with blood from the latter, is also discussed at some length. Dr. C. then considers the reciprocal influence which the exercise of the mental faculties has on the body, both in health and disease. The faculties of the mind operate as most powerful agents, either as *causes* or remedies of disease. And it is of the highest importance that every physician should be correctly and thoroughly informed on this subject. The opportunities for applying such knowledge are frequent and varied, and sometimes with the most beneficial results, when all other medicinal agents have proved entirely useless. Dr. C. introduces many interesting facts, where the *state of the mind*, or rather the exercise of certain mental faculties, proved effectual, either in preventing or curing various diseases. He attributes to this source, the remarkable cures which many quacks in medicine perform; it is effected by operating chiefly on the *feelings* of their patients. He calls such agents "moral remedies," and considers, other things being alike, that they "act more powerfully and successfully on persons of an active temperament, whose organs of Hope and Wonder, Benevolence, Ideality, and Firmness, are largely developed. Hence, as respects this form of practice, the beneficial effects of an acquaintance with phrenology. It enables the physician to detect in his patients their greater or less fitness for moral treatment."

Important Expedition.—Dumoutier, of France, who is somewhat distinguished as an anatomist, a physiologist, and a naturalist, and who has lectured for several years past in Paris, on phrenology, sailed recently on a voyage round the world, in one of the discovery ships sent out by the French government. His object is to collect crania of various nations and tribes, and take busts, casts, drawings, &c. of the natives, wherever the ships may stop, for the purpose of securing them as phrenological illustrations. He will undoubtedly return with a rich and valuable collection.

Application of Phrenology to Education.—Dr. A. Combe, in his recent work on the “Physiological and Moral Management of Infancy,” has an excellent chapter on education. The subject is treated in strictly a phrenological manner, though the technical language of the science is not generally used. He thus, however, acknowledges his indebtedness to phrenology, and bears his testimony to its great importance and value when applied to education:—

“Thanks to the invaluable discovery of Gall, we are now in a position to explain why the past efforts of mankind in the education of the higher portions of human nature—of *the intellectual and moral powers*—have been comparatively unsuccessful; and we are in possession of principles, by the judicious application of which, a great and steady advance may speedily be made, and by means of which a great improvement has already been effected. By demonstrating that the various propensities, and powers of emotion, observation, and thought, are independent and distinct in their nature; that they act each through the medium of an appropriate portion of the brain, commonly called its ‘organ;’ that each mental faculty is, by its natural constitution, related to a different class of objects, and is prone to start into activity when these objects are presented; and, lastly, that we can no more cultivate the emotion of justice or of pity, than we can the sense of hearing or seeing, by a mere intellectual exposition of its propriety. Phrenology has thrown upon the science of education a flood of light which will not be duly appreciated for years to come, but for which posterity will assuredly be grateful, when the benefits resulting from it shall be widely felt. To enter upon the consideration of all the applications which may be made of phrenology to the improvement of infant training and general education, would lead me far beyond the limits assigned to the present work. But I should be insensible of what I myself owe to its assistance, were I not to express, in the strongest terms, my obligations to its guidance, and to affirm, that, in the hands of a rational and well-educated parent, it is calculated to remove many a discouraging difficulty, and to implant in the mind a profound, pervading, and unshaken, because enlightened, reliance on the goodness, stability, and wisdom of the Divine arrangement, as the safest, clearest, and best which can be followed in bringing up a child in the way in which he should go.”

Lectures of John Augustine Smith, M. D. on the Functions of the Nervous System, in opposition to Phrenology, Materialism, and Fatalism, &c. &c.

This is a new work just issued from the press, and is the production of Dr. Smith, President of the College of Physicians and Surgeons of New York, and Professor of Physiology in that institution. Dr. S. has always, we believe, been a decided and open opposer of phrenology.

For many years, in his lectures before medical students as well as on other occasions, he has embraced every convenient opportunity to ridicule and oppose the science; and from his long experience, extensive attainments, and peculiar official relations to the public, his influence perhaps has been greater in this respect, than that of almost any other man in the country. We are glad that he has at last stated his objections in print, so that phrenologists may possess them in a tangible form, and fairly examine into their real merits, leaving the public and posterity to judge of the issue. A thorough and extended review of Dr. Smith's work may therefore be expected in the Journal.

Morton's Crania Americana.—This great work is attracting much attention among the scientific men of Europe. There have lately appeared several flattering notices of it, in some of the leading periodicals of Great Britain. Dr. Hirschfeld, a distinguished physician of Bremen, Germany, and the author of several valuable works, recently wrote us, ordering a copy of the *Crania Americana*, saying, from what he could learn of its character, that "in a phrenological as well as in a historical point of view, Dr. Morton's publication promises to be of very great interest to scientific men of all nations."

The late Dr. Turnpenny a Phrenologist.—In a biographical notice of Dr. J. Turnpenny, (who was a young physician of much promise, and died recently in this city with consumption, aged 32,) in the *Medical Examiner*, we find the following statement:—"He (Dr. T.) was a zealous advocate of the doctrines of the phrenological school, and looked to the science of phrenology as a means whereby many of the phenomena of the diseases of the brain which are now exceedingly obscure, or altogether inexplicable, would at some future period be satisfactorily explained. So well informed was Dr. Turnpenny in the details of this science, that he was selected by Dr. Morton to furnish an article on the phrenological developments of the different races of men to be incorporated in his splendid work, *Crania Americana*; he was prevented, however, from executing his task by the invasion of disease."

Phrenological Almanac for 1841, prepared and published by L. N. Fowler, 135 Nassau street, New York.—Last year we had occasion to notice the novelty of an *Almanac*, embracing, besides a Calendar, many facts and illustrations on phrenology. This met with so favourable a reception, as to induce the author to prepare another for the ensuing year, which, in point of matter and variety, is much superior to the former. The phrenological part occupies 32 octavo pages, printed in two columns and in small type, and affords a greater amount of reading matter than many duodecimo volumes. It contains more than fifty different engravings and articles on phrenology.

Combe's Lectures on Phrenology, reported by Dr. A. Boardman.—We are happy to learn that the first edition of this work is already exhausted, and that a new edition, corrected and somewhat enlarged, is now in press, and will shortly be published.

Dr. Foville, of Paris.—This gentleman has recently published a large and valuable work on Physiology and Anatomy, in which the merits of phrenology are freely and impartially discussed. We shall give some account of it in a future number.

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ARTICLE I.

REVIEW OF COMBE'S LECTURES ON MORAL PHILOSOPHY.

(Continued from page 26 of this Journal.)

Over lectures fourth, fifth, and sixth, we shall pass without comment or notice; not because they are unworthy of comment, (for the reverse can hardly be more strikingly true,) but because we have neither time nor space to dwell on them; and shall offer a few remarks on lecture seventh, in which Mr. Combe considers, with his usual judgment and ability, the "*Duty of parents to educate their children, and fit them out in the world.*"

An interest connected with *time* more deeply and awfully impressive and important to mankind than this, cannot be even imagined, much less specified; and it may be, with entire propriety, and perhaps ought to be, so modified and enlarged, as to embrace all that concerns them throughout eternity. For, to render education perfect, religion should be an element of it, in common with science, literature, and morals. Education is of great value to every people; because it alone improves their nature and elevates their character, and renders their existence respectable and happy. An uneducated savage, roaming through the forest, seeking his coarse and scanty food from uncultivated nature, battling for it with the monsters of the land or the ocean, or cheerlessly secluded, and dreaming away his time, in his hut, or his cave, is among the most wretched and degraded of beings. To his miserable lot, that of most of the inferior animals is immeasurably superior. They are in the condition for which the Creator designed and framed them, and to which they are adapted. But the Eskimau, the Kamachatkan, the Papuan, and the Boscheseman, are degraded far below the destiny of man, and have ungratified longings, which must deeply embitter even the very limited comforts which they enjoy.

But there are some people to whom education is more immediately necessary and important than to others. And of all mankind, it is at present most so to the inhabitants of our own country. To our existence as a nation, destined to continue the home of freedom and all its enjoyments, it is essential. Without it in due degree, and of the requisite character, our government will become a despotism of the most hopeless description, or it will be rent asunder by civil dissensions, and be made the prey of licentiousness, anarchy, and misrule. Portentous as this prediction may be thought, it is oracularly true.

Instead of being saved by the labours of statesmen, in the capitol of the nation, our government must look for its safety from impending ruin to seats of education dispersed in sufficient numbers throughout the country, and ably conducted; and, above all, it must rely on that form of education which begins and is most efficiently conducted under the parental roof—more especially by **MOTHERS** as the teachers. Our allusion is to **MORAL** education, which our country most radically needs; and which is the product more directly of domestic instruction and example, resulting from the intelligence and the virtue of woman. We do not say that the intellectual attainments of the community of the United States are sufficiently extensive. Far from it. But we do say that, in matters of government, at least, if not in those of every other description, they are, practically speaking, far ahead of our standing in morals. In plain terms, there is more of sagacity and intelligence in the country, than of rectitude and honesty. Still, the mass of our population are deficient in knowledge. Such is unfortunately the case with the *many*. And on that deficiency the cunning, artful, and fraudulent *few* operate to such effect, as to do infinite mischief. For this evil, the remedy is two-fold; an increase of knowledge in those who are deceived; and an increase of virtue, by moral culture, in those who mislead them. And both must be achieved by means of education.

It has been already observed by us, that, until the discoveries of Gall, moral education, and its distinction from intellectual, were not understood. Scarcely, perhaps, was the existence of such distinction positively recognised. When youth were disciplined in science and letters, they were believed to be at the same time disciplined in virtue. The reason of this mistake is sufficiently plain. As heretofore stated, the philosophy of morals was a *sealed subject*. It was not known that there existed in the human brain moral organs, as susceptible of cultivation and improvement as any other portion of living organised matter. And, in a particular manner, it was neither known, nor even suspected, that those organs were so many

specialities in existence and susceptibility, action and influence, and must be disciplined and strengthened, each in its own way, else no improvement in morals could be effected. But those great truths being now disclosed, by the labours of phrenologists, the obstacles to moral education, as a distinct and independent branch of discipline, are for ever removed; and there is reason to hope, that that form of instruction, so infinitely important to general order and prosperity, as well as to individual happiness, will go on hereafter, *pari passu*, with other modes of improving the condition of our race. And thus, in ages to come, when the world shall be comparatively a *moral paradise*, (and our hope of such an event, not to say our *belief* in it, nothing can extinguish,) will mankind be indebted for much of their knowledge and splendour, and still more of their virtue and felicity, to the genius, and industry, and perseverance of Gall.

In lecture eighth, on "*The origin of society—of different occupations, and of gradations in rank;*" ninth, "*On the past, present, and prospective conditions of society;*" tenth, "*The consideration of the present and prospective condition of society continued;*" and eleventh, "*The consideration of the prospective condition of society continued;*" in these lectures, the knowledge and ability displayed by Mr. Combe suffer no abatement. He continues equal to himself and his subject, and not inferior to the end to be attained, as we flatter ourselves the issue will ultimately prove. His remarks on the origin of society, in particular, are peculiarly happy. After a conclusive refutation of the views of certain other writers on the question, he thus expresses himself:—

"What solution, then," (of the origin of society,) "does phrenology offer? It shows that man possesses mental faculties endowed with spontaneous activity, which give rise to many desires equally definite with the appetite for food. Among these faculties are several which act as social instincts, and from the spontaneous activity of these, society has obviously proceeded. The phrenologist, then, follows in the same track with Lord Kames; but the advantage which he possesses over his lordship, consists in the superior precision with which, by means of studying the organs of the mind, he has ascertained the faculties which are really primitive, with their functions and spheres of action; and also, the effects of differences in the relative size of the organs in different individuals.

"From the three faculties of Amativeness, Philoprogenitiveness, and Adhesiveness, the matrimonial compact, as formerly shown, derives its origin. Adhesiveness has a yet wider sphere of action: it is the gregarious instinct, or propensity to congregate; it desires the society of our fellow-men generally. Hence, its existence

demonstrates that the Creator intended us to live in the social state. The nature and objects of other faculties besides Adhesiveness, lead to the same conclusion. Neither Benevolence, which delights in universal happiness,—nor Love of Approbation, whose gratification is the applause and good opinion of others,—nor Veneration, which gives a tendency to respect and yield obedience to superiors,—nor Conscientiousness, which holds the balance wherein the rights of competing parties are weighed,—has full scope, and a sufficiently wide sphere of action, except in general society: the domestic circle is too contracted for the purpose.

“The faculty of Conscientiousness, in particular, seems necessarily to imply the existence of the individual in the social state. To give rise to the exercise of justice, and the fulfilment of duty, there must necessarily be two parties—the one to perform, and the other to receive. Conscientiousness would be as little useful to a solitary human being, as speech to a hermit; while even in the domestic circle, the faculties of Benevolence, Philoprogenitiveness, and Veneration, are more directly called into play than it. The head of the family bestows through affection and bounty; the dependents receive with gratitude and respect; and the feeling of duty, on the part of either, rarely mingles its influence, when these other and more direct principles play with great and spontaneous energy. The sphere in which Conscientiousness is most directly exercised, is that in which the interests and inclinations of equals come into competition. Conscientiousness, aided by intellect, then determines the rights of each, and inspires them with the feeling that it is their *duty* to do so much, and to demand no more. Phrenology enables us to prove that Conscientiousness is not a factitious sentiment, reared up in society, as many moral philosophers and metaphysicians have taught, but a primitive power, having its specific organ. This fact is essential to my argument; and in my lectures on phrenology, I have exhibited the evidence by which it is established. I do not consider it necessary here to revert to it.

“The adaptation of the intellectual faculties to society, is equally conspicuous. The faculty of Language implies the presence of intelligent beings, with whom we may communicate by speech. The faculties of Causality and Comparison, which are the fountains of reasoning, imply our coexistence with other intellectual beings, with whose perceptions and experience we may compare our own. Without combination, what advance could be made in science, arts, or manufactures? As food is related to hunger, and light to the sense of vision, so is society adapted to the social faculties of man. The presence of human beings is indispensable to the gratification

and excitement of our mental powers in general. What a void and craving is experienced by those who are cut off from communication with their fellows! Persons who have been placed in remote and solitary stations on the confines of civilisation, have uniformly become dull in intellect, shy, unsocial, and unhappy. The most atrocious criminals, when placed in solitary confinement, without work, lose their ferocity, feel subdued, and speedily lose their health and vigour. The cause is, that the stimulus yielded to the social faculties by the presence of their fellow-men, is wanting. In some of the American prisons, solitary confinement, with labour, has been tried, and it has been found to subdue the mind, without impairing the health; the mind finding excitement in the work performed. In other prisons, criminals have been compelled to work in silence, and without communication with each other, but in society. They are locked up in solitary cells during night, and in the morning are marched, in solemn silence, into a great work-shop, where they see each other, but in which no interchange of word, look, or sentiment is permitted. The presence of their fellow-creatures sustains the social faculties, and despondency is not induced. The restraint produces a softening of the feelings to a certain extent, which predisposes the mind to receive moral impressions; while sufficient stimulus is, at the same time, afforded to the social sentiments to ward off too great a depression, amounting to disease."

The following observations, by our author, on the progress of society from stage to stage, from the lowest toward the highest pitch of improvement in it, are in like manner sound, interesting, and instructive.

"The most authentic histories agree in describing men, in their earliest condition, as savages, wandering amidst wide-spreading forests, or over extensive savannas, clothed in the skins of animals, and drawing their chief subsistence from the chase. This is clearly the outward manifestation of feeble intellect and Constructiveness, of dormant Ideality, very weak moral sentiments, but active propensities. The skulls of savage nations present indications of a corresponding developement of brain. In this condition there is little distinction of rank, except the superiority conferred on individuals by age, energy, or courage; and there is no division of labour, or diversity of employment, except that almost all painful and laborious duties are imposed on the women. All stand so near the bottom of the scale, that there is yet scarcely place for social distinctions.

"In the next stage, we find men congregated into tribes, possessed of cattle, and assuming the aspect of a community, although still migratory in their habits. This state implies the possession of

implements and utensils, fabricated by means of ingenuity and industry; also, a wider range of social attachment; and so much of moral principle as to prompt individuals to respect the property, at least, of each other in their own tribe. This is the pastoral condition, and it proclaims an advance in the development of intellect, Constructiveness, Adhesiveness, and the moral sentiments. In this stage, however, of the social progress, there is still a very imperfect manifestation of the higher moral and intellectual faculties. Neighbouring tribes are feared and hated; Acquisitiveness, unenlightened by intellect, and undirected by morality, desires to acquire wealth by plunder, rather than by industry; and the intellectual faculties have not yet comprehended the advantages of manufactures and of commerce. In this stage, men regard neighbouring tribes as their natural enemies—make war on them, spoil their substance, murder their males, and carry their females and children into captivity. They conceive that they crown themselves with glory by these achievements.

“In such a state of society, it is obvious that those individuals who possess, in the highest degree, the qualities most useful to the community, and most esteemed according to their standard of virtue, will be advanced to the highest rank, with all its attendant advantages and honours. Accordingly, in such a condition, great physical strength, a large brain, and active temperament, with predominating Combativeness, Destructiveness, Self-esteem, Love of Approbation, and Firmness, will carry an individual to the rank of a chief or leader of his countrymen, with a very limited portion of morality and reflecting intellect.

“The next step in the progress of mankind, is the agricultural condition; and this implies a still higher evolution of intellect and moral sentiment. To sow in spring with a view of reaping in autumn, requires not only economy and prudence in preserving stores and stock, and the exercise of ingenuity in fabricating implements of husbandry, but a stretch of reflection embracing the whole intermediate period, and a subjugation of the impatient animal propensities to the intellectual powers. To ensure to him who sows, that *he* shall also reap, requires a general combination in defence of property, and a practical acknowledgment of the claims of justice, which indicate decided activity in the moral sentiments. Accordingly, we discover that the brains of nations in this state are more highly developed, in the moral and intellectual regions, than those of tribes who are still savage.

“In order to reach the highest rank in this stage of society, individuals must possess a greater endowment of reflecting intellect

and moral sentiment, in proportion to their animal propensities, than were necessary to attain supremacy in the pastoral state.

"When nations become commercial, and devote themselves to manufactures, their pursuits demand the activity of still higher faculties, together with extensive knowledge of natural objects, their relations and qualities. In this condition, we perceive arts and sciences extensively cultivated; processes of manufacture of great complexity, and extending over a long period of time, successfully conducted; extensive transactions between individuals, living often in different hemispheres, and who probably never saw each other personally, carried on with regularity, integrity, and despatch; laws devised, regulating the rights and duties of individuals engaged in the most complicated transactions; and the whole of this machinery moving with a smoothness and regularity which are truly admirable. Such a scene is a high manifestation of moral and intellectual power; and man, contemplated in this condition, appears, for the first time, really like a rational being. Phrenology shows that the organs of the superior faculties develop themselves more fully in proportion to the advances of civilisation, and that they are, *de facto*, largest in the most moral and enlightened nations."

To another quotation, which we deem also both interesting and curious, we earnestly invite the attention of the reader.

"It is now time, however, to enter on the consideration of the main subject of the present lecture—the question, whether the human faculties, and their relations to external objects, admit of man ascending in the scale of morality, intelligence, and religion, to that state in which the evils of individual competition shall be obviated, and full scope be afforded for the actual supremacy of the highest powers.

"On contemplating man's endowments in a general point of view, nothing would appear more simple and easy than practically to realise the general and permanent supremacy of the moral powers. We have seen that aptitude for labour is conferred on him by the Creator, so that if he were enlightened in regard to his own constitution and the sources of his own welfare, he would desire to labour for his own gratification, even independently of the reward in the form of food, raiment, and physical abundance, which it is the means of procuring. Again,—the earth and the external world generally are created with an admirable adaptation to his bodily and mental powers, so as to recompense him, by immense rewards, for a very moderate extent of exertion in applying them to his own advantage. Further,—man has been endowed with inventive and co-operative faculties, which confer on him a vast ingenuity, and render him

capable of impressing, not only the inferior animals, but fire, air, and water, into his service as labourers. And finally, he has received organs of Benevolence, prompting him to love all sentient beings, and to delight in their happiness; organs of Conscientiousness, desiring to see universal justice reign; organs of Ideality, which aspire after universal perfection and loveliness; with organs of Veneration, Wonder, and Hope, leading him to desire communion with God, and to rejoice in the contemplation of all that is pure, exalted, and beneficent.

"With such a constitution, and placed in such circumstances, the wonder is that he has wandered in error and misery so long. The explanation is rendered clear by phrenology. In addition to these high moral and intellectual endowments, man possesses animal propensities, which are blind, selfish instincts. They are necessary for his sustenance, and their organs are the largest, most active, and earliest developed in his brain. They are extremely prone to produce evil, until they are enlightened and directed by his moral and intellectual powers.

"Man's ignorance of himself and of external nature, and his consequent inexperience of the attainments which he is capable of reaching, appear to have been the chief causes of his past errors; and the following, among other reasons, authorise us to hope for better things hereafter. His propensities, although strong, are felt by all to be the inferior powers in dignity and authority. There is, therefore, in man a natural longing for the realisation of a more perfect social condition than any hitherto exhibited, in which justice and benevolence shall prevail. Plato's 'republic' is the most ancient example of this desire of a perfect social state; and in the days of the apostles, an attempt to realise it, by possessing all things in common, was made by the Christians. It is aimed at, also, by the society of Friends, by the Harmonites of North America, and by the followers of Mr. Owen in Britain. Plato's republic and Sir Thomas More's Utopia, which was a similar scheme, were purely speculative, and have never been tried. The word 'Utopian,' indeed, is usually applied to all schemes too perfect and beautiful to admit of being reduced to practice. The primitive Christians did not form themselves into an association for the purpose of producing wealth; so far as we are aware, they merely contributed their actual possessions, and then gave themselves up to religious duties; and as their stores were soon consumed, the practice ceased."

Lecture fourteenth, "*On the duty of society in regard to criminal legislation and prison discipline*," contains also a large amount of matter immediately applicable to practice, and is highly useful.

Whether this lecture be considered in its relation to humanity and benevolence, to human right, to morals, to religion, or to the good of society, in other points of view, it embraces considerations peculiarly important. It involves, among other things, the great and momentous question of the right of the community to take away the life of an offender, when in the capacity of a prisoner, and disarmed of the power to do further mischief. And although we are not disposed to deny that right, under given circumstances, and when exercised with discretion, we have no hesitation in saying that it is very often most wantonly and unnecessarily, injudiciously and culpably executed. In truth, it should never be executed, except it be demanded by the exigency of the occasion, and the welfare of society, much more imperatively than it is in one case in *scores*—perhaps even in *hundreds*—in which it is practised.

In a civilised and Christianised country, the *punishment* (if so it should be styled) inflicted on offenders should have two objects in view, and no more—indeed, in a *really* Christianised country, it *can* have no more. And these are—the *reformation of the culprits*, and the *protection of society from their vices and crimes*. Punishment in the abstract—that, we mean, which is inflicted merely to agonise and take away life—is bootless and inhuman vengeance, the fruit of the relics of unmitigated savagism. Instead of being dictated or approved by any one of our higher faculties of the mind, it is the product of our darkest and least amiable (not to say our *most repulsive*) propensity, in a state of excitement, excessive and unjustifiable, and disavowed and condemned, as well by civilisation and morality as by the Christian religion, in both letter and spirit.

Felons of every description and grade, but especially those of a deep dye, whose propensities to vice are ungovernably strong, are, strictly speaking, *moral patients*, (persons, we mean, afflicted with moral maladies,) their minds being very badly balanced, if not actually *deranged*, whose treatment by the community, originating in benevolence and justice, and directed by intellect, should be humane, beneficent, and wise, its only object being to reform the offenders, and to protect from their vices the interests of individuals, as well as of the public. Culprits of this description are fit subjects, not for transportation, the tread-mill, or the gibbet, but for a *hospital of reform*, founded on principles of enlightened policy, and superintended by officers, versed in all forms of mental derangement, and skilful in their treatment.

Such are the views of Mr. Combe on this subject. Toward penitentiaries of reform, therefore, he is earnestly favourable, and has made in relation to their principles and administration many

very judicious and excellent remarks. And all those remarks, with the suggestions that accompany them, are founded in phrenology. Public penitentiaries he regards as so many *moral schools*, in which the pupils, in addition to the requisite amount and kind of book knowledge, and of that derived from personal instruction, learn trades, or acquire other modes and means of future subsistence, become versed and confirmed in habits of industry, and, above all, in which they are to be disciplined in the principles and practice of virtue. These are all so many processes of moral training and reform, powerful in their influence when conducted with judgment and skill, and pursued with the steadiness and perseverance which occasions demand. As respects the general mode of executing these processes, Mr. Combe makes the following instructive observations.

“Our object in criminal legislation may be at once to protect society by example, and to reform the offenders themselves. This appears to me to be the real and legitimate object of the criminal law in a Christian country, and the question arises, how may it best be attained?

“A condemned criminal is necessarily an individual who has been convicted of abusing his animal propensities, and thereby inflicting evil on society. He has proved by his conduct, that his moral and intellectual powers do not possess sufficient energy, in all circumstances, to restrain his propensities. Restraint, therefore, must be supplied by external means; in other words, he must, both for his own sake and for that of society, be taken possession of, and prevented from doing mischief; he must be confined. Now, this first step of discipline itself affords a strong inducement to waverers to avoid crime; because, to the idle and dissolute, the lovers of ease and pleasure, confinement is a sore evil—one which they dread more than a severe, but shorter infliction of pain. This measure is recommended, therefore, by three important considerations: that it serves to protect society, to reform the criminal, and to deter other men from offending.

“The next question is, how should the criminal be treated under confinement? The moment we understand his mental constitution and condition, the answer becomes obvious. Our object is to abate the activity of his animal propensities, and to increase the activity and energy of his moral and intellectual faculties. The first step in allaying the activity of the propensities, is to withdraw every object and communication that tends to excite them. The most powerfully exciting causes to crime, are idleness, intoxication, and the society of immoral associates. In our British jails, criminals in general are utterly idle; they are crowded together, and live habitually in the

society of each other; intoxication being the only stimulus that is withdrawn. If I wished to invent a school or college for training men to become habitual criminals, I could not imagine an institution more perfect for the purpose than one of our jails. Men, and often boys, in whom the propensities are naturally strong, are left in complete idleness, so that their strongest and lowest faculties may enjoy ample leisure to luxuriate; and they are placed in each other's society, so that their polluted minds may more effectually avail themselves of their leisure in communicating their experience to each other, and cultivating, by example and precept, the propensities into increased energy, and more extensive activity. The proper treatment would be to separate them, as much as possible, from each other; and while they are in each other's society, to prevent them, by the most vigilant superintendence, from communicating immoral ideas and impressions to each other's minds. In the next place, they should be all regularly employed; because nothing tends more directly to subdue the inordinate activity of the animal propensities than labour. It occupies the mind, and physiologically it drains off, by the muscles, the nervous energy from the brain, which, in the case of criminals, is the grand stimulus to their large animal organs. The greater the number of the higher faculties that the labour can be made to stimulate, the more beneficial it will be. Mounting the steps of a treadmill exercises merely the muscles, and acts on the mind by exhausting the nervous energy and producing the feeling of fatigue. It does not excite a single moral or intellectual faculty. Working as a weaver or shoemaker, would employ more of the intellectual powers; the occupations of a carpenter or blacksmith are still more ingenious; while that of a machine maker stands higher still in the scale of mental requirement. Many criminals are so deficient in intellect, that they are not capable of engaging in ingenious employments; but my proposition is, that wherever they do enjoy intellectual talents, the more effectually it is drawn out, cultivated, and applied to useful purposes, the more will their powers of self-guidance and control be increased.

"Supposing the quiescence of the animal propensities to be secured by restraint and by labour, the next object obviously is, to impart vigour to their moral and intellectual faculties, so that they may be rendered capable of mingling with society at a future period, without relapsing into crime. The moral and intellectual faculties can be cultivated only by addressing to them their natural objects, and exercising them in their legitimate fields. If any relative of ours possessed an average developement of the bones and muscles of the legs, yet had, through sheer indolence, lost the use of them, and

become incapable of walking, should we act wisely, with a view to his recovery, by fixing him into an arm-chair, from which it was impossible for him to rise? Yet, when we lock up criminals in prisons, amidst beings who never give expression to a moral emotion without its becoming a subject of ridicule; when we exclude from their society all moral and intelligent men calculated to rouse and exercise their higher faculties; and when we provide no efficient means for their instruction, we do in fact as effectually deprive all their superior powers of the means of exercise and improvement, as we would do the patient with feeble legs, by pinioning him down into a chair. All this must be reversed. Effectual means must be provided for instructing criminals in moral and intellectual duty, and for exercising their moral and intellectual faculties. This can be done only by greatly increasing the number of higher minds that hold communion with them; and by encouraging them to read and exercise all their best powers in every practicable manner. The influence of visitors in jails, in ameliorating the character of criminals, is explicable on such grounds. The individuals who undertake this duty, are, in general, prompted to it by the vivacity of their own moral feelings; and the manifestation of them towards the criminals, excites the corresponding faculties in them into action. On the same principle on which the presence of profligate associates cultivates and strengthens the propensities, does the society of virtuous men excite and strengthen to moral and intellectual powers.

"By this treatment, the offender would be restored to society with his inferior feelings tamed, his higher powers invigorated, his understanding enlightened, and his whole mind and body trained to industrious habits. If this should not afford society a more effectual protection against his future crimes, and be more in consonance with the dictates of Christianity, than our present treatment, I stand condemned as a vain theorist; but if it would have these blessed effects, I humbly entreat of you to assist me in subduing that spirit of ignorance and dogmatism which represents these views as dangerous to religion and injurious to society, and presents every obstacle to their practical adoption."

In a foot-note to page 329, our author observes:—

"While these remarks are passing through the press, I have seen an excellent work, entitled 'The Philosophy of Human Life,' by Amos Dean, professor of Medical Jurisprudence in the Albany Medical College; on page 158 of which, there is a statement of improvements on prison discipline, suggested by the late Edward Livingston, which coincide very closely with the views expressed on pages 326 and 327 of this work. I have not seen Mr. Livingston's

own remarks; but I am gratified to find that Mr. Dean, in his able and instructive work, advocates principles similar to those in the text."

On that note we beg leave to remark, that Mr. Livingston's "statement of improvements on prison discipline," here alluded to, were contained in a letter addressed to the late Roberts Vaux, Esq. and dated, we think, in 1828 or 1829. But whatever might have been the date of the letter, a commentary on it, of considerable length, was written and published in Philadelphia, in pamphlet form, by Dr. Caldwell, in 1829. Of this pamphlet, which was afterwards republished *entire*, with commendatory remarks, in the Edinburgh Phrenological Journal, the title was, "New VIEWS OF PENITENTIARY DISCIPLINE AND MORAL REFORM." The opposition and denunciation of phrenology were fierce and loud, at the time, in most parts of the United States; and even in Philadelphia, the most distinguished seat of science in the western world, the knights of the pen, the press, and the pulpit, withheld not their succour from the merciless crusade. By some of those noisy declaimers and trashy writers, who mistook zeal for talent, and racket for reason, a belief in phrenology was denounced with as much wrath and bitterness, as if it had been one of the elements of the unpardonable sin.

Owing to this condition of things, the pamphlet of "NEW VIEWS," though it did not fall altogether dead from the press, attracted in this country but little notice. In Europe, especially in Great Britain, and by many of the savans of France, it was received into much higher favour, and treated with more consideration and respect. In looking through that pamphlet, we find in it very many passages, strikingly analogous, in matter and thought, to much that Mr. Combe has embodied in the volume before us. In confirmation of this, we submit to our readers the following extracts from the "New Views," and could with perfect ease quadruple their number and amount, to the same effect.

"Culprits are but perverse and wicked children; and the more deeply and exclusively you punish and disgrace them, you harden them the more, and render them the worse. Many a froward and stubborn boy is driven, by harsh treatment, into vice and ruin, who, by mild and judicious training, might have been bred up to industry, usefulness, and honour. In like manner, the harshness and cruelty of an under-keeper, himself even lingering on the borders of crime, and awaiting but a slight temptation, and a suitable opportunity, for the actual commission of it, may confirm in the convict vicious propensities, which, by proper discipline, might have been thoroughly corrected, and rendered subservient to virtuous purposes.

"In saying that the moral and religious instructors of criminals should be themselves moral and religious, we shall probably be regarded as uttering one of the tritest of truisms. But we intend, by the position, more, perhaps, than is at first apprehended. Our meaning is, that the teachers should be *constitutionally* moral and religious; that both the moral and reflective compartments of their brains, but especially the former, should be fully developed.

"That this opinion is both true and important, can be shown, if we mistake not, on well settled principles; and we know, from observation, that, in analogous cases, experience has confirmed it.

"It is a law of nature, as immutable as the pointing of the needle to the pole, or the lapse of water down an inclined plane, that the language and true expression of any organ or compartment of the brain, in one individual, excite to action the corresponding organ or compartment in another. This is the natural and only ground of the influence of eloquence; and the true reason why the passions are contagious.

"One individual addresses another in the words and tones and gesticulations of anger; or, to speak phrenologically, in the language and manner of Combateness. The consequence is known to every one, and is felt to be natural. The same organ is excited in the individual addressed, and he replies in the same style. From artificial speech and empty gesture, the parties proceed to blows, which constitute the greatest intensity of the natural language of the irritated organ; its *ultima ratio*, in common men, as an appeal to arms is in the case of monarchs."

"Does one man wish to conciliate the friendship of another? he mildly accosts him in the language of Adhesiveness, and thus excites a kindred organ. And when a lover strives to propitiate his mistress and gain her favours, he approaches and addresses her in the soft language and winning manner of the associated organs of Amativeness and Adhesiveness. This is the philosophy of what the poets denominate the sympathy of souls; the condition of an organ naturally and forcibly expressed, by looks, words, or actions, or by all of them, in one person, producing a similar condition of the same organ in another.

"In further illustration of our principle, let us suppose a lover to address his mistress in the language and manner of Combateness, or an individual, intent on gaining the confidence of another, to approach him with a naked dagger, and the menace of Destructiveness. Would either succeed in his meditated object? We know he would not. On the contrary, the former would render himself an object of resentment and dislike, and the latter would become the

subject of a reciprocated assault, and perhaps of a mortal injury. In phrenological terms, each would be met and answered by the organ corresponding to that whose language and manner he had mistakenly assumed.

"Nor does this rule apply less forcibly to the moral organs, than to those of the other compartments of the brain. The very aspect of an educated individual with a large developement of morality and reflection, his forehead elevated and broad, and the top of his head lofty and well arched, accompanied by the impressive and commanding air and manner that never fail to attend them, exerts over beholders a moral influence. Vice and impiety shrink from his approach, and no profane or unbecoming language is heard, nor vulgar indecencies practised in his presence. Is he in the pulpit? It is under his influence, in particular, that 'those who came to scoff, remain to pray.' Wherever he is, even wild riot and bacchanalian uproar are settled and silenced, by the mild but imposing authority of his appearance. These are the attributes which rendered so indescribably attractive and overawing, the aspect, air, and manner of Washington."

"Let the instructors in penitentiaries, then, be fully developed in the moral and reflective organs of the brain. Their organs of Benevolence, Veneration, Conscientiousness, and Hope, will so express themselves, by appearance, manner, and words, as to awaken in the convicts the requisite action in the same organs. By their very language and general expression, independently of the sentiments inculcated, Benevolence soothes and conciliates, Conscientiousness solemnises, Hope cheers with inviting prospects, in case of reformation, Wonder gives sanctity and force to inculcations of a belief in the existence of superior beings, while Veneration elevates and directs the soul toward its God. In the expression and eloquence of the latter organ, in particular, when highly excited, there is a sublimity of fervour and force, which melts down and subdues even obduracy itself. Nothing canting, boisterous, menacing, or loud; but a depth and solemn majesty of undertone, united to a glowing upward look, and an adoring attitude which nothing but the consummation of far-gone depravity can resist. The speaker does not merely recite; he at once looks and acts the character he personates; and we all know how important that is to deep effect, as well in the pulpit as on the stage."

Again:

"A human being largely developed in the animal and knowing, and entirely wanting, or even greatly defective, in the two other compartments, would be a monument of profligacy and vice, utterly

beyond the hope of reform. Such, as the figures of their heads demonstrate, were the brutal developements of Caligula, Caracalla, Nero, Vitellius, and Domitian, whose names are identified with human depravity; and such the developement of Alexander VI. the most blood-thirsty, treacherous, and profligate pontiff that ever disgraced the See of Rome. To these names might be added, were it necessary, a host of others of the same description. In fact, no instance can be cited of a human monster, instinctively delighting in cruelty and blood, and yet fully developed in the moral region of his brain. Mere animals in appetite, such beings are the same in developement."

"Hence even in boys, whose foreheads are unusually low, and the tops of their heads flat or depressed, and the base of whose brain, from ear to ear, is inordinately wide, with a very large amount of brain behind the ear, we discover a ruling propensity to vice; or, at least, to low and vulgar animal indulgences, which, if not checked and changed, must terminate in vice. Such boys have the true ruffian developement, and will inevitably become ruffians, unless preserved by dint of education. Nor is such preservation an easy task. Their ruling passion is animal, and inclines to grossness as naturally as a ponderous body tends to the centre. Still they may be saved by moral training, provided it be commenced early, judiciously conducted, and inflexibly persevered in. But if they remain uneducated and idle, and be exposed to the influence of bad example, they are inevitably lost. Their animal habits will become, in a short time, so irrevocably confirmed, as to baffle all redeeming efforts."

We have referred to this pamphlet chiefly to show the striking similitude of views that *may* be formed, and that often *are* formed, by different writers, residing even in distant hemispheres, and being often entire strangers to each other, when they examine their subjects under the influence of the same principles, and when those principles are true. In 1828 or 1829, Dr. Caldwell wrote on "Penitentiary Discipline and Moral Reform" in the United States, and about the same period Mr. Combe was framing his opinions on the same subject in Scotland. Both gentlemen were governed by phrenological principles; and their labours resulted in tenets and doctrines precisely the same, and those doctrines, in many respects, exceedingly different from any thing of the kind that had been previously broached. An event more confirmatory of the truth of phrenology, can hardly be imagined.

(To be continued.)

ARTICLE II.

REMARKS ON EDUCATION.*

The objects of education, using the word in its widest and most legitimate sense, are, 1st, To increase the energy and activity of those faculties of the mind and body which are naturally too weak; 2dly, To repress the inordinate action of those which are naturally too strong; and 3dly, To give to the combined operation of the whole, such a direction as shall most certainly and effectually increase the happiness and extend the sphere of usefulness of the individual.

To attain these ends, our efforts must be conducted in strict obedience to the laws which nature has established for the regulation of the functions of both mind and body. It is therefore particularly necessary that we should be previously in possession of a true theory of the human mind, capable of unfolding to us not only the number and functions of the primitive mental faculties themselves, but also the organic conditions which conduce to their greater or less degree of energy—the laws which regulate their activity—and the effects produced upon the general character by their different proportional combinations. Accordingly, the want of such a theory of mind is the true reason why, in ignorance of phrenology, the most profound writers on education are still so much occupied in discussing contested points of very secondary importance, instead of starting, as is recommended by Mr. Stewart, from undeniable first principles, obtained from “a previous examination of those faculties and principles of mind which it is the great object of education to improve;” and we are therefore disposed to regard it as in itself no small proof of the truth and value of the phrenological philosophy, that it already affords a sure, stable, and *consistent* basis for the erection of an improved system of education, and that it supplies the *desiderata* above stated.

The chief circumstances which influence the *activity* of the faculties may be comprised under four heads or chapters:—1st, Original constitution; 2d, Physical education; 3d, The mode in which each faculty is exercised; and 4th, Their mutual influence in exciting or repressing each other.

* Being a review of Dr. Spurzheim's work on Education, from No. 4 of the Edinburgh Phrenological Journal.

Original Constitution.—Dr. Spurzheim goes a step farther back than most other writers on education, and taking observation for his guide, and finding the mental qualities and capacities of the progeny to be intimately connected with, and dependent upon, the bodily constitution inherited from the parents, and believing that education ought to be an *imitation of nature's own laws*, and not an invention of ours, he strenuously insists that we ought to begin at the root, and that, after having ascertained, by careful observation, what qualities of mind and body in the parents are most likely to secure for their offspring the most favourable moral, intellectual, and corporeal constitution, we ought to seek for and combine these qualities, or the nearest approximation to them which can be found. Nor is this a matter of little moment; for the more we examine nature, the more we shall be convinced that *education operates invariably in subjection to the laws of organisation*, and that it is impossible to improve the mind beyond the limits imposed upon it by its connection with its material organ, or even to alter materially such lineaments of the character as are strongly drawn by the hand of nature. It is at once in illustration of, and in obedience to this law, that we find great intellectual power and favourable moral dispositions as invariably connected with a large, healthy, well-developed brain, and feeble intellect and moral deficiency as invariably the attendants of a small or very defective brain, and different or opposite dispositions and talents as invariably accompanied with very different states or configurations of brain, as if mind were merely a function of matter. Hence, as the brain is a component part of the animal system, and is subject to all the laws of living organised matter, its peculiarities, and the mental qualities consequent upon them, are transmitted from parents to children with as much certainty, because in obedience to the same laws, as features, noses, forms, or diseases.

It has indeed been long known as an abstract fact, in the natural history of man and animals, that the qualities of the mind, as well as of the body, descend from generation to generation—that children of weak and nervous parents are themselves delicate, easily agitated, and subject to convulsions—that the idiots, or cretins, of Switzerland, produce a race inferior to themselves—that the children of insane parents are generally, sooner or later, afflicted with the same disease—and that those of healthy, robust, and long-lived ancestors, are in general distinguished for similar qualities; but, either from ignorance of the principle according to which it happens, and which demonstrates that it will happen again, or from an absurd fear of degradation, by admitting his own subjection to the laws which God has set over animal nature, man has not chosen to act upon it in

improving his own species, but has married and given in marriage, as if all the qualities of mind and body were directly under his own control; and when overtaken by the consequences of his own neglect, and when vice, imbecility, and disease, usurp in his offspring the place of that virtue, talent, and vigour, which he in vain expected to arise from good education alone, he looks upon himself as a hapless and devoted victim, who had no share in the production of his own misery, and whose only duty is to submit to the painful dispensations of a Superior Power, without making an effort to decipher and profit by the lessons which these inflictions are meant to convey. The laws of nature are ever the same; and in the days of Moses we find them giving rise to restrictions on the marriage of blood-relations, for the very reason that they are either unfruitful, or productive of degenerate offspring. If a knowledge of the operation of these laws were deeply impressed upon the mind of our youth, it is scarcely conceivable that we should so often have to lament the extinction of whole families by consumption, the quickly-spreading miseries of insanity and imbecility, and the innumerable ills attending weak and infirm health.

The chapter on this subject is one of the most valuable in Dr. Spurzheim's book, and to it we must refer the reader for further details. It is written with perfect good taste, delicacy, and propriety. We shall only add, that among other important requisites in parents, Dr. S. mentions a sound constitution, untainted with any hereditary disease, and a sound, active, *well-balanced* mind, indicated by a large and well-proportioned brain, and that these qualities should be chosen in preference, in families where they have been the accompaniment of generations; as where a good individual appears in a bad or indifferent state, the chance of the reappearance in the offspring of the different qualities of the stock is very great. Hence the importance attached to pedigree is in reality founded in a law of nature; and hence, also, the value attached to it in the case of the lower animals, where each parent has been selected for his peculiar excellencies. In man, it is by no means so sure an index of the possession of the virtues of the original stock, as the choice of partners is scarcely attended to.

The age of the parents, their health, and especially that of the mother, and their state of mind, all exercise much influence on the destinies of their progeny; but this is not the place to enter further into detail.

Having pointed out the means likely to secure a good constitution to those unborn, Dr. Spurzheim proceeds, in the second chapter, to lay down the principles which ought to guide us in our endeavours

to improve that which nature has already given. With this view, he discusses the laws which regulate the existence of the human being after birth, and those which influence the growth or development of the different systems or parts of the body. And even in a purely mental training, a knowledge of these is of much importance; because, during life, the mental manifestations are so dependent on organic conditions, and the action and reaction between mind and body are so immediate and so constant, as to render abortive any attempts at improving the mind which are not made in harmony with the laws of the animal system. And as no part should be favoured at the expense of the rest, our first object should be to secure to the child the best health and most perfect development of *all his parts*, which his natural constitution will permit. This will be best done by attending to the rules which Dr. S. lays down for the regulation of temperature, nourishment, choice of nurse, clothing, air, light, cleanliness, sleep, repose, and exercise, on each of which he offers many most judicious and practical observations, but upon which we cannot now dwell. The effects of them on the general health have alone been attended to, but they are highly deserving of more particular study; for there is no doubt that modification of them—of diet, for instance—favour the development of different systems; and it is extremely probable that, in the same way, some may operate more immediately than others in the development of different parts of the brain, and consequently on that of the different mental powers.

In the next chapter, Dr. Spurzheim discusses "the Laws of Exercise," by observing which, the different faculties may be made to act with the greatest ease and energy of which the natural constitution, improved by a proper management of the modifying causes last mentioned, is susceptible. This, indeed, includes all that is generally embraced under the name of education; or, properly speaking, it includes a great deal more, for it treats of the cultivation of the *moral* as well as of the *intellectual* faculties.

The first circumstance which phrenology points out as deserving of attention in attempting the cultivation of the mental powers, is, that the capacity for improvement of each of the internal faculties, like that of each of the external senses, is exactly proportioned to, and is limited by, the degree of development and healthy condition of its own organ, and that the result of education is merely an increased facility of operation in that organ, and not a change in the mind itself, independent of the organisation, as is generally supposed. Whence the phrenologists contend, that just as we habitually regard the power of vision, and the degree of improvement of which it is

susceptible, as in exact relation to the native constitution of the eye, and the superior quickness of sight consequent upon its judicious exercise, as always referable to a change produced, not in the unembodied principle of mind, but in the organ of vision itself, so we ought to regard each and all of the internal faculties, *ex. g.* the reasoning power, or the faculties of Tune or of Language, and the degree of improvement of which they are susceptible, as in exact relation to the natural constitution of their respective cerebral organs, and the superior aptitude for deep thinking, for Music, or for Language, consequent upon their exercise, as the result of a change in the state of these organs, and not in the immaterial principle alone; and hence that we should, in every instance, adapt our means to the kind of faculties and organisation possessed; and that, as we cannot bend the mental character to suit any circumstances, we should therefore adapt the profession and circumstances to the character and dispositions of the individual, in so far as conduces to his happiness and utility. Hence, also, the absurdity of seeking for laws of mind as *distinct* and *separate* from the laws which regulate the union and the mutual influence of mind and body, since, so long as life remains, not a moment passes over our heads which is not pregnant with proof of their inseparable connection; and hence it is the very basis of our success, 1st, That we must employ each primitive mental faculty which we wish to cultivate directly upon its own objects, and not trust to its improvement following that of a faculty altogether different; and 2dly, That we must proportion the degree of exercise of each to the original constitution of its own organ.

1st, It is a very common mistake in our schools, and in the received systems of education, to suppose that, by cultivating one faculty, we necessarily exercise the others; that by studying languages or mathematics, for instance, we necessarily cultivate the reasoning powers, or that, by cultivating the latter, we necessarily improve the moral sentiments. Phrenology puts an end to this delusion, by showing that each faculty depends, for its power of acting, upon the state of its own organ; and that thus whole pages may be learned by rote, in virtue of the activity of the organ and faculty of Language alone, without exciting, in any degree, those of Causality or Comparison, upon which reflection depends. It shows that mathematics, being a science of relative proportions and numbers, exercises almost exclusively the organs and faculties of Locality, Form, Size, Individuality, Comparison, and Number, while it leaves Causality almost inactive. It shows that the memory of facts and details depends on a good endowment of Individuality, and, consequently, that the mere acquisition of knowledge does not exercise

the reasoning powers or moral sentiments. It shows that the latter, as well as the intellect, depend upon particular organs, and that each, in order to be cultivated, must be excited directly by its own object, and, in short, that it would be as philosophical to attempt to educate sight by listening to the sounds of a violin, or hearing by reading a treatise on acoustics, or touch by smelling a nosegay, as to attempt to improve the reasoning powers by learning a collection of words, or the moral sentiments by objects exclusively addressed to the intellect.

Hence, when we wish to cultivate the reasoning powers, let us employ them directly in tracing the relation of cause and effect, and in the discovery of general principles. When we mean to cultivate the knowing faculties, let us exercise Number, for example, in the study of arithmetic and algebra; Language, in the acquisition of the dead and living languages, and in the structure of their sentences; Locality and Individuality, in the study of geography and the natural history of different countries of the world. And again, when we intend to cultivate the moral sentiments, let us exercise Conscientiousness in the habitual practice and example of even-handed justice, instead of thinking to enforce it by precepts adapted to the organs of intellect alone; let us excite the activity of Benevolence in our children, by practising it towards others, rather than by bare words, with which our conduct is at variance, and let us not complain of a want of respect in our children, depending on inactive Veneration, when we habitually treat others as if it were a sin to be respectful. In short, let us always exercise *directly* the faculty we wish to cultivate, for it is only by so doing that we shall at all succeed.

2dly, As some faculties are possessed in greater proportion than others, and as the most powerful are always the most capable of exercise, we must proportion the degree of exercise of each to its original constitution, so as neither to weaken it by too little action, nor to exhaust it by too much. In weak, delicate subjects, and at periods of growth, the faculties should be left a good deal to themselves, and more attention be paid to the general health and consolidation of the system. Precocious talent is frequently, from neglect of this, very soon exhausted. No general rule can be laid down, but the *same principle* applies as in the exercise of weak muscles, stomach, eyes, or any other part. In order to employ all the faculties to the best advantage, it thus becomes extremely desirable to know, beforehand, the proportions in which they are respectively possessed, so that no time nor labour need be lost in attempting to force those which nature has given in sparing quantity, nor mischief produced by the over-exercise or complete neglect of others, in

which she has been more liberal. Phrenology puts the means of obtaining this knowledge completely in our power, and it is our own fault if we do not make use of it. And as we would never dream of giving a blind man the education of a painter, or a deaf man that of a musician, so phrenology teaches us not to expect philosophic profundity from a person to whom nature has denied a large endowment of Causality, and therefore not to attempt to educate him for a profession in which great reasoning-power is essential for success. It also teaches us not to set down as a fool or a dunce, the boy whose depth of mind, depending on great Comparison and Causality, is merely hidden by the difficulty which, owing to small Language, he feels in clothing his ideas with words; for where the reflecting power is present, it will, in after-life, place its possessor far above his more superficial companion who excelled him at school, merely from having a much greater endowment of Language and Individuality. Phrenology thus enables us to avoid the mischief so often resulting from misdirected talents, and to select, with discrimination, the sphere in which each is fitted to move.

As some faculties arrive at maturity at a much earlier period than others, it is extremely advantageous to know the general order of their successive development; because, by attempting to force into activity those faculties, the organs of which are not yet fully developed, and by neglecting those which are, our labour is not only entirely lost, but positive mischief produced. Information is still wanting on this point; but inquiries are now going on, which will ultimately lead to valuable results. Dr. Spurzheim thinks, from observation, that the organs of Individuality are perhaps the earliest of the intellectual order. Those of Form, Comparison, and Language, also appear early in life; and those of Size, Colour, Locality, Tune, Number, and Order, appear successively. Among the propensities and sentiments, he thinks Amativeness and Veneration are the latest. Hence, every thing connected with observation, facts, history, geography, and general information, are best adapted to the youthful, and reasoning and deep reflection to the mature mind. Almost all the sentiments come into action at a very early age, and hence they ought to be carefully cultivated from the very beginning—according to the law, already mentioned, of exercising each faculty upon its own objects. And as artificial signs or language cannot be understood, until the feelings or ideas which they represent are felt by the individual, we should be very careful to use such only as can be completely understood, as otherwise we run much danger of cultivating the single faculty of Language, when we believe we are cultivating all the powers of intellect. What signs

could convey to the mind of one who had never felt them, the sensations expressed by the words hunger, thirst, cold, heat, anger, or benevolence?

As it is desirable, in every system of education, to leave none of the faculties inactive, so that system is to be preferred which is calculated to exercise the greatest number of them. And, in this respect, the Lancasterian, or mutual instruction system, undoubtedly excels, as it brings into action many of the higher sentiments, as well as intellectual powers, which either slumbered or became absolutely vitiated under the old practice. It excites a greater degree of attention in the pupil by addressing itself directly to Individuality, Comparison, &c. at the same time as to Language. And by making the pupils teach each other, and judge of each other's conduct, it calls into direct action the faculties of Conscientiousness, Benevolence, and Veneration, and gives the most virtuous direction to those of Self-esteem and Love of Approbation, so often perverted to the production of envy, jealousy, and pride. It thus encourages the timid, and morally represses the overbearing and selfish, and produces that rational feeling of superiority founded on superior conduct. The emulation which it excites is of a far more generous kind than that of the old school. In the one, the child is led to conceive himself as one of many, and an equal among equals; in the other, as concentrated in self, and in opposition to both master and scholars.

As no part of the system should be cultivated at the expense of the rest, nor the mind at the expense of the bodily health, neither should the intellect be cultivated at the expense of the moral. Each should be duly exercised, and made to harmonise as much as possible with the other; and, with this view, we ought carefully to distinguish between the *nature* of the faculties and their *particular applications*. Thus one manner of satisfying an inclination may be innocent in itself, but if granted to a faculty already too active, it becomes blameable. Thus praise is in itself a very good thing; but if we remark a child who possesses the faculty of Love of Approbation in an uncommon degree, let us beware of flattering and praising him for the beauty of his face, his voice, or his figure. By doing so, we prepare future misery for him. We complain of a child who is passionate, and yet we are foolish enough to encourage him to vent his anger upon a chair or a stone!

It is from this difference in the original strength of the natural dispositions, that the same treatment produces different and even opposite effects upon different persons. Thus an individual, with small Conscientiousness and Benevolence, and large Acquisitiveness,

Self-esteem, and Combativeness, will become worse under misfortune or injustice, and will think of revenge, and of making others as miserable as himself, where another, with a different combination, would submit with serenity and resignation. But the fact, that such a difference of result does take place, only shows more forcibly the necessity of knowing the functions and laws of the primitive faculties.

It may be asked if exercise increases the size of the cerebral organs? Analogy would lead us to suppose that it did; but we have no positive information on the subject. But as agility or quickness may be acquired without increase of muscle or nerve, it is also probable that the cerebral organs may be made to work with greater *activity* from exercise, even when they do not increase in size.

Having considered the laws of exercise, Dr. Spurzheim proceeds, in the fourth chapter, to treat of the mutual influence of the faculties in exciting each other to activity. Thus, from the influence of Philoprogenitiveness upon Combativeness, females defend their young with more energy and resolution than any thing else; and thus Acquisitiveness often calls Cautiousness and Secretiveness into action to gain its object. And thus, also, the Love of Approbation excites the intellectual faculties, as is daily seen in schools and in society. The intellectual faculties also excite and assist each other. Thus a person, with moderate Language and large Locality, in trying to commit to memory, will often succeed by mentally dividing the page into compartments, and fixing a few lines in each. It thus becomes an object of some consequence to ascertain the mental constitution of the individual; because, as the faculties most largely possessed always tend to act along with each other, the one may be used, when necessary, as a means of exciting another. This knowledge, which is only to be found in phrenology, lies at the bottom of the doctrine of motives, for one will exert himself for praise, which another despises; and a second will act from the hope of gratifying his large Acquisitiveness; and a third from an innate sense of duty; and a fourth from excessive constitutional activity, making rest painful to him. The insight into human nature which phrenology bestows upon its disciples, thus supplies them with an engine of immense power in the education and management of youth.

ARTICLE III.

PRACTICAL UTILITY OF PHRENOLOGY.

BY G. S. FOWLER.

Phrenologists are often asked for the "*cui bono*," the *practical utility* of their science. "Admitting its truth," says an objector, "of what *use* is it?" To reply briefly to this question, is the object of the present article.

Men now worship two deities, Wealth and Fame, with more than pagan idolatry; and value things in proportion as they further these objects. But this standard of valuation is evidently erroneous. Whatever can be made to augment human happiness, or to promote morality or virtue—to diminish or alleviate human suffering, or in any way to improve man physically, or mentally, or morally, is useful in proportion as it is capable of effecting these important but difficult objects. All this phrenology is calculated to accomplish. It is therefore useful—

1. AS A STUDY. "*Knowledge is power.*" Man is so constituted, that, to study the laws and phenomena of nature—to witness chemical, philosophical, and other experiments—to explore the bowels of the earth, and to examine the beauties, the curiosities, and the wonders of its surface—to learn lessons of infinite power and wisdom, as taught by astronomy—but more especially to study *living, animated nature*—to observe its adaptations and contrivances—in short, to study *nature* in all her beauty, and variety, and perfection, constitutes a source of the highest possible gratification of which the human mind is susceptible.

But the study of MAN, of *his* nature and duties, his destinies and relations, and especially of man *intellectually* and *morally*, is as much more useful and important than the study of physical nature, as mind is superior to matter. Man, the lord of creation, is the grand climax, the *master-piece* of all God's works within our knowledge, and man's MIND the master-piece of man; so that the study of man's mind towers far above all others. Now phrenology has to do exclusively with man's mind, and if true, develops, and that in a tangible and simple form, so that he that runs may read, the laws and phenomena of mind. This is "*par excellence*," the *peculiar* prerogative of this science. Let those who have groped their way through the mists of metaphysics, and who have caught only a

glimpse of the light thrown by phrenology on the study of mind, judge between it and them.

Again, this same mind of man is the fountain-head from which springs most of his sufferings and enjoyments. Both the happiness and the misery experienced by it, are far more intense and acute than those of a merely physical organ. Now, since obedience to the laws of our *mental* constitution is the sole cause and medium of all our mental enjoyments, since their violation is the only and inevitable cause of all man's mental misery, and since phrenology, if true, develops and elucidates these very laws, the observance and the violation of which cause most of man's happiness and misery, it is self-evident that a knowledge of this science is the key that opens up to man all the hidden capabilities of enjoyment belonging to his nature, and will also enable him to remove, to a great extent, those causes of mental anguish and suffering which afflict either mankind in general, or individuals in particular. By fully and clearly analysing and unfolding the primary powers of the human mind, and thereby showing what is, and what is not, their natural, legitimate, and healthy function, and thus what actions and feelings are virtuous, and what sinful, phrenology will teach every one how to exercise his faculties in accordance with their primitive constitution, or in other words, how to obey the laws of his mental and moral nature, and thereby how to become the recipient of uninterrupted mental enjoyment.

2. "KNOW THYSELF," was written in golden capitals upon the splendid temple of Delphos, as the most important maxim which the wise men of Greece could hand down to unborn generations. The Scriptures require us to "search our own hearts and try ourselves;" and the entire experience of mankind bears testimony, that *self-knowledge* is the most important of *all* knowledge. A thorough knowledge of one's own self—of his good properties, and how to make the most of them; of his defects, and how to guard against the evils growing out of them; of his predispositions to, and sources of, temptation to excess and error, and the means of keeping these desires quiescent; of what he is capable of doing and of becoming, and what not; and wherein he is liable to err, either in judgment or conduct—is more intimately associated with his virtue, and happiness, and success through life than any other, than *all* other knowledge united. Before he can correct any defect, he must know precisely in what that defect consists—must know the *precise faculty* that is too strong, or too weak, or wrongly exercised.

Now this very knowledge, phrenology, if true, furnishes, and that with the certainty attending *physical demonstration*. It will enable

every individual to place his own fingers upon every element of his character; and in case his predominant Self-esteem has rendered him proud and self-conceited, or its deficiency led him to underrate his capabilities or moral worth, and produced diffidence, it will correct these estimates, and teach men precisely what they are. This principle will be rendered still more plain and forcible by employing a comparison. It is with mental as with physical vision, that objects take their appearances from the media through which they are observed. If you look through glasses that are coloured, or that magnify, or that minify, the objects observed will appear accordingly. Appearances would lead you to think that the apparent colour was the real one, though changing with every change in the colour of your glasses. But by knowing what coloured glasses you look through, you easily correct the error. Now, phrenology tells you precisely what coloured glasses you look through. Does Hope predominate, you look through magnifying glasses, which exaggerate every prospect. Without being told by phrenology that these splendid castles are all ideal, and merely the workings of over-developed Hope, you would think them real, and act upon them; but with this knowledge, you will avoid the evils consequent upon such action. Thus phrenology, properly applied, would prevent much of the speculation, over-trading, extravagance, &c. which cause most of those failures that are spreading distress throughout our land. Is Hope small, the picture is reversed; but by telling you that your spirits flag only because you look through dark-shaded glasses, phrenology will effectually dispel this borrowed trouble about nothing.

Are you, as a professor of religion, borne down with an overwhelming sense of guilt, and unworthiness, and desert of punishment, accompanied with but feeble hopes of pardon, and many doubts and fears as to your salvation, phrenology will impart the "oil of joy for the spirit of heaviness," by telling you that these feelings are caused by your predominant Cautiousness and Conscientiousness, and small Hope and Self-esteem, and not by your actual danger of perdition; and that were the relative size of these organs reversed, your feelings also would be reversed, although in a far poorer way of gaining heaven. You are only looking through coloured glass.

Are you an over-anxious wife or mother, worrying your very life out of you about your husband or children, by telling you that these feelings are caused, not by any actual danger that threatens your beloved ones, but by your own groundless and whimsical fears, produced by your predominant Cautiousness, Philoprogenitiveness, and Adhesiveness, phrenology will dispel those foolish fears, and make

you laugh at your own folly; whereas, but for this science, you would think them well grounded. It shows that you are afraid only because you are looking through coloured glasses. In these and a thousand similar ways, phrenology, if true, may easily and constantly be applied to the correction not only of false estimates of ourselves and others, but also of erroneous impressions, as well as wrong judgments, of men and things.

Again; ambition is one of the most powerful elements of man's nature, and its gratification a source of real pleasure. Hence to excel, even though in an humble sphere, is productive of far more enjoyment than mediocrity in a higher sphere. Thus, to excel in some ordinary mechanical branch renders one much more happy, and enables him to get a better living, than to be an ordinary lawyer, because in the former case his ambition is *gratified*, but in the latter, *mortified*. Hence to a young person in particular, just starting in the world, and indeed to all, a knowledge of phrenology, or, in its absence, a correct phrenological examination, might be made incalculably valuable.

Still further. The Creator evidently intends and adapts one man to fill one sphere of action, and another, another sphere. As he has adapted one tree to one quality of soil, and another to another; as he has made one flower to grow luxuriantly under the burning sun of the vernal equinox, another to bud and blossom in perfection in a colder climate, and still another to vegetate only in the frozen regions of the poles; and as, by transplanting them, they all wither and die—as one tree or vegetable is *constitutionally* adapted to flourish only in the marsh, another in the arid sandbanks, and a third in the clefts of the rocks—as the fish of the sea, and the fowls of the air, and the whole range of animate and inanimate nature have each assigned to them their respective locations and limits, within which they flourish, and without which they die, the inference is well founded that the same is true of man—that different individuals are designed for, and adapted to, different occupations; that the constitutional qualities of one man, both mental and physical, best fit him to become a “tiller of the ground;” those of another, to practise successfully one of the mechanical arts; of another, to sway the popular will by smooth-tongued eloquence; and of still another, to explore the works and wonders of nature.

Let parents but apply the principles of phrenology to the choice of occupations adapted to their children—let the agriculturist be located upon his farm, the mechanic in his workshop, the artist in his studio, the merchant behind his counter, the statesman in the halls of legislation, the teachers of morals and of letters in their

respective places; let the orator mount the rostrum, the judge between man and man ascend the bench, the naturalist be placed in the open fields of nature—let every member of society be placed in circumstances the most favourable for calling into full and delightful exercise all his talents and mental energies, and this divinely contrived machine of human society, with every wheel, every thing in its proper place, would work out an incalculable amount of happiness to mankind in general, and to individuals in particular; those whose ambition is now mortified because out of their proper element, would then be delightfully gratified; a vast amount of talent in all the departments of life, which now lies buried for want of action and motive, would be brought forth; and a host of Washingtons and Franklins, of Jeffersons and Adamsses, of Shakespeares and Miltons, of Clays and Websters, of Lees and Henrys, of Fultons and Whitneys, of Rushes and Blackstones, of Audubons and Davys, of Sillimans and Hitchcocks, of Wests and Rubens, of Irvings and Percivals, who are now unnoticed and unknown, would be hunted up, and their talents brought to bear upon the general welfare of mankind. But, alas! this machine is deranged, its wheels misplaced, and its product is misery; the natural mechanic is put into the study, and the scholar upon the farm, their natures crossed, their talents lost to themselves and the world, and their happiness greatly abridged, if not exchanged for misery. Now if phrenology be true, the natural talents even of children can be discovered with certainty, and their pursuits directed accordingly; and thereby these evils be avoided, as well as these blessings secured.

3. IT WILL INCALCULABLY ADVANCE THE ARTS AND SCIENCES. Only the very threshold of science is yet entered. For every discovery thus far made, doubtless scores remain yet to be made. Future centuries, like those that are past, will unquestionably witness clusters of new sciences, as the present one has chemistry, geology, and phrenology, unfolding new truths and new worlds of facts, by means of which the knowledge and happiness of mankind will be vastly augmented. There are multitudes of minds calculated to bring to view the phenomena and laws of nature, and make scientific discoveries, which are now either wholly engrossed with other minor matters, or enter upon a literary course too late to make much progress; whereas, had their talents been early known, and their education conducted upon phrenological principles, such naturalists and mathematicians, such artists and mechanics, such statesmen and poets, such orators and divines, such philanthropists and such profound philosophers would rise upon our world as would completely eclipse every thing past and present—as would incalculable.

lably improve, adorn, and bless mankind. It would also throw out from under the wheels of science multitudes of those who now retard their progress, and clear the various professions of those drones who are now their bane and disgrace, besides being useful in making choice of our public officers.

4. IT WILL GREATLY PROMOTE MORALITY AND TRUE RELIGION. Phrenology, if true, unfolds the moral and religious nature of man. To this same moral nature of man, true religion is also adapted; so that each will confirm and strengthen the other, and both *together* do much more for man's moral elevation than either could do *alone*. Phrenology, more than any thing else, is calculated to do away sectarian prejudices, and wear off the edge of those asperities which grow out of them, and which are a deep disgrace to the Christian world. It also teaches forbearance and forgiveness, and does away with bigotry. It will teach natural theology and natural religion more clearly and forcibly than any other department of science whatever.

5. A knowledge of phrenology will give its possessor an almost unlimited command over the minds and feelings of his fellow-men. Are you a lawyer, phrenology teaches you, not only the laws of mind in general, but the *particular* qualities of individuals, and also how they may be reached. Has one of your jury large Benevolence, phrenology not only points out the developement, but also shows you how to arouse it powerfully in aid of your cause. The other faculties will then follow in its train, and he is gained. Has another large Comparison, or Causality, or Ideality, address these faculties respectively, and your end is gained; has another large Self-esteem and Firmness, humour *him*, and be careful not to excite them against you, or "it's a gone case;" and so of the other faculties.

Are you a minister of our holy religion, wishing to "convert the sinner from the error of his ways," you must become "all things to all men." Your success depends on your adapting truth to the sinner's mind. Has he small Conscientiousness and large Self-esteem and Combativeness, if you address your remarks to his conscience, and portray his guilt and desert of punishment, his small Conscientiousness and large Self-esteem will fail to perceive or feel his guilt; and his large Self-esteem will justify himself, and retort, "You come here accusing me in this kind of style, do you? I've done nothing wrong. You talk as though I had committed some awful crime; but, thank heaven, I have a clear conscience. I'm as good as you are, any day;" whilst Combativeness will resent the well-meant but ill-applied warning, and drive the intruder from his

presence. Thus the sinner's heart becomes more hardened, and the door of repentance and reform barred and bolted. Whereas, this same sinner has, perhaps, large Veneration and Adhesiveness. Appeal to the former by portraying the majesty and the glory of God, and to the latter by descanting upon his infinite love to the children of men, and you strike cords that vibrate through his whole soul, prostrating him in adoration and love at the foot of the cross.

Another may have large Conscientiousness and small Veneration. By addressing to him what disgusted the first, you reach his feelings, producing a broken heart and a reformed life; whereas, if you appeal to his Veneration, which produced the desired effect in the case first supposed, you disgust him, and the result is worse than a mere failure. Thus, "what is one's meat is another's poison;" and phrenology teaches you how and when to appeal to the reason, or to the feelings, or to the particular *class* of feelings required by the occasion, and also how to avoid arraying against you large Combativeness, or Firmness, or Self-esteem, or Destructiveness, and thus how to be *always* successful, "meting out to every man his portion in due season.

The principle here stated and illustrated, will apply to all our intercourse with our fellow-men, whether for persuading them to adopt our opinions or plans, or for instructing them, and especially children, or for pleasurable intercourse with them. But the application of this principle to the *government of children*, is productive of still greater good. Thus, has your child large Firmness, or Destructiveness, or Self-esteem, great care is requisite lest these three faculties become arrayed *against* you; in which event, obedience can be secured only by compulsion, the child becoming wilful and insolent. But by understanding phrenology, you will know what will excite these faculties unfavourably, and can thus avoid rousing them, and appeal to some other faculties by which you gain your end at once, and with perfect ease.

Again, if Conscientiousness and Benevolence are large, when you do the child a favour, let it see and feel it to be an act of pure disinterested kindness on your part, and a strong feeling of gratitude and sense of obligation will spring up spontaneously in its little bosom, which may be increased by every successive garment, and ride, and favour, which the child receives at your hands, until it will become a ruling emotion. A strong desire to *return* these favours will be the result; your ascendancy over the child has now become complete; your will has but to be known to be obeyed, and that with delight. But this picture is usually reversed. Parents generally transmit to their children those mental as well as physical

qualities which predominate in themselves. These are often large Combativeness, Destructiveness, Acquisitiveness, Self-esteem, Firmness, &c. The little sufferer gratifies his innate Destructiveness by tearing a leaf from a book given him to play with, or by breaking some valuable article. The angered parent catches up the unconscious offender, and gives him a severe box on the ears, or resorts to some more violent punishment. Of course the child becomes enraged, and cries long and loud, and receives another scolding and whipping to make him "hush up." Its outraged Conscientiousness revolts at this cruel and unjust treatment, and this increases the flame of its anger; Destructiveness, already too large, becomes still larger by being violently and protractedly excited; the child is rendered miserable; its temper spoiled; its brain inflamed; its gratitude and affection checked; its parental respect destroyed; peevishness engendered; its health impaired; and by the frequent repetition of such scenes, hatred and rebellion take up their permanent abode in the infantile bosom.

Or perhaps the little one makes a noise, which is as natural to it as breathing, and almost as necessary for the developement of his lungs and muscles. The parent commands silence; the little offender wishes and intends to obey, but, in obedience to the irresistible promptings of his nature, he soon forgets, and continues his noise. The irritated parent, who ought to rejoice in, and even join his little ones in these healthy and intellect-producing amusements, becomes angry; chastises the offenders, thereby kindling their anger; again outrages their senso of justice; and creates those hard feelings, which, by being often repeated, grow into a settled dislike; the child does nothing willingly, but every thing poutingly; parental favours are forgotten; and the entire intercourse between parent and child, which might and ought always to be of the most delightful character, is unpleasant and cross-grained throughout; each blaming and disliking the other. Thus, thousands of things which are as natural to children as hunger, and no more deserving of punishment, receive either chastisement, or sharp rebuke, which harrows up and hardens their tender susceptibilities, thus exciting their animal propensities, and thereby weakening their intellectual and moral powers. Now phrenology, by teaching the parent what is the normal and what the depraved manifestation of the several powers, and hence what to cultivate and what to punish, and also how to awaken any desired current of feeling or line of conduct, becomes of infinite service in the government and management of children.

It might be added, that much of the crossness and bad temper of children is caused by the irritating and improper diet, either of the

mother or child, or both. By inflaming the stomach, and thereby the system generally, the organs in the *base* of the brain, and Destructiveness in particular, are preternaturally excited, which produces a peevish and contrary disposition. This kind of bad temper is the result of disease, and thereby to be *pitied*, not punished, though it generally subjects the little sufferer to scoldings or chastisements. Punish the *nurse*, if any one—reform the *diet* and *regimen* of your child, and you will thereby subdue his bad temper. Bad children are made so mainly by bad management. Phrenology will also teach how effectually to employ the principle of diversion, or counteraction, that is, when you wish to subdue the action of a large and excited organ, how to divert the mind from the aggrieved object, by calling into sudden and powerful action, and that without apparent design, another still larger organ, which may be exercised with impunity, thus leaving the first-named faculty to cool off.

But all these beneficial results, capable of being derived from an application of the principles of phrenology, sink into insignificance, when compared with its application to the *modification, moulding, and formation* of the minds and characters of children, and, indeed, of every individual in reference to himself. To *state* this principle, is all that can be done here; its full elucidation would require a volume. The principle is this: Every faculty has its own appropriate aliment and stimulant, by the presentation of which it is excited, and its organ thereby enlarged, and by the removal of which its action is diminished, and its size thereby reduced. By teaching us the true nature and proper aliment of every faculty, and thus how to excite and how to allay each at pleasure—by distinctly pointing out first the excess or defect, and then the remedy, phrenology directs us how to change their relative power, and thus how to produce perfect and well-balanced characters and intellects, which is the greatest of all other desiderata.

It is a well-established principle of phrenology, that the more evenly and uniformly the organs are developed and balanced, the more harmonious and perfect, and the less liable to vice and excess, will be the character and conduct; and also that the larger an organ becomes, the more delight is taken in its exercise, and the greater is its tendency to spontaneous activity, which re-augments the size, and this again re-increases the activity; and also that the smaller an organ becomes, the less pleasure is found in its exercise, the less frequently is it called into action, and the more it remains quiescent, this inactivity rendering it still smaller, illustrating the Scripture doctrine, that “to him that hath shall be given, and he shall have

more abundantly; but from him that hath not, shall be taken away even that which he hath." Thus the natural tendency is for the large organs to become still larger, and the small ones smaller—the very reverse of what should take place. Now, by teaching us what organs are already too large, and thus liable to become still larger, and also what is calculated to excite, and thus still further to enlarge them, the absence of which will allow them to remain at rest, and thereby to become smaller, and also what will excite the smaller organs, and thus supply defects; or in other words, by teaching the *nature* and the *laws of action* of each faculty, that is, how to excite and how to allay them, how to cultivate feeble ones and bring down predominant ones, phrenology will direct us how we may mould the budding, and modify the already matured character and talents, almost at pleasure. Is not *this* an object of the *utmost* moment?

Many facts might be stated in illustration and confirmation of the above remarks. The writer is fully aware that he has not done this last topic justice, nor can he do so without dwelling more in *detail* upon the primary function of the respective faculties, and the precise *kind* of treatment required to excite and allay them. He might adduce any number of additional facts in illustration of this principle, but his present limits will not permit such a digression. Let it be remembered, that we have merely glanced at only a few of the beneficial results to be derived from the study and application of phrenology, and that it applies to man in all his physical, moral, and intellectual relations, both to his fellow-men and to his Creator. But even in this view of the subject, its importance far outweighs that of all the other sciences put together, and demands the serious investigation of every parent, every philanthropist, every Christian, and every scholar.

ARTICLE IV.

PHRENOLOGICAL EXAMINATION OF PRISONERS.

Phrenologists have repeatedly, both in Europe as well as in this country, visited prisons, jails, and penitentiaries, for the purpose of testing the truth of their science. An impartial account of many of these visits is already on record; and as to the accuracy and correctness of the examinations, the facts in the case will speak for themselves. We take pleasure in adding to this class of facts the

following account of a visit to the St. Louis jail, made by Dr. K. E. Burhans, and copied from the Missouri Argus:—

A gentleman who was present at the jail, a few days since, during the phrenological examination of the prisoners by Dr. Burhans, has favoured us with the following report of the individual cases, as they came under his observation. We understand that the character, in each instance, is delineated with great accuracy. What more is wanting to convince the incredulous of the high claims of the science to universal confidence?

Prisoner No. 1. The organs of this man's head are all very small. The animal organs predominate, and are unchecked by his moral ones. Naturally he is not disposed to commit crime, particularly murder. His organisation would make him *extremely* lazy, indolent, and idle; any offence that he would commit would not be essentially evil, but in the tendency of idleness, &c. *Charge.*—Passing counterfeit money.

No. 2. The organs of Combativeness and Destructiveness predominate in this head; there is some want of Conscientiousness. Under the influence of spirituous liquors, he is capable of great wilfulness and cruelty to his friends, and even to his children. Free from artificial excitement, his conduct would not be very violent. *Charge.*—An assault, with intent to kill his daughter—it is said under the influence of spirituous liquors.

No. 3. This man has but little sense of justice; he has some shrewdness, although weak-minded. From his organisation, I would say he is not capable of great violence or marked crime. I would suppose his offence was theft, under the influence of liquor. *Charge.*—Theft; committed in a state of intoxication.

No. 4. This man has no point or strength of character. He is mild, and could be led to crime by designing men. Naturally he is not capable of any great offence. *Charge.*—Petit larceny.

No. 5. Coloured man. This man is cunning, and is indisposed to tell the truth. He is hypocritical, deceitful, and secretive; he would steal to secrete; although cautious, he would be capable of murder and midnight assassination. *Crime.*—Assault, with intent to kill.

No. 6. This man is timid and cowardly. His amative desires are strong, and would impel him, in the absence of danger, to violence in respect to the opposite sex. He is cunning and secretive; and in the absence of danger would steal—if pursued, would be unscrupulous of life. *Crime.*—Theft.

No. 7. Coloured man. He is mild, honest, and faithful—truthful, and would make an excellent servant.—A long tried servant about the jail.

No. 8. Wants firmness, is very fickle, and possesses inordinate vanity. He would do any thing to gratify his vanity and pride; and would be more apt to steal clothing than money. Charged with stealing one vest worth \$8, and a cap worth \$20.

No. 9. A Spaniard. He has a large brain; his animal organs are all large; with great Amativeness. He is also *dark* and cunning. These are the two points of his character. He would be a bold operator in crime. *Charge*.—Grand larceny.

No. 10. This man has no marked character; is timid and naturally well disposed; is not inclined to steal. He might have been made a good citizen. If he should commit crime, it would be under excitement, and in the direction of his amative organ. *Charge*.—Rape, under the excitement of intoxication.

No. 11. This man's character is low, coarse, and vulgar; no Self-esteem; would be violent and vindictive. He is combative and destructive; and his organisation would drive him to do any thing that his pleasure or wilfulness would suggest. *Charge*.—Petit larceny.

No. 12. This man's organisation is bad. His disposition is wilful. He is a dangerous man, cruel, gluttonous, and deceitful. *Charge*.—Larceny.

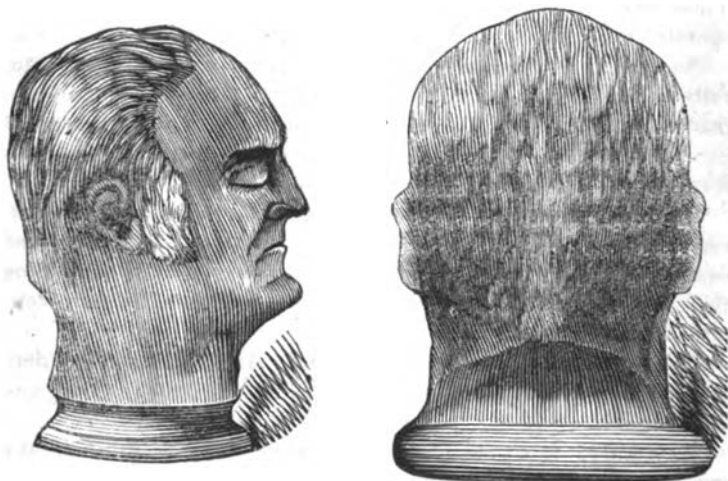
No. 13. He is combative and destructive, more so than any one whose head has been yet examined. He is capable of great bravery and daring. He is bold and vigorous in his enterprises; taciturn and gloomy, with little hope; considerable Acquisitiveness and Secretiveness. His organisation would make him dangerous to others and to himself, in despondency. *Crime*.—Theft and assault, with intent to rob.

No. 14. This young man is not naturally a bad character. He could not commit a violent crime. His defects are, his vanity and devotion to women, and his capacity of being used and imposed on by others. Charged with passing counterfeit money.

No. 15. His brain is small and his capacity is limited. He is without any degree of conscience. His organisation would make him deceitful, cunning, and cruel; and he would be more disposed to steal than to commit any other crime. Charged with theft.

ARTICLE V.

PHRENOLOGICAL DEVELOPMENTS AND CHARACTER OF STEPHEN BURROUGHS.

*Measurements.*

	Inches.
Circumference of the head around Philoprogenitiveness, Destructiveness, and Individuality,	23
From Occipital Spine to Individuality,	14 5
“ Ear to Ear, over Firmness,	14 5
“ Philoprogenitiveness to Individuality,	6
“ Destructiveness to Destructiveness,	8
“ Secretiveness to Secretiveness,	6 3
“ Cautiousness to Cautiousness,	6 2
“ Ear to Individuality,	5 4
“ “ Philoprogenitiveness,	5 2
“ “ Firmness,	6
“ “ Benevolence,	5 9

Developments on a scale of 7.

Amativeness, 7	Combativityness, 3
Philoprogenitiveness, 6	Destructiveness, 6
Adhesiveness, 5	Alimentiveness, 6
Inhabitiveness, 6	Acquisitiveness, 6
Concentrativeness, 3	Secretiveness, 6

Cautiousness,	6	Individuality,	7
Approbateness,	5	Form,	6
Self-esteem,	7	Size,	6
Firmness,	7	Weight,	6
Conscientiousness,	4	Colour,	6
Hope,	6	Order,	6
Marvellousness,	2	Calculation,	4
Veneration,	3	Locality,	7
Benevolence,	6	Eventuality,	6
Constructiveness,	6	Time,	7
Ideality,	5	Tune,	4
Sublimity,	6	Language,	6
Imitation,	6	Causality,	6
Mirthfulness,	6 to 7	Comparison,	6

Stephen Burroughs, whose life and character are so well known to the public, died at Three Rivers, L. C., in the winter of 1839-40. The above measurements were taken from the living head, and have since been corrected by Mr. Burroughs' bust, which may be found in Mr. Fowler's Phrenological Cabinet, No. 135 Nassau street, New York. The developements were given in the month of June, 1839, when Mr. Burroughs had his bust taken, and a phrenological examination by Mr. L. N. Fowler, which was wrote out at the time, and was in substance as follows:—This individual has a large and active brain, which is well sustained by a strong constitution. He has naturally much weight of character, and is capable of exerting more than ordinary influence. His brain is fully developed in every part, except in the organs of Conscientiousness, Marvellousness, and Veneration, and the largest of which are Amativeness, Cautiousness, Self-esteem, Firmness, Imitation, and Mirthfulness. Consequently, he possesses many strongly-marked traits of character—has a great versatility of talent, and is never in want of means to accomplish his ends. He has more excesses than deficiencies of character; lacks very much the restraining and regulating influences of Veneration and Conscientiousness. The following are the leading features of his character, which will be more or less developed, according as circumstances call his faculties into exercise. He is naturally very social—is extremely fond of children and society generally, and is particularly extravagant in his love of the other sex. He is disposed to avoid difficulty, and seldom, if ever, makes the first attack, because of his moderate Combateness; yet having large Destructiveness, if provoked, he would be liable to be severe and desperate, and would never stop at trifles whenever he had an important object in view. The middle lobes of the brain, giving width between and above the ears, are very full, indicating great strength of the selfish propensities, which must have a marked influence. They would

give him great force of character, and a disposition to indulge his appetite and desires—to acquire property and exercise cunning, tact, and management, with a peculiar ability to take the advantage of circumstances—to deal successfully with men, and keep perfect command of his own feelings. The crown of his head is very high, giving independence and determination of mind, joined with smaller Approbativeness and Conscientiousness, almost a total disregard for public opinion, and a strong desire to act on his own responsibility. His moral sentiments are mostly weak, except Hope and Benevolence, giving enterprise, anticipation, kindness, and general benevolence of feeling. But there is a great want of consistency, balancing power, circumspection, credulity, spirituality of mind, and devotional feeling. His imagination is rather strong, and his powers of description great. He is fond of the sublime and extravagant, has great powers of imitation and mimicry; more than a common degree of ingenuity and versatility of talent in planning and constructing, joined with an uncontrollable disposition to joke and make fun. His intellect is well developed, particularly the perceptive faculties, giving superior powers of observation, knowledge of men, things, and circumstances. He has a first rate memory of whatever he sees and hears, also of events, dates, names, history, and anecdotes. His powers of conversation are very great. He cannot be idle or silent; can render himself truly agreeable in company; has superior talents to tell a story, and can act it out to the life. In conclusion, his strongest traits of character are a passionate fondness for the other sex; his cunning and forethought; an ability to assume any character he chooses, and conceal his own; great self-possession and good humour; much versatility of talent and generosity of feeling, as well as a superior ability to communicate his ideas.

For the above statements and remarks, we are indebted to the Phrenological Almanac for 1841. Since they came into our possession, we have obtained the memoirs of the notorious Stephen Burroughs, for the purpose of making a comparison between his real character and his phrenological developements, as here given. This biography is written by himself, and may therefore be presumed to be correct, especially as to all the leading facts and incidents in his life. There is also satisfactory evidence to believe that the above cuts present correct outlines of his head. As the history of Burroughs is so well known to the public, we deem it unnecessary here to make out a long article, either by quoting from his biography or by remarks of our own, to show the actual harmony between his life and cerebral organisation. From a critical examination of the memoirs of Burroughs, we are ready to affirm that nearly every observation

of Mr. Fowler, in the above description, is perfectly correct, and did room permit, the truth of this statement could easily be proved. Nothing could possibly enable one to sketch, in so brief a space, the portrait of an individual, possessing traits of character so various, complex, and contradictory, but a thorough knowledge of phrenology—a strong fact, both in proof of the *truth* as well as of the *utility* of the science. To all who are interested in the study of human nature, or are desirous to test the correctness of phrenology in the delineation of character, we recommend them to compare for themselves the above remarks on the phrenological developments of Burroughs with his real history and character.

ARTICLE VI.

Outlines of Disordered Mental Action.

This is the title of a work which has now been before the public some months, and constitutes the one hundredth volume in the series of the *Family Library*, published by the Messrs. Harpers, of New York. It is from the pen of Mr. Upham, Professor of Mental and Moral Philosophy in Bowdoin College, Me. This gentleman has gained considerable distinction as a popular writer, and more especially as the author of several volumes on mental science. His works have had an extensive circulation in some parts of the United States, and are used as text-books on this science in many of our institutions and seminaries of learning.

The writings of Mr. Upham on the philosophy of mind may be considered as belonging to the metaphysical school. His views do not differ materially from those of Stewart and Brown, though his classification and manner of treating the subject are somewhat different, and, as we think, an improvement on their works. Still, no person who has ever given any attention to the principles of mental science, as based on the discoveries of phrenology, can be at all satisfied with Mr. Upham's works on this subject. He leaves out of view entirely the very fundamental principles of the science, and discourses of the faculties of the mind as *abstract* and *independent entities*, and as though they had no connection whatever with the body. Perhaps we should except from his works, the one before us on "Disordered Mental Action;" in which he has considered, to some extent, the influence of the brain and various states of the

body on mental manifestations. In fact, no person could possibly, with any consistency or correctness, discuss the subject of *disordered mental action*, without taking some cognisance of the connection between mind and physical organisation; and our author himself acknowledges that this portion of mental philosophy has been almost totally neglected by all writers on the science, except by a few members of the medical profession. At the same time, he attempts to explain many disordered mental phenomena, without any regard to the most important, and we may say, the *only* possible means of so doing—that is, by considering the *structure* and *functions* of the brain. And what renders the results of his investigations still more unsatisfactory, is that, in explaining disordered states of mind, he makes use of a classification of faculties which have no existence or foundation in nature. In all his divisions of mental phenomena, he confounds the term *faculty* with the mere *modes* of the mind's activity. The terms Sensation, Perception, Conception, Attention, Abstraction, Imagination, &c. which Professor Upham and other metaphysical writers constantly use, cannot consistently, according to the principles of inductive philosophy, be considered as *primitive faculties* of mind; they are only *modes of its activity*. For a full discussion and elucidation of these points, we refer the reader to standard works on phrenology. A correct classification of the faculties of mind, is of the highest importance; and we may be permitted to state that the nomenclature introduced by phrenology has been pronounced by the highest authority in Great Britain, viz. Archbishop Whately, as being far more logical and accurate than that of any other now in existence.

Notwithstanding the present work of Professor Upham is based, to a great extent, on a false and erroneous foundation, (and out of which its principal defects grow,) it has still many redeeming qualities. It is decidedly in advance of his other volumes, and approximates nearer to correct principles of mental science. In his previous works on the *Elements of Mental Philosophy*, and on the *Will*, he has treated the mind as an *abstract entity*—as being entirely independent of a material instrument in all its operations. But in his outlines of *Disordered Mental Action*, he has made frequent reference to the brain, as well as to the influence of various states of the body over the mind. The following sentences, quoted from the second chapter of the work before us, will express, perhaps, the substance of Professor Upham's views on this point:—"We take this opportunity to say, that the origin, as we apprehend, of no small portion of mental disorder, is to be found in the connection existing between the mind and the body." "We do not agree with some

respectable writers in considering insanity as being, in its basis, exclusively a physical disorder." "Without admitting the doctrine that the mind is identical with the brain, or even that the mind finds in the brain a congeries of organs specifically suited to the development of each of its separate faculties, we nevertheless hold it to be certain, not only that there is a reciprocal connection and influence between the two, but that such connection and influence exist in a remarkably high degree; so much so, that it is absolutely necessary to advert to it in any attempt to explain mental action, especially disordered mental action." This is the general ground which Mr. Upham has taken throughout his work. He has given us, in a small compass, a great variety and amount of facts on what are called *diseases of the mind*, though we consider it far more rational and philosophical to call them *affections of the brain and nervous system*.

Professor Upham has gleaned very few facts from metaphysical writers, such as Locke, Reid, Stewart, and Brown, for the very obvious reason that their works contain scarce any facts on the subject. At the same time, Professor Upham very justly remarks, that the philosophy of disordered mental action must be predicated on a correct knowledge and classification of the mental faculties in a sane or healthy state. This observation is no less philosophical than true. But it is abundantly evident, that the majority of writers belonging to the metaphysical school have been profoundly ignorant of the philosophy of insanity, or of disordered mental phenomena. And just in proportion as the causes, features, and remedies of insanity have been correctly understood, in the same proportion has there been made an approximation in knowledge to the true philosophy of mind. Accordingly, Professor Upham has been compelled to consult those writers chiefly who have treated of mental phenomena in connection with the brain and the body, and we are happy to state that he has here made free use of phrenological works. Many of his best facts are collected from the writings of Drs. Gall, Spurzheim, Macnish, Conolly, and Combe; and if our author had had free access to the writings of the French phrenologists, as well as to the entire series of the Edinburgh Phrenological Journal, the number and variety of facts on disordered mental action might have been greatly enlarged. On the whole, we consider the present work of Professor Upham as a valuable contribution to mental philosophy, and we hope the day is not far distant when all works on the philosophy of mind will be based on the true principles of the science.

ARTICLE VII.

VINDICATION OF NEW DISCOVERIES.

BY A LADY.*

Perhaps no tendency of the human mind can be calculated upon with more certainty, or has shown itself more uniformly, than that of opposition to new things. Innovations are ever regarded with distrust. New improvements in the world of art, new systems of philosophy, new developements of science, are cried down, scouted, ridiculed, and opposed by every means which ingenuity and prejudice can invent. When Franklin had drawn the lightning from the clouds, and explained the cause of the various electrical phenomena which we see, he was laughed at by his cotemporaries in science, and his opinions treated with contempt. When Harvey discovered the circulation of the blood, and thus lighted the great lamp of medical science, he was treated with contumely and scorn by the faculty; denounced as a scheming, ambitious enthusiast, patronage was withheld from him, and his private interests had well nigh been sacrificed on the altar of his fame. When the mind of Galileo had crossed the threshold of nature's mighty temple, and he revealed the secret of the magnificent machinery of the heavens, he was told by the arrogant church and the proud philosophers of his age, that his doctrines were "false in philosophy, heretical in religion, and contrary to the testimony of Scripture," and he was threatened with torture if he persisted in teaching them. The reputation of either of these great students of nature suffers no diminution now from the opposition with which their discoveries were met then. The discoverer of the composition of light shared the same treatment. Hosts of enemies swarmed around him, "each eager," says Professor Playfair, "to obtain the unfortunate pre-eminence of being the first to attack conclusions which the unanimous voice of posterity was to confirm." These were discoveries in physical nature, the evidence of which is invariable, and can never be gainsayed by human opposition. The names of these men will live while a star twinkles in the firmament, a pulsation moves the human heart, or a gleam of lightning threads the stormy sky. Time asks in vain, who

* This vindication we copy from the *Peora Register*, published in the state of Illinois, and are assured that it comes from the pen of a lady. It is truly gratifying to witness so much talent, good taste, and common sense, enlisted in behalf of phrenology by one of the *female sex* in the *far west*.—ED.

were their opponents. Multiplied instances might be adduced, but these suffice.

Truth, before her claims have been acknowledged, has always had to battle with ignorance, prejudice, and illiberality—a necessity which, if we regard its effects upon the advancement of human happiness and intelligence, cannot be too deeply deprecated. Let us for a moment examine into the cause. If it can be removed, it cannot be done too quickly. First, then, whatever we are ignorant of, we love to condemn. When the simple love of truth, be the truth what it may, does not predominate in the mind, we love to hear any theory, science, or art, which does not accord with our old established notions, set aside. Narrow-mindedness and ignorance are hand-in-hand companions. The ignorant man, in contemplating his amount of knowledge, feels vastly more complaisant than he whose mind has been enlarged by science, by philosophy, and the study of nature. Every new acquisition widens his mental horizon; and the more he learns, the more he is convinced that the greatest and best stored minds cannot attain all. He knows that from all the varied elements, physical and moral, which make up our world, from the action of mind upon matter, and of mind upon itself, new results must be developed, and when these are presented, he is preparing to examine them patiently and candidly. The ignorant man expects nothing new. He presumes there are very few things in the world of which he does not know something. Tell him of a theory, opinion, or doctrine of which he has never heard, and ten to one he will give you that very reason for not believing it. The enlightened man is always a scholar; the ignorant man completes his education in early life. Sir Isaac Newton retraced his steps for an hour, during a severe rain, in the hope of learning something new from the boorish shepherd. The latter was probably satisfied with the amount of knowledge he already possessed.

Pride of opinion is another fruitful source of opposition to newly discovered truths. We all of us have our opinions made up on subjects of ordinary interest. These we rarely fail to identify with truth, and when any thing opposed to them is presented, a fierce conflict is waged at once. All the passions and prejudices of human nature are waged against the invader, and we fight with the zeal of martyrs for the dear privilege of believing what we have believed, *merely because we have believed it*. If we would examine the spirit of the discussions which are daily carried on in society, we should find that in a majority of cases we maintain our opinions more from a dogged resolution to preserve the same belief, than from a conviction that the arguments opposed to it contained no truth. In regard

to the great doctrines of the age, the same spirit obtains even in a more formidable degree. Demonstrate to a thinking man that the opinions which he has advanced and acted upon for ten, twenty, or thirty years, are erroneous; ask him to reject them and search for others, and he looks upon you as a very annoying and presuming pretender. Locke has justly likened arguments used in such a case to the wind, endeavouring to wrest his cloak from the traveller; at every fresh gust he grasps the tighter. Dr. Joseph Black, well known in the scientific world, writes thus to Lavoisier:—"For thirty years I taught the doctrines of phlogiston, ten years of which I combated your discoveries. That barrier to every improvement,—prejudice, required ten whole years—another siege of Troy—before it could be subdued. I see now, clear as the noon-day, the truth of your new system." An example of candour which cannot be too strongly recommended to those who are permitting prejudice to close the avenues to truth.

Lamentable, indeed, is it, when we consider that human happiness depends on the progress of real knowledge and morality, to see puny man endeavour to raise his voice against the dictates of nature, shutting out from his mind her immutable truth, blinding himself to her institutions, and thus rendering himself liable to all the miseries incident to a subject living under a penal law of which he is ignorant, which he is tempted daily and hourly to violate, and every infraction of which must inevitably be followed by the penalty. We wrong ourselves and posterity by every such act. For though the fiat of eternal wisdom has gone forth that truth must prevail, yet man has it in his power to impede her progress and impair her influence. Whenever he does this, he is guilty of a moral wrong, and though self-love and vanity may be gratified for a time, at being able to resist the influence of new doctrines, yet we shall find after all, that there is no great glory to be won by acting merely as dead weights to the cause of improvement.

These thoughts were suggested by having recently witnessed the manifestation of feeling of this kind towards an attempt to introduce the science of phrenology. It is not my purpose now to enter into the merits of this science, or examine its claims to attention. I wish humbly to suggest to those who oppose it, whether, when a science which claims to be the basis of intellectual and moral improvement; which is acknowledged by a large portion of the intelligent world to be true, and is taught with ardent hopes of its benefits by many of the most talented and philosophical men of the age; which has stood the test of the most hostile and unyielding opposition for sixty years, and whose march has still been onward;

when such a subject is introduced, would it not be consistent with a professed love of knowledge, at least to hear what is gratuitously offered in its defence?

MISCELLANY.

Stokes's and Bell's Practice of Medicine.—In a previous number of the Journal, we presented some excellent remarks on phrenology, from the lectures of Dr. Wm. Stokes, of Dublin, Ireland. We are glad to state that a new edition of these lectures has just been published by Haswell, Barrington, & Co., of this city, being greatly enlarged by the addition of copious notes and twelve new lectures, by Dr. John Bell. This is one of the best works now extant on the "Theory and Practice of Medicine," and we may say, it is the *only* one that gives a correct exposition of the *functions of the brain*. It must be truly gratifying to every phrenologist to see the principles of this science expounded and defended in a work so able and learned, and one that must become a standard work of reference in medicine. Dr. Bell has also appended two or three notes to Dr. Stokes's remarks on phrenology, which testify strongly in favour of the truth and importance of the science.

Innateness of Animal Instinct.—The following curious facts were communicated to us by Dr. Andrew Boardman, of New York:—In August last, a gentleman brought to this city from the country, a number of eggs of the copper-head snake, in each of which, as the event proved, there was a young reptile almost mature enough to make its exit. One of these eggs was thrown down with sufficient force to burst the membranous shell, and dislodge the young inhabitant, which soon disentangled itself from the albuminous fluid with which it was surrounded; on having done which, I struck it slightly on the tail two or three times. Immediately its energies were aroused, its tongue repeatedly projected, its body thrown into coils, and its head raised aloft in an attitude of attention and defiance. I again struck its tail, and immediately presented the stick towards its head, on which it darted forward and struck the end of the stick with accuracy. This I repeated several times, with the same result. Another egg was broken, from which another reptile issued; similar experiments were made, and were followed by similar results. A third egg was broken, from which a third reptile issued; similar experiments were made, and again with like results.

The above, I think, were unexceptionable tests of the innate and con-nate powers of these animals. Uninfluenced by imitation, instruction, or experience, they manifested a bold, resentful, and malignant disposition; they were able so to *control* and *adjust* the muscles as to poise the head aloft and hold it in equilibrium; they perceived in the stick an *object* or *substance* capable of being struck or bitten; when they darted towards the stick, their motion was in a *line* from the head's position to the stick, evincing their perception of *direction*; they seemed in each instance to *proportion* the muscular effort made to reach the stick to its

greater or less proximity to themselves, thus showing, as it seemed to me, a perception of *distance*, of the *resistance* to be overcome, and of the amount of *force* requisite to overcome such resistance.

Head of John Horn Tooke.—In the biography of this celebrated man, by A. Stephens, Esq., we find (Vol. II. page 447) the following curious statements respecting Tooke's head:—"On application to Mr. Chantry, the statuary, he has communicated the following dimensions of Tooke's skull, taken by him when he modeled the bust, and kindly reduced his scale to the standard of common measurement. The width of the *os occipitis* was exactly six inches and three quarters; the *os frontis*, five inches and a quarter; the greatest width between the extremities of both, eight inches and three quarters. The artist remarks that all the parts were well defined and highly finished, so as to exhibit a flowing curvilinear surface, combined with a marked character. He was also pleased to add, that the head possessed a complete resemblance to the bronze bust of Voltaire."

R. Jarvis, Esq. and Phrenology.—An article, titled "*Humbug of Phrenology, by R. Jarvis, Esq.*" appeared in the August number of the Gentleman's Magazine, upon the object and merits of which very different opinions are entertained. We considered it at first as a *satire* on the objections advanced against phrenology, but that such was its appearance and character as to be of very questionable utility in its bearings on the science; and a more thorough examination has only served to confirm us in this opinion. Others may think differently, but we have here no desire or room for controversy on the matter. Mr. Jarvis has been for some years a decided and able advocate of phrenology, and intended, by this present contribution, to promote the interests of the science. In a letter to the editor of this Journal, he thus states the object of the article alluded to:—"That article is a *satire upon the common objections to phrenology*; a satire of the *ironical* class, or *ridicule* in *serious* terms. The *objections* which the satirist urges *against* phrenology are inconsistent with well known facts, and the *arguments* which he applies to them are illogical; his object being to expose the futility of these objections by arguments that either prove nothing, or prove the reverse of the point upon which they are adduced."

Death of Dr. Ticknor.—Died at New York, September, 1840, Caleb Ticknor, A. M., M. D., aged thirty-six, author of the "Philosophy of Living," "A Treatise on Medical Philosophy," &c. The early death of Dr. Ticknor is a great loss to the cause of true science. We had the promise of one or more articles from his pen for this Journal. Dr. T. was an efficient member of the New York Phrenological Society, which passed the following resolution at their quarterly meeting in September, 1840:—

Resolved, That we learn with feelings of deep regret, the death of our late fellow-member, Dr. Caleb Ticknor; a man, whose manners and virtues inspired attachment and esteem, and whose attainments in science, and devotion to whatever he deemed the cause of truth, secured the respect and admiration of all cultivated and generous minds.

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ARTICLE I.

ON THE PHRENOLOGICAL THEORY OF VIRTUE.*

There is perhaps no subject connected with the philosophy of the human mind on which more has been written, and on which, at the same time, a greater diversity of opinion has appeared, than on the theory of virtue. A term whose meaning the most ordinary mind thinks it can readily apprehend, has been bandied from one school to another, from the remote age of Aristotle to the times in which we now live, and it still remains a question, Whether it has ever received a true and satisfactory explanation? If, indeed, our search after the true meaning of this mysterious substantive were confined to the theories in which the problem is professedly solved, so essentially different are these in their principles, and so various in their results, we might readily doubt whether that which we sought had any real existence—whether we were not renewing, by such a pursuit, the visions of alchemy; searching after a bodiless creation, which had a name only, but no local habitation upon earth.

And is virtue, then, of a nature so capricious and unstable as necessarily to appear under a new form to every successive inquirer? Is this *summum bonum*, to a knowledge of which man has for two thousand years been labouring to attain, no better than an *ignis fatuus*, deluding the eye with a momentary light which leads only to deeper darkness—a mirage in the desert, cheating the traveller with the appearance of smiling vegetation, when a nearer approach shows all around to be only arid and unproductive sand? Fallen as human nature unquestionably is, we are far from holding it to be so entirely degraded. If that philosophy which has the constitution and phenomena of the human mind for the objects of its research, has hitherto

* From the 12th number of the Edinburgh Phrenological Journal.

done little either to analyse the principle by which the virtue of an action is perceived, or that variety in the decisions of this principle, and that instability in its operations, which the annals of our race exhibit, the fact of its existence is not the less ascertained. For it must be admitted by every one who has either reflected on the operations of his own mind, or observed with any degree of attention its phenomena in actual life, that there is some principle implanted in every man who is not so degraded as to have forfeited all claim to that title by which the Creator designated the last and noblest of his works, in consequence of whose operations one class of actions and opinions is condemned, and another is approved. *Est quidem vera lex, recta ratio, naturæ congruens, diffusa in omnes, constans, sempiterna: quæ vocet ad officium jubendo, ventando a fraude deterreat!*

It may at first sight perhaps appear to be an instance of rather unwarranted presumption, to make a charge of unsatisfactoriness so bold and unlimited against the theories which have been successively formed in order to explain the nature of virtue. A single reflection, however, may suffice to satisfy the phrenologist at least, that such a charge is by no means groundless. The philosophers by whom these theories were formed were unacquainted with the real constitution of the human mind. And therefore, allowing all that is unquestionably due to the capabilities of the gigantic minds which have been employed in this investigation, it is apparent that this ignorance must necessarily be fatal to their success. Until we obtain a knowledge of all the primitive faculties of the mind, it is morally impossible to analyse, with any considerable degree of precision, the principles which different combinations of these faculties may produce. The truth of this assertion is strikingly tested by the fact, that the very existence of a faculty which every phrenologist must hold to be a prime element in a virtuous character, I mean Conscientiousness, has been a subject of dispute down even to the present age. I need only mention the names of Hobbes, Mandeville, and Hume.

As these philosophers, however, in forming their theories of virtue, seldom, if ever, fell into the error of assuming the existence of faculties which had in reality no place in the human mind, although their mode of conducting investigations, in regard to its constitution, necessarily left them in ignorance of some of its most influential elements, there is perhaps not one of these theories which does not contain some portion of truth; while it would be equally difficult to find one entirely free from error. We may apply to them, indeed, the words used by Dr. Adam Smith in relation to the

theories which he imagined were to be displaced by his own. It is to be feared, however, that it too must feel the influence of its author's criticism. "As they are all of them in this respect founded upon natural principles, they are all of them in some measure in the right. But as many of them are derived from a partial and imperfect view of human nature, there are many of them, too, in some respects in the wrong."

These theories, with one exception, afterwards to be noticed, may be arranged in three classes, in which Propriety, Prudence, and Benevolence, are severally held to be the constituents or measures of virtue. Now, with respect to those of the first class, as in every virtuous action there is certainly "a suitableness of the affection from which we act to the object which excites it," there is no doubt in every such action a manifest propriety. Yet as it is equally obvious that such propriety may be no less apparent in actions to which the title of virtuous would be an absurdity, it follows that propriety cannot be the measure of a quality of whose existence it is by no means an invariable index. The same observation will apply with equal force to either of the other two classes. It is certainly demonstrable, that in the practice of virtue there is the truest prudence; but the fact is equally unquestionable, that this virtue has in innumerable instances been exhibited, while the intellect was unable to see the chain of causation which would have led to the same result as a matter of prudence. The decision of Aristides, on the project of treacherously burning the ships of the other states then at profound peace with the Athenians, may be mentioned as an illustrious instance of this truth. "Aristides," observes Mr. Combe, in the valuable work he has recently published, "reported to his fellow-citizens, that nothing could be more advantageous, but nothing more unjust, than such a project. His intellect appeared to view the execution of the scheme as beneficial and prudent, while, at the same time, he felt it to be morally wrong." The same remark may also be added in reference to prudence which has been offered in relation to the first class of theories, That many actions partake largely of the quality of prudence, which it were nevertheless an abuse of language to characterise as virtuous. In reference to the benevolent systems, exactly the converse of this might be easily demonstrated in bar of their claim to universality of application, That while we would readily accede the title of virtuous to every action emanating from the impulse of a well-regulated Benevolence, we would claim the very same appellation for many actions, by which Benevolence, instead of being gratified, is painfully wounded. An instance, to which we would refer, is to be found in one of the

many interesting productions of the author of *Waverly*. When Jeanie Deans, at the risk of giving up a lovely and beloved sister to a miserable and disgraceful death, and thereby bringing down the gray hairs of a father she revered in sorrow to the grave, gave the fatal evidence related in the story, every benevolent feeling of the witness must have been writhing in agony; and yet it is just because she refused to listen to their affecting appeal, that we pronounce the action to be one of the most beautiful triumphs of true virtue which history, either real or fictitious, has on record.

The theories we have thus noticed, like all other speculations upon the mental phenomena which successive ages have produced in ignorance of the primitive faculties in which these phenomena have their origin, proceeded on partial and imperfect views of human nature. Consciousness being the chief source from whence their authors were supplied with information on the subject of the mental constitution, they looked upon the world to observe how this particular mind would act in certain circumstances, and how it would be affected by certain objects, rather than to ascertain why different minds acted so diversely in precisely the same circumstances, and were so variously affected by precisely the same objects. Accordingly, just as the mind of each successive theorist had a nearer or more distant resemblance to that of his predecessor, their opinions differed or coincided. If nature had stamped on its constitution the impress of Philanthropy, Virtue and Benevolence became convertible terms. If prudential and selfish feelings predominated, virtue was then made to consist in the judicious pursuit of our own private interest and happiness.

This fact of each theory exhibiting a portrait of its author's mind, is well noticed by Mr. Combe while treating of the functions of Conscientiousness. Hobbes, he remarks, denied every natural sentiment of justice, and erected the laws of the civil magistrate into the standard of morality. This doctrine would appear natural and sound to a person in whom Conscientiousness was very feeble; who never experienced in his own mind a single emotion of justice, but who was alive to fear, to the desire of property, and other affections which would render security and regular government desirable. Mandeville again makes selfishness the basis of all our actions; but admits a strong appetite for praise, the desire for which, he says, leads men to abate other enjoyments for the sake of obtaining it. If we conceive Mandeville to have possessed a deficient Conscientiousness and a large Love of Approbation, this doctrine would be the natural language of his mind. Hume, continues Mr. Combe, erects utility to ourselves or others into the standard of virtue; and

this would be the natural feeling of a mind in which Benevolence and Reflection were strong, and Conscientiousness weak.

In addition to the errors discoverable in these theories, naturally arising, as we have seen, from an acquaintance with the real constitution of that mind whose phenomena it was their object to explain, another capital source of perplexity and misapprehension, in the greater number of them, is found in the circumstance of their considering the action itself as the object of their investigation, instead of looking to the state of mind in which it originated, and of which the action is nothing more than an external and by no means infallible expression. Hence arose all those questions as to what it is that constitutes the moral obligation to perform an action acknowledged to be virtuous. Whence arises the notion of duty? Why do we conceive of merit as attaching to him by whom any virtuous action is performed? Thus establishing, as they conceived, a series of distinct propositions, in the true elucidation of which the success of the investigation was essentially involved. I have already alluded to an exception to the general mode of philosophising on this interesting subject. That exception is to be found in Dr. Thomas Brown, the late distinguished professor of moral philosophy in our University, who had the merit of clearing away much of the obscurity in which this subject had been involved. With that power of analysis, by which he sifted the theories of his predecessors, scattering to the winds the chaff in which the truth had been often buried, and sometimes lost, while he preserved what was truly valuable, and presented it simple and unencumbered, he refers the virtuous action at once to that moral principle in the mind whose operation it indicates. Instead of measuring virtue by a standard, of which national as well as individual varieties of character would lead to ever varying estimates, he held virtue to be nothing more than a term expressive of the relation of certain emotions of our mind to certain actions contemplated by us. He does not first inquire into the amount of Propriety, Prudence, or Benevolence involved in any given action, and then determine whether it merits the appellation of virtuous. Does the action, he asks, upon being contemplated by the mind, call forth the approbation of this moral emotion?—if so, then is the action virtuous. If, on the other hand, this emotion be excited only to condemn, then is the action vicious or immoral. As to the moral obligation, duty, and merit, involved in the action, and considered as distinct from its virtue, he has endeavoured to show that the several propositions founded on these points had nothing beyond a verbal difference between them. That they were, in truth, merely different forms of the same propositions. “Distinctions,” he remarks, “which

seemed to those who made them to be the result of nice and accurate analysis, but in which the analysis was verbal only, not real; or at least related to the varying circumstances of the action, not the moral sentiment which the particular action in certain particular circumstances excited. It is all which we mean by moral obligation," he continues, "when we think of the agent as feeling previous to the action, that if he were not to perform it, he would have to look on himself with disgust, and with the certainty that others would look on him in abhorrence. It is all which we mean by the virtue of the agent, when we consider him as acting in conformity with this view. It is merit, when we consider him to have acted in this way. The term we use varying in all these cases, as the action is regarded by us as past, present, or future, and the moral sentiment in all alike being only that one simple vivid feeling which rises immediately on the contemplation of the action."

There is an expression in this last sentence which suggests the first point in which we presume to differ from the opinion of this justly-venerated philosopher. He carries us entirely along with him, by holding virtue to be a term expressive, in a strict sense, only of the relation of certain moral emotions of our minds to certain actions contemplated by us, and by maintaining that the virtue, obligation, and even the merit of the action, in so far as that merit is intrinsic and moral, are all perceived and recognised by the same moral principle; but when he affirms this moral principle to be one *simple* vivid feeling, we venture to object. And we think it will be unnecessary to examine more than one of the examples by which he so eloquently illustrates the operation of this principle, in order to convince a phrenologist, at least, that its simplicity or singleness is something more than doubtful. In explaining the temporary obstructions to which this principle is subject in human nature, he cites the following instance:—"He who has lived for years in the hope of revenge, and who has at length laid his foe at his feet, may, indeed, while he pulls out the dagger from the breast that is quivering beneath it, be incapable of feeling the crime he has committed; but would he at that time be able to tell the square of four or the cube of two? All in his mind at that moment is one wild state of agitation, which allows nothing to be felt but the agitation itself." Here is an action which, so soon as its real nature is perceived by the agent, after the temporary paroxysm of revenge has subsided, will be immediately condemned by the moral emotion then resuming its influence. This is just as true as it is phrenological; but we do not thence infer that the source of such moral disapprobation is simple and single. It is, in truth, nothing less than a compound—in so far

as the disapprobation is moral—of wounded Benevolence, and Conscientiousness, and Veneration. Revenge is a state of mind which can never be maintained, except in violation of the dictates of all these sentiments; and although the furor of Destructiveness and Self-esteem, by which it is chiefly produced, may be sufficient to lead to the murder of its object, in the very moment that the deed is committed, the stimulus by which the unnatural activity of these faculties was maintained is thereby instantaneously removed. The sight of his bleeding victim calls into powerful operation the moral combination, whose voice had been so long drowned in the hoarse cries of revenge. Benevolence reproaches him with tearing a fellow-creature from all the enjoyments of life, and hurrying him to an account for which, it may be, he was but ill prepared. Veneration accuses him of offending the Deity, by depriving, without any justifiable warrant, one of his creatures of the gift which he had been pleased to bestow, and thus violating his express command. Conscientiousness adds her solemn intimation that he has inflicted a punishment much greater than the offence deserved. The emotions of these several sentiments do not, it is true, maintain a separate and distinct existence in the murderer's mind, but are blended into one general feeling of remorseful condemnation:

“Diri conscia facti
Mens habet attonitum et surdo verbere cædit,
Occultum quatiente animo tortore flagellum.”

We cannot, however, agree with Dr. Brown in defining virtue to be a term expressive of the relation of a certain *simple* emotion of our mind to certain actions contemplated by us, the emotion being so evidently in many instances compound.

It is indeed to the ignorance of, or inattention to, the real nature of this moral principle, and its modes of operation, we would ascribe the fact of which all human history affords such abundant evidence, that in every age, and in almost every nation, the term virtue has been used in circumstances so essentially different, as apparently to have deprived it of that fixed and determinate signification which we hold it in its strict and true meaning to convey. Men have uniformly agreed in applying the title of virtuous to those actions of which human happiness appeared to them to be the object; and it is therefore we would acknowledge, even without revelation, that the dictates of the moral law are written in every heart. And though every phrenologist, we might say every common observer of human nature, must own they are written in different individuals with very

different degrees of legibility, the characters in which they are inscribed are always the same. Benevolence will never prompt to selfishness,—Veneration to disrespect,—nor Conscientiousness to injustice, because its developement in any given individual or nation is *small*. Its voice may be faint and feeble, but its language will never vary. If, therefore, the term virtue has been applied, on different occasions, in senses evidently contradictory, it is not because the moral principle, whose relation to the action it expresses, approves at one time what it condemns at another, but because the nature of the principle itself has been mistaken or overlooked. It will be afterwards shown, when we approach the consideration of those causes which tend to produce the obstructions and modifications to which this principle is liable, to what source the endless variety and incongruity in human opinion on the subject of virtue are to be traced. We must now endeavour to explain what we conceive to be the nature of the principle itself.

As virtue is never ascribed to any action of which *self* is the object, we must search for that principle whose relation to certain actions, contemplated by us, is expressed by the term in question, in these sentiments which prompt to the discharge of the duties in which the relation of man to other beings is involved. If we take the propensities, the first great class of faculties which prompt to action, and consider them in reference to their separate functions, we find that they are all gratified by an exercise of which *self* alone is the object, whatever else may be the subject. Advancing to the second class—the sentiments—we discover that they differ from the former in this—that while they, too, prompt to action, their activity is at the same time accompanied by a specific emotion or feeling. An accurate observer of their several functions will also prove, that they themselves may be arranged into two distinct classes; viz. those of which *self* is still the object in reference, to which their activity is called forth, and those which find their legitimate object in prompting to the discharge of duties in which the interest of our fellow-men is employed. If we analyse Self-esteem, Love of Approbation, Cautiousness, Hope, Ideality, Wonder, Firmness, and Concentrativeness, in their several and separate functions, we shall find that, with perhaps one exception—viz. Hope—they are directly influenced solely by causes affecting the relation in which *self* stands to the object, or event, by which they are severally excited.

Self-esteem, for example, is affected by every thing that has a tendency to increase or diminish the importance of *self*. When Macduff presented to the mind of Macbeth the alternative of “living

to be the show and gaze o' the time," it was this sentiment which prompted him rather to accept the combat with an adversary "unborn of woman," even while he anticipated its fatal result :

———"I'll not yield
To kiss the ground before young Malcolm's feet,
And to be baited with the rabble's curse."

Love of Approbation, again, is affected by whatever changes the aspect in which self appears to the world. To be the "observed of all observers" is its highest gratification, while it is very gall and wormwood to its nature

———"to be made
A fixed figure for the Time of scorn
To point his slow unmoving finger at."

Cautiousness, producing the emotion of fear, is excited by whatever appears pregnant with personal injury, and of itself prompts only to such actions as would so alter the relation of self to the exciting object, or event, as to avert the threatened danger. The sentiment of Hope differs from all the other propensities and sentiments to which we have been alluding. All these produce, when excited to activity, some specific desire, as Combativeness for contention—Acquisitiveness for property—Love of Approbation for praise, &c. Whereas Hope begins and ends with a simple feeling, *sui generis*, susceptible of being directed in a great variety of ways, but not desiring any one class of things as its peculiar object. It produces the tendency to believe in the possibility of obtaining what the other faculties desire. We cannot, therefore, include this faculty either under that class of sentiments of which self is the object, in relation to which their activity is excited, or among those which find their legitimate object in prompting to the discharge of duties in which the interest of our fellow is immediately concerned. It blends indifferently with either, according to circumstances, and is, in this respect, without any determinate character.

Ideality, which gives the desire of what the French call the "*beau idéal*," and Wonder, which seeks its gratification in every thing new, or with whose qualities the other faculties are yet unacquainted, are so evidently of that class of which self is the direct object, in relation to which they are called into action, that illustration is quite unnecessary. Of Firmness and Concentrativeness, it need only be observed, that they have no relation to external objects, and that their influence terminates on the mind itself. They only add a quality to the manifestations of the other powers. We have thus gone over all the sentiments, except Benevolence, Veneration,

and Conscientiousness, and we have found that, with these exceptions, their direct end is either selfish or indifferent. To none of those, therefore, can we refer that moral principle whose approbation or disapproval is expressed in reference to actions involving the relation of man to his Creator and to his fellow—the only actions to which virtue or vice is conceived to attach. They may be, and are undoubtedly, often brought to lend their aid in supporting and adorning virtue; but if its pure banner, “*sans peur et sans reproche*,” be withdrawn, they will enlist with equal readiness in the service of vice. There is nothing necessarily moral in their nature; and it is therefore, we conclude, that it cannot be the relation of any feelings which they can directly generate to actions contemplated by us with moral approbation, that is expressed by the term virtue.

All men agree in ascribing the title of virtuous only to those actions of which human interest and happiness are conceived to be the object; and to the faculties which directly prompt to such actions, we would accordingly turn for the elements of that moral principle by which they are approved. In other words, we hold virtue to be a term expressive of the relation of the sentiments of Benevolence, Veneration, and Conscientiousness, to certain actions contemplated by us, in which the enlightened exercise of these sentiments is involved. It is observed by Mr. Combe, in his admirable reflections on the harmony of the faculties, that the dictates of these sentiments, when enlightened by intellect, always harmonise. And moreover, that whatever conduct they approve when so enlightened, is always perceived by the understanding to be expedient; and, if practically followed out, actually proves in its consequence to be so; demonstrating, as he observes, the truth of the maxim, “*nunquam aliud natura, aliud sapientia dixit.*” Hence we perceive not only that Benevolence, Veneration, and Conscientiousness, acting either singly or combined, according to the circumstances of the case, comprise the elements of that emotion which is the essence of every moral decision, but that their decisions are fixed and invariable, because they are such as the intellect, when sufficiently informed, will always discover to be the most expedient for the purpose they have in view, viz. human interest and happiness.

All theories, and all men capable of forming an opinion on the subject, have agreed, as has been already stated, in associating the idea of virtue only with what is conceived to have a tendency to promote the interest and happiness of man. But as different minds and different circumstances produced different estimates of such interest and happiness, hence arose an infinite diversity of opinion as to the faculties which give the virtuous character to the actions, in the

performance of which this interest and happiness are sought. We have endeavoured to point out those sentiments whose direct end is either selfish or indifferent, which prompt to some change in the relation of *self* to the object or event by which they are excited. In these there is nothing necessarily moral; and, therefore, we have concluded that it cannot be the relation of any feelings which they can directly generate to actions contemplated by us with moral approbation that is expressed by the term *virtue*. From these we turn to Benevolence, Veneration, and Conscientiousness, and finding the aim of their functions to be precisely the reverse, i. e. seeking some change in the relation of the object by which their separate or combined activity is called forth to the self by which that object is contemplated; and that it is only with actions tending to produce such changes that the idea of virtue is associated, we then deduce the proposition, that virtue is a term which expresses the relation of the moral emotions, produced by the combined activity of Benevolence, Veneration, and Conscientiousness, to certain actions contemplated by us, in which the enlightened exercise of these sentiments is involved.

Although by such an analysis as the foregoing we find it necessary, as already intimated, to differ from Dr. Brown, in regarding the moral emotion as always and necessarily simple, the difference is rather verbal than essential, it being evident, from the manner in which he illustrates the operation of this emotion, which he describes as *one* and *simple*, that in reality it embraces all the elements we have noticed as members of this moral confederacy.

It is not unworthy of observation, as a fact which appears to lend its testimony in support of our theory, that the various precepts of the moral law appear to be addressed directly to the three superior sentiments in question. Obedience to the first four commandments of the decalogue, involving the duties arising out of the relation of man to his Creator, flows manifestly from enlightened Conscientiousness and Veneration, the former acknowledging the justice of homage to such a Being, and the latter inspiring with the emotion in which it is paid. The fifth commandment appears to result from the three sentiments specified acting in harmonious concert. The sixth commandment flows more immediately from Benevolence in its positive injunction, aided by Conscientiousness in its negative command; the seventh, eighth, ninth, and tenth, from Conscientiousness.

We may add another remarkable instance from the same sacred source, where a similar coincidence is yet more strikingly evinced. It was taken from the book of Micah, where, in the 8th verse of the sixth chapter, all those duties which man owes to God and to his

fellow-creatures are summed up under three heads, corresponding, even critically, with the dictates of Conscientiousness, Benevolence, and Veneration. "He hath showed thee, oh man, what is good; and what doth the Lord require of thee, but *to do justly, and to love mercy, and to walk humbly with thy God?*"

Dr. Spurzheim, in his "Philosophical Principles of Phrenology," makes a distinction between virtue and what he calls "natural goodness," to which we cannot altogether subscribe. "I love goodness," he says, "and esteem virtue. The naturally good are charitable, because they find a pleasure in charity; while the others, *i. e.* those who want this natural goodness, of charity make a virtue." If charity, then, such as that of the good Samaritan, proceeded from the overflowings of a predominant benevolence, the current of whose pure philanthropy was never ruffled by one selfish emotion, it must cease, according to Dr. Spurzheim's estimate, to claim the title of virtue. In one word, to carry his principle to its natural results, if Benevolence, Veneration, and Conscientiousness, the sentiments whose direct aim is to prompt to actions involving the relations of man to his Creator, and to his fellow;—if these sentiments be naturally so pre-eminent in a man's constitution as to rule through a whole life without being disturbed by the sedition or rebellion of one selfish subject, then is that man no longer virtuous.

It is with diffidence we dissent from so high an authority as Dr. Spurzheim; but we venture to conceive, that his error (for such we maintain it to be) has arisen from confounding with the virtue of the action the notions commonly entertained by mankind of its merit. Virtue, obligation, duty, and merit, are all, as has been already stated, held by Dr. Brown to be felt and recognised by the same moral principle. "It is impossible for us to have the feeling," he says, "and not to have these, *i. e.* the conceptions of virtue, obligation, &c.; or, to speak more precisely, these conceptions are only the feeling itself variously referred in its relation to the person and to the circumstances." With this view, in so far as it regards virtue, obligation, and duty, we entirely concur; and if the merit be considered as intrinsic and moral, we are still of the same opinion with Dr. Brown. But there is a different idea of merit, so common and so popular among men, and so closely identified with the virtue of which in reality it is extrinsic, as not only to have led Dr. Spurzheim to regard it as a necessary quality in the state of mind by which a virtuous action is produced, but the very quality in consequence of whose presence the action is virtuous. If we were able, however, to show that this idea of merit emanates in truth, solely from the operation of the selfish feelings and desires, its claim to be

regarded as the characteristic of true virtue will become even more than questionable.* It is evident that Conscientiousness can see no merit in being just, for inclination can never perceive merit in its own gratification. In the same way, Veneration can discover no merit in yielding that deferential homage to superiority, which is its natural tribute. And Benevolence is equally blind to the perception of merit, in being kind and charitable. Yet merit is a word which, in reference to justice, veneration, and charity, conveys a distinct idea, and we are bound, therefore, to account for its existence.

When we contemplate the noble Regulus refusing to enter within the walls of his native city, of which he was no longer a citizen, or even to visit his own little dwelling, and share in that joy which his return had inspired; when we see him standing in melancholy separation from the senate, of which he had once been so illustrious a member, instead of pursuing that course which would have given him to the friendly arms that were then held out to receive him into their embrace, calmly but eloquently pleading for the very decree which must consign him to the fury of his enemies, and see him, even while the entreaties and lamentations of his wife and his children were filling his heart with all the bitterness of a final separation from the objects of his fondest affection, returning to Carthage to suffer whatever the cruel imagination of an exasperated foe could invent of barbarous and inhuman torture,

—“*Pudicæ conjugis osculum
Parvosque matos, ut capitis minor,
Ab se removisse, et virilem
Torvus humi posuisse vultum;
Donec labantes consilio patres
Firmaret auctor nunquam alias dato,
Interque mœrentes amicos
Egregius properaret exul.*”

When we see all this, why is it that we regard this triumph of Veneration for the honour of his country, and of conscientious adherence to his word, as so singularly meritorious? It is in virtue neither of Conscientiousness nor Veneration that this great merit is perceived, because these faculties discover nothing in the action beyond the simple obedience to their own dictates. But Cautiousness, with its dark forebodings of pain and misery and death, and Adhesiveness, with its yearning after the objects of its fond desire,

* It may perhaps be necessary to state here, in order to prevent misapprehension, that, in endeavouring to elicit the origin of our ideas of merit, it is not with the purpose of touching in any way on the question of its compatibility or incompatibility with moral necessity. This were to go beyond the object of the present essay.

tell us of the terrible assaults which Conscientiousness and Veneration must have sustained in maintaining their supremacy. And the different degrees of merit which different minds will discover in this action, will be in exact proportion to the vigour in these minds of the two higher sentiments which produced the action in relation to the power of the two selfish feelings by which it would have been opposed.

To take another instance, which, with reverence, we select from the sacred volume, it may be shown with similar ease, that our notion of the merit of Job's enduring piety, maintained in defiance of every thing that might have tended to shake his confidence in the great Being to whom it was offered, is still obtained from the operation of our selfish feelings and desires alone.

When we read of the messengers bringing in swift succession the tidings of another and another wo, and by the sum of their desolating intelligence sweeping the venerable patriarch from the very pinnacle of prosperity into the lowest abyss of wretchedness and despair, the heart grows sick in the contemplation of misery so sudden and so complete. From whence do we derive, on studying this affecting picture, the idea of that extraordinary merit we discover in the utterance, at such a moment, of the pious sentiment with which he received the intelligence of his utter desolation:—"The Lord gave and the Lord taketh away; blessed be the name of the Lord!" These words beautiful, indeed, express the dictates of a presiding Conscientiousness and Veneration; but for that very reason can convey to these faculties no idea of merit. It is Acquisitiveness contemplating the loss of the servants, and the sheep, and the camels, and Adhesiveness and Philoprogenitiveness bewailing the objects of their attachment now no more; Self-esteem, burning under a consciousness of rank and importance, exchanged for degradation and wretchedness; Love of Approbation, "mindful of the days that had been in months that are past, when the young men saw him, and hid themselves, and the aged arose and stood up; when the princes refrained from talking, and laid their hand on their mouth; when the nobles held their peace, and their tongue clave to the roof of their mouth." It is Love of Approbation remembering all this, and foreseeing the bitter change it must henceforth experience. "But now they that are younger than I have me in derision, whose fathers I would have disdained to have set with the dogs of my flock." And, as if all these were not enough to fill up the horrors of the picture, Cautionness comes in to deepen the gloom of the present, by throwing a cloud of yet darker misery over the future. These are the true and only sources of that merit we dis-

cover in the enduring piety of Job. The clamorous outcries of these selfish feelings tell us of the snares with which Conscientiousness and Veneration were in this instance environed, and it is therefore we attach merit to the supremacy they maintained.

If this analysis be sound, the conclusion appears inevitable, that merit is something essentially distinct from virtue; and we shall then have escaped from the paradox to which Dr. Spurzheim's doctrine seems naturally to lead, that, in such instances of virtue as we have cited, the mind in which the selfish feelings were most predominant, in other words, the mind least virtuous, would discover the greatest proportion of virtue.

There is another conclusion to which we appear, by this view of our notions of merit, to be conducted, and which, as it accords with a great and important Scripture truth, is not unworthy of notice. If the merit of the most virtuous actions of men is perceived solely by the operation of the lower and selfish part of our nature—of those feelings and desires, in a word, which are opposed to the virtue—these actions must necessarily appear devoid of all merit to that Infinite Mind—and we speak with deep reverence on a subject so high and so sacred—in which such feelings and desires are necessarily unknown.

The view we have thus submitted of the origin of our notions of merit, while it appears to show a very evident distinction between *that* quality and the virtue with which it is, in common language, so closely identified, reflects, at the same time, additional evidence on our position, that the term virtue does, in the strictness of philosophic precision, express only the relation of the sentiments of Benevolence, Veneration, and Conscientiousness, to certain actions contemplated by us, in which the enlightened exercise of these sentiments is involved. This distinction between the virtue and the merit of an action, will be more apparent in an example. When we read of the intrepid Hampden opposing an unjust tax, which to him, personally, was of so little consequence, at the risk of incurring the vengeance of a powerful and vicious government, we readily acknowledge his conduct to have been both virtuous and meritorious. By what faculties in our nature, then, are these two qualities perceived? Self-esteem reminding us of the difficulty of sacrificing self for the interest of others; Cautiousness creating a feeling of alarm and apprehension at the prospect of contending with an enemy so formidable; and Acquisitiveness dreading the loss of property, and the utter ruin in which such a contest was so likely to terminate, are evidently the sources from whence we here derive the idea of merit, as attaching to the virtue which was maintained in defiance

of the powerful opposition these selfish faculties must necessarily have produced. It is, on the other hand, simply because we regard the conduct of this patriot as the dictate of Conscientiousness, that we acknowledge it to be virtuous; for if the action in question were presented to us under a different form, and we were called on to regard it as emanating as much from the desire of obtaining eminence and authority in a political faction as from the wish to see his country delivered from an unjust and intolerable grievance, our estimate of its virtue would instantly sink. The fountain of virtue is then no longer pure; self has polluted the stream at its very source; the upright and virtuous patriot has degenerated into the ambitious leader of a faction. And why is this change produced? Merely because the relation between the action and the sentiment of Conscientiousness is no longer the same. Love of Approbation, Self-esteem, and, perhaps, Acquisitiveness, have been enlisted as motives to produce the action, while the opposition of Cautiousness has been, in a great measure, removed; and exactly in proportion to the amount at which we estimate their influence, will our sense of the virtue be diminished. In the same way, if we analyse any action, or any class of actions, to which the title of virtuous has been justly conceded, the same result will appear—that wherever the selfish feelings and desires are contemplated as motives to act, our account of the agent's virtue is proportionally lowered.

We hold, then, 1st, That virtue is a term expressive of the relation of the sentiments of Benevolence, Veneration, and Conscientiousness, to certain actions contemplated by us, in which the enlightened exercise of these sentiments is involved. 2dly, That virtue, obligation, and duty, are all felt and recognised by the same moral emotion; or rather, that these are nothing more than the same emotions variously referred in their relation to the person and the circumstances. And 3dly, That merit, instead of being identical with virtue, is a term which, in truth, expresses the relation to any virtuous action of those feelings and desires whose direct operation is opposed to the virtue in which the merit is involved. In one word, that virtue, obligation, and duty, are all felt and recognised by the three sentiments pointed out, as prompting to those actions involving the relations of man to his Creator and to his fellow. That merit, on the other hand, in the sense in which the term is usually understood, is perceived in consequence of the operation of the feelings and the desires, whose direct object is purely selfish.

In surveying the wide diversity of opinion, which, on the subject of virtue, the moral history of mankind presents, it appears to us, that these phenomena, various and seemingly contradictory as they

are, do nevertheless admit of a very simple explanation by the theory that has just been submitted. This will become more apparent on considering the causes which tend to modify and obstruct the operation of the emotions to which we have referred the perception and recognition of morality.

That branch of the subject, however, is both too large and too important to be embraced by the present article. Leaving it, therefore, for a subsequent occasion, we shall only add here some general remarks on the theory of virtue we have unfolded. It has appeared, from the cursory analysis that has been given of the propensities and sentiments of our nature, that these two great sources of human action, in reference to the objects they have in view, naturally arrange themselves into two distinct classes; those, viz. whose direct end is to prompt to some change in the relation of self to the object or event by which they are excited, and those which prompt to some change in the relation of the object in reference to which they are called into activity to the self by which that object is contemplated. The interest of self is sought exclusively by the one, the interest of the community by the other. It is apparent, that virtue can never be associated with the activity of the former, however beneficial may be the results to which they lead; it has, accordingly, been referred solely to the exercise of the latter. Whenever the action to which the first and inferior class of desires and sentiments lead is at variance with the dictates of the second and higher class, that action must necessarily be hurtful and immoral; for the very obvious reason, that it is condemned by the sentiments whose exclusive object is the interest and advantage of those whom that action affects. To suppose these should condemn what they themselves are seeking to obtain, is a contradiction in terms. The activity of these selfish and lower desires and feelings may exist in three different relations to the higher sentiments so often enumerated: in the relation of unison and harmony, and then they support and adorn the virtue to which the others alone give birth; in the relation of indifference, and then the action is without any moral character; or in the relation of opposition, and then the action is vicious and immoral. These are laws which nature has imposed on our mental constitution—and the laws of nature are immutable. Virtue and vice, then, it follows by necessary consequence, have each a determinate and unchangeable character. If in Hindostan it be regarded as a dictate of Benevolence to expose an aged parent on the banks of the Ganges, and a dictate of Veneration to join in the monstrous obscenities of the idol worship of Jugger-naut; and if in ancient Sparta a dexterous theft was justified by law,

the anomaly involved in such actions is apparent only, not real. If Benevolence appear to be employed in shortening the life of a fellow-creature, and Veneration in doing homage to an image devoid of any quality of superiority, and if Conscientiousness appear to have seen nothing to condemn in the crime of theft committed under certain circumstances, it is not because these sentiments have been dictating in India and Lacedemon what they condemn in England, but because, in these instances, their real dictates were either entirely subdued, or were shrouded in the darkness of a benighted intellect, and brutalised by the supremacy of animal desire. The sentiments, every phrenologist is aware, do not themselves perceive the objects fitted to excite their activity. This is the province of intellect. And it is merely because ignorance and superstition disable this medium from conveying correct impressions of things as they really exist in their several relations, that the apparent inconsistency, in the cases we have just noticed, takes place. The moral emotions, when duly enlightened, are invariable in their dictates.

And while we are thus led to the conclusion, that there is a principle of virtue in our nature, in itself pure and unchanging, we shall be restrained from glorying too much when contemplating the high elevations to which it may conduct individuals of our species, by remembering that the very source which supplies the proud idea of the *merit* of human virtue points at the same moment to the dangers by which that virtue is environed—to the snares in our degenerate nature by which it is surrounded—to the struggle in which it is always engaged, and in which it is so often overcome; and, casting our eyes along the page of human history, we shall be compelled with humility to acknowledge, that if the lamp of virtue be, in truth, still shining in the human heart, here with a brighter and there with a dimmer lustre, its flame, if it be not fed by a heavenly hand, is all too feeble to withstand the noxious vapours and the gusts of evil passion to which it is exposed: for,

— “Man in nature’s richest mantle clad,
And graced with all philosophy can add,
Though fair without and luminous within,
Is still the progeny and heir of sin,
Thus taught, down falls the plumage of his pride;
He feels his need of an unerring guide,
And knows, that, falling, he shall rise no more,
Unless the power that bade him stand, restore.”

ARTICLE II.

REVIEW OF COMBE'S LECTURES ON MORAL PHILOSOPHY.

(Continued from page 64 of this Journal.)

In lecture sixteenth, we witness one of Mr. Combe's ablest efforts. In most respects, also, it is entirely satisfactory to us, and conforms in all points to the doctrines of phrenology. It is on the subject of "government." After justly rejecting the several theories of the origin of government that have been contended for by different writers, he proposes the following as the phrenological theory:—

"In the human mind, as disclosed to us by phrenology, we find social instincts, the activity of which leads man to congregate in society. We discover, also, organs of Veneration, giving the tendency to look up with respect to superior power, to bow before it, and to obey it. There are also organs of Self-esteem, prompting men to assume authority; to wield it, and to exact obedience. Government seems to me to spring from the spontaneous activity of these faculties, without any special design or intention on the part either of governors or of subjects. In rude ages, individuals possessing large brains, (which give force of character,) active temperaments, and large organs of Self-esteem and Love of Approbation, would naturally assume superiority, and instinctively command. Men with smaller brains, less mental energy, and considerable Veneration, would as instinctively obey, and hence government would begin."

With a single exception, we heartily concur in this theory. Nor is our dissent even there dogmatically positive. It amounts to but little more than a *doubt* on a single point, of no very vital importance, respecting which we have long doubted, and published, many years ago, some of our reasons for non-concurrence and scepticism in the matter. It relates to the organ and sentiment of the love of power and command—that feeling which, not consisting alone in a high estimate of self, inclines the possessor to grasp at, and assume, if possible, the control of other persons, and employ them as instruments in the achievement of his own purposes, or of such enterprises as are set on foot by the community, or a portion of it, and committed to his direction.

If we do not misunderstand him, Mr. Combe regards the feeling or sentiment of love of power or command as a compound or amalgamation of two other sentiments, Approbateness and Self-esteem, or as in some way resulting from the action of their organs. And

such, we believe, is the opinion of other phrenologists on the subject.

In this view of the matter, we say, we cannot fully concur. Nor does our non-concurrence arise from any wish being entertained by us to be considered the discoverers of a new organ. Far from it. We make no pretension to such discovery. On the contrary, we expressly renounce the pretension, and frankly acknowledge ourselves *no discoverers*. Our belief on the subject, as far as our view or sentiment deserves the name of belief, has arisen from an attempt made by us, partly from self-examination, and partly on more general grounds, to form, for our own satisfaction, such an abstract analysis of the mind, as to attain a full and complete view of all its truly original faculties. And in the course of that process, we fancied at least that we ascertained the existence of a few faculties, for which no organs have yet been discovered—we should rather say, for which none had been discovered at that time. Of these faculties, the love or sentiment of power and command over other persons was one; and the love of absolute *freedom* was another. Two others were, an abstract or fundamental love of existence or life, apart from cowardice; and a love of subsistence, or of food and drink, apart from the mere agreeability of their taste and flavour, and the gratification experienced in the use of them.

Since the period of our analysis, which was made about *sixteen*, and published *thirteen* years ago, the organs of the two latter propensities are believed to have been discovered, and are now included in the catalogue of faculties under the names of Vitativeness and Alimentiveness. But of the love of power, and the love of freedom, no organs have yet been discovered. Nor do we know that any phrenologists of note believe in their existence. In our inquiries into the subject, the following is the course of investigation we pursued.

Feeling of every description is *known* to be an attribute of nervous or cerebral matter.

No single nerve, or portion of cerebral matter, can be the seat and instrument of more than one distinct original feeling.

Every original and distinct feeling, therefore, whether it be animal or moral, must have a distinct organ, or portion of the brain, appropriated to itself.

But, from the most accurate scrutiny of the subject we have been able to make, the love of power and authority appears to us to be a feeling as primitive, and as distinct from all others, as Hope or Conscientiousness, Veneration or Benevolence. *It must therefore have a cerebral organ of its own.* This must be received as a physiological

axiom, if it be true that the love of power is a primitive feeling. And we believe it to be so.

That the feeling exists, is doubted by no one; because every one has a consciousness of possessing somewhat of it himself. It must therefore be either simple and primitive or compounded and secondary. If the latter, what are its elements?—of what primitive organs and faculties is it composed? No one has heretofore answered this question. Nor do we know what idea to attach, or how, indeed, to attach any idea at all, to the expression *secondary* or *compound* feeling or faculty. As well might we speak of a compound thought, a compound inference, or a compound want. True, we may think of many things, and want many things, and in that way make up what may resemble a compound. But, in their nature, and in the abstract, the want and the thought are essentially simple.

As regards Approbativeness, we perceive no shade of real affinity between it and the love of power. That they are necessarily proportionate to each other in the same individual, is a position which cannot, we think, be claimed, and would not be admitted. Nor have observation and experience taught us to believe that the case is different as relates to Self-esteem. We have neither felt it in ourselves, nor found it always in others, actually and of necessity equal in degree to the love of power. No doubt Self-esteem, when possessed in a high degree, modifies very materially the style and manner in which the love of power is exercised and manifested. It renders them more haughty, stern, and repulsive. It also gives to the entire character of the individual the same caste and aspect. If we mistake not greatly, however, we have seen individuals distinguished for the love of power and influence, who were far from being remarkable for their manifestation of Self-esteem. In truth, we think that some of the most mild and modest men in their general deportment we have ever known, were, when any exigency demanded it, the most resolute and determined in exercising their power and authority, and in enforcing obedience to them. If appearances have not misled us in our judgment, such; in part, was the character of Washington—as a *man*, proverbially *unassuming*—as an *officer*, one of the most firmly and confidently *imperative*.

That the love of freedom of both body and mind is a primitive and independent feeling in man, as well as in many of the inferior animals, is a position in which we positively believe, for reasons which we cannot at present detail, but which to ourselves are satisfactory.

We know that a resort to self-consciousness is not the *only* step to be taken in an inquiry into the existence or non-existence of a mental

faculty. But we also know that is *one* step, of such importance that it ought not to be neglected. If we are conscious that we possess a certain sentiment or propensity, no argument from without can convince us to the contrary. Nor can we be convinced, by such argument, that we do possess a sentiment of which we have no evidence within ourselves.

Thus we know that we possess, as elements of our nature, the sentiments of Hope, Benevolence, Veneration, Conscientiousness, and Wonder; because we feel their existence and action, and recognise them as primitive feelings, apart from each other. And if our testimony within does not deceive us, we are equally conscious of the existence in us of a love of power, in the capacity of a distinct and primitive feeling. But we must have done with this discussion, which is perhaps too metaphysical for a popular work, and has already, we fear, been unallowably protracted. We must also bring to a close our article of review, but not without referring our readers to lecture sixteenth of our author's work, which we are now considering, for some most important matter on the subject of government—especially of the fitness of any given form of government to the character and condition of the people whose movements it is to regulate, and by whom it is to be administered.

The absolute necessity of a sound and well digested system of education, especially of moral education, to the successful administration of a deliberative form of government, is fully demonstrated in the following instance:—

“It is well known,” says Mr. George Lyon, “that during the late war, the island of Sicily was taken possession of by Great Britain; and, with a magnanimity peculiarly her own, she resolved to bestow on her new ally that form of government, and those laws, under which she herself had attained to such a pitch of prosperity and glory. Whether the zeal thus manifested to the Sicilians was a zeal according to knowledge, will immediately appear; but there can be no doubt that the gift was generously, freely, and honestly bestowed. The Sicilian government was, therefore, formed exactly after the model of the British. The legislative, executive, and judicial powers were separated; vesting the first in a parliament composed of lords and commons, the second in the king and his ministers, the last in independent judges. Due limits were set to the prerogative, by not permitting the sovereign to take cognisance of bills in progress, or to interfere in any way with the freedom of debate, or the purity of election.” * * * *

“Such is the outline of the Constitution, given to Sicily by the British, and the result of this experiment is contained in the follow-

ing quotation from travels in Sicily, Greece, and Albania, by the Rev. Mr. Hughes :—

“ ‘No words,’ says he, ‘can describe the scenes which daily occurred upon the introduction of the representative system in Sicily. The House of Parliament, neither moderated by discretion, nor conducted with dignity, bore the resemblance of a receptacle for lunatics, instead of a council-room for legislators; and the disgraceful scenes so often enacted at the hustings in England, were here transferred to the *very floor of the senate*. As soon as the president had proposed the subject for debate, and restored some degree of order from the confusion of tongues which followed, a system of crimination and recrimination invariably commenced by several speakers, accompanied with such furious gesticulations and hideous distortion of countenance, such bitter taunts and personal invectives, that blows generally ensued. This was the signal for universal uproar. The president’s voice was unheeded and unheard; the whole house arose, partisans of different antagonists mingled in the affray, when the ground was literally covered with combatants, kicking, biting, scratching, and exhibiting all the evolutions of the old pancratic contests. Such a state of things could not be expected to last a long time; indeed, this constitutional synod was dissolved in the very first year of its creation, and martial law established.’ Mr. Hughes thus concludes: ‘That constitution, so beautiful in theory, which rose at once like a fairy palace, vanished also like that baseless fabric, without having left a trace of its existence.’ ”

Of these scenes of turbulence and outrage, the cause is obvious. Those persons engaged in them had not been so mentally trained and instructed, as to confer on their moral and intellectual, the requisite control of their animal faculties. Hence their unfitness for the privileges bestowed on them. Though generally regarded as a civilised people, they had still in them such an amount of the relics of barbarism, as to call for the restraints of a despotic government.

Of the inhabitants of Spanish America, the same is true. The lower faculties of their minds have such an ascendancy over the higher, as to unfit them to be citizens of a free government. They are still ruled by the crosier and the sword, as they were when subject to the sceptre of Spain. Nor can they ever be otherwise ruled, or be made to taste of prosperity, under the enjoyment of peace, until, by means of a well-directed education, they shall have been fitted for rational freedom, calm deliberation, and self-government.

From facts like these, (for they are calculated to alarm,) let the people of the United States take warning. True, we do not apprehend that a people so enlightened, by multiplied and fruitful sources

of instruction, as we already are, will be likely to bring down on themselves the curse of despotism. But the evil may approach in ambush and concealment, and do immeasurable mischief. We are still, *as a nation*, most deeply and dismally wanting in moral education. And it is as a nation, not as individuals, or even as small communities, that we administer the government. And, in too many of the scenes connected with the government, there is manifested an awful predominance of animality and violence over morality and reflection. Of these scenes, not a few have occurred in the capitol of the nation. And a *lack of moral education* is the cause. And from that cause, unless it be removed, or at least greatly abridged and weakened in its action, more fearful disasters will yet occur, as certainly as day and cheerfulness succeed the rising, and night and gloominess the going down, of the sun.

We regret exceedingly that we must here conclude our remarks on the interesting and invaluable volume before us. For, protracted as our discussion of it has confessedly been, we have been able to set forth in but a very limited degree the length, and breadth, and fullness of its merit.

We have spoken briefly of our author's views of man, and of his duties as an individual and a social being, and also in his capacity as a subject of government; and as possessing, in different conditions, and different states of mental cultivation, a fitness for different forms of government. Of his remarks on him as a religious being, we shall only so far speak as to say, that they are among the most interesting and important in the volume.

Lecture eighteenth, on *Natural Religion*, is a masterly production—the ablest and most judicious and philosophical of the kind we have ever read. The liberal Christian will abundantly praise it; while so replete is it with reason and sound morality, that it will command the highest respect, if not the entire assent and approbation, of the *technically orthodox*, while even the hardest fanatic will scarcely condemn it. His exposition of the Ten Commandments, in particular, showing their entire harmony with the doctrines of phrenology, is peculiarly excellent, and must silence for ever (else their querulous din is destined to be *eternal*) the doubts of the timid, the snarls of the peevish, and the carpings of the bigot, against the doctrines of the science.

In conclusion: The fundamental principles, and many of the most important details, of phrenology being incontestably established, its application to the advance of knowledge, morality, and religion, and to the amelioration of the general condition of man, constitutes at present the chief desideratum that remains to be accomplished.

And toward that consummation, so supremely desirable, Mr. Combe has made, in his "Lectures," a noble and vigorous, and, if we mistake not, an exceedingly successful effort. A work at once so rich in matter, so able in composition, and so judiciously adapted to the end at which it aims, cannot possibly fail to be received with a cheering welcome, by the enlightened and the liberal; and to effectuate not a little for the benefit of our race. Our confidence in its success arises from its being armed in the omnipotency of truth. As soon should we expect the elements of heaven, when dispensing their genial influence on a fertile soil, to fail in calling forth the beauties of spring and the glories of summer. For, under circumstances alike favourable, moral and physical causes are equally certain in their operation, and stable in their effects. And we feel convinced that Mr. Combe, in his most instructive course of lectures, has sown his moral seed in a fortunate season, and on "goodly ground." To us, therefore, its manifold product is not doubtful.

Our most valuable communication to the patrons of this Journal is yet to be made. It is an earnest recommendation to them to procure the volume we have so defectively analysed, and not only read, but attentively *study* it.

C. C.

ARTICLE III.

DR. FOVILLE ON THE STRUCTURE OF THE BRAIN, AND ON ITS RELATIONS TO THE SKULL.*

Dr. Foville, already well known for his valuable researches on cerebral pathology, and also for his inquiries into the normal structure of the brain, has recently presented an important memoir on

* Dr. Foville, as well as MM. Bouillaud and Blandin—whose names are mentioned in the above article—are decided advocates of phrenology, and have long held a high rank in the medical profession of Paris. Gall and Spurzheim discovered not only the *fibrous* structure of the brain, but that it is chiefly composed of two distinct sets of fibres, which sustain very intimate and important relations to each other: some of these relations they also discovered, and have clearly described in their works. Dr. Foville has followed in the same train of discovery, and in the above article, copied from the July number of the British Foreign and Medical Review, we have the results of his researches. As it contains the substance of the latest discoveries on the structure of the brain, we deem it worthy of insertion in the Journal.—Ed.

the latter subject to the French Academy, of which we are enabled, by the report upon it drawn up by MM. Bouillaud and Blandin, to furnish the following account. A more detailed analysis we shall hereafter give, when Dr. Foville's work comes before us for review.

The principal part of the memoir appears to be occupied with an inquiry into the respective course of the two layers of fibres which Dr. Foville had demonstrated in 1825, and which have been since generally acknowledged to exist in the *crura cerebri*: the one, *inferior* and *anterior*, continuous with the pyramids; the other, *superior* and *posterior*, and specially connected with the posterior part of the medulla oblongata. These two layers may be traced forwards into the optic thalami and corpora striata, and thence were supposed to radiate to the different parts of the hemispheres. Dr. Foville has since devoted himself to ascertain the course of the fibres proceeding from the several fasciculi contained in the medulla oblongata, with much greater minuteness. According to his present statement, the *pyramidal* fibres, after passing through the optic thalami and corpora striata, radiate in two planes, which are entirely distributed to the convolutions forming the external and convex portion of the hemispheres. The fibres proceeding from the *posterior* part of the medulla oblongata also divide into two planes, which encircle the others in a remarkable manner; of these, the *superior* makes its exit from the exterior of the corpus striatum and thalamus opticus, soon curves upwards and inwards, and constitutes the corpus callosum, the great commissure of the hemispheres. The *inferior* plane passes out, on the contrary, beneath the pyramidal tract, and gives origin to the optic and olfactory nerves, and then constitutes a white space, superior to the corpus striatum, interior to the fissure of Sylvius, posterior to the frontal lobe, and anterior and interior to the temporal lobe, which is perforated by a number of vascular foramina, symmetrically disposed. According to Dr. Foville, this place is a centre from which proceed, and in which terminate, several sets of arciform fibres, which form circles enveloping the pyramidal portion of the crus and terminating severally in the hemisphere. To this group belong the *tænia semicircularis*, and others hitherto undescribed. This part of the description is obscure in the report, from the brevity with which it is rendered; but the following may be regarded as the general results of M. Foville's investigations.

The cerebral convolutions form two distinct classes: one set crowning the summit of the fibres ascending from the anterior periods, and in relation, therefore, with the anterior roots of the spinal nerves; the others upon the course of the posterior fibres of the medulla, and also connected with the three cranial nerves of

special sense. Hence, according to Dr. Foville, it is in the external and convex surfaces of the hemispheres that the motive influence is chiefly originated; whilst their plane surfaces, and the inferior part of the temporal lobe, minister to the sensory actions. It would also seem that the commissural fibres are entirely derived from the posterior fasciculi, and thus that the sensory nerves may maintain their connection with both hemispheres, when the motor being connected only with one, are paralysed by an injury to it; and thus loss of motion in hemiplegia is much more common than loss of sensation. He is fully convinced that the fibrous portion of the brain, like the tissue of the nervous trunks, is to be regarded only as a *conductor*; and that the cortical substance is the *material substratum*, by the intervention of which the will directs the movements.

The reporters advert to the researches of M. Gerdy on the same subject, published some time ago, as corresponding in many particulars with those of Dr. Foville. Both seem to have arrived at the same general conclusions; and they differ only in particulars. The former has investigated most carefully the annular disposition of the fibres already adverted to; the latter has devoted his chief attention to the substantiation of the fact, most curious, if true, that these fibrous circles proceed from, and terminate in, the posterior part of the medulla, and are thus a portion of the sensory tract; and that to this system of fibres the commissures belong.

We are disposed to feel much confidence in these statements, because we know Dr. Foville to be a most patient observer and excellent anatomist, as well as a philosopher in the most enlarged sense of the term. Moreover, they fall in rather curiously with some views we formerly propounded, as to the parallelism between the cortical structure of the brain and the granular matter surrounding the termination of the sensory nerves. (Vol. ix. p. 99.) We there contrasted motor nerves, originating in the vascular plexus of the cortical substance, and having no free terminations in the muscles, but returning by a series of loops, with the sensory nerves, which originate in the peripheral vascular plexus, and run towards the brain, where they were supposed to terminate. But the researches of Foville seem to show that they *do not* terminate there, but return by a series of loops in the cerebral substance, coming into relation with the cortical structure, on which they may be supposed to act, as the sensory fibres do with the muscular tissue.

The second part of Dr. Foville's memoir is occupied with some curious observations upon the relation between the osseous protuberances on the cranium and the *retreating* points of the brain beneath. Thus, he remarks, if we were to make an incision through the

frontal eminence, perpendicular to its surface, and pursue this to some depth, we should arrive at the anterior cornua of the ventricle. In the same manner, we should be conducted from the occipital protuberances to the posterior cornua; and from the parietal eminences to the large central cavity of the ventricles, in which the cornua meet; and that thus the form of the osseous covering is influenced by the condition of the ventricles to a great extent. He carries out this position in a very interesting manner; showing that where the convolutions are large, and the brain solid, the bony casing takes their form and impression; but that where the ventricles have been distended with fluid, as in chronic hydrocephalus, they exercise an influence on the bony casing far greater than the convolutions, and the frontal, parietal, and occipital eminences are very large, whilst the impressions of the convolutions are faint. This fact, which many of our readers have doubtless remarked, has an important bearing on the general question as to the influence of the condition and development of the brain upon the size, form, &c. of the cranium. We shall look forward with much interest to the appearance of Dr. Foville's memoir.

ARTICLE IV.

THE SUPERIORITY OF THE CAUCASIAN RACE.

[Extracted from a review of Morton's *Crania Americana* in the *Western Journal of Medicine and Surgery*, published at Louisville, Ky.]

Our author offers on the comparative size of the brains of the five races, the following interesting and important observations. The facts they embrace are the result of admeasurements; and, as far as they extend, they put at rest the question of the relative magnitude of the Caucasian brain. We feel persuaded that, as soon as they shall be made known to him, even Tiedemann himself, and his stubborn adherents, hostile as they are to the doctrines of phrenology, will cease to contend that the brain of the African is equal in size to that of the Caucasian. With equal truth may they contend for identity in the colour of the skin, the figure of the nose, and the entire character of the lips and hair of the two races. Never were the blindness and deceptiveness of professional prejudice more doggedly manifested. The following are the observations to which we allude:—

"On the Internal Capacity of the Cranium in the different Races of Men.—Having subjected the skulls in my possession, and such, also, as I could obtain from my friends, to the internal capacity measurement already described, I have obtained the following results. The mean of the American race (omitting a fraction) is repeated here merely to complete the table. The skulls of idiots, and of persons under age, were of course rejected.

Races.	No. of Skulls.	Mean internal capacity in cubic inches.	Largest in the series.	Smallest in the series.
1. Caucasian,	52	87	109	75
2. Mongolian,	10	83	93	69
3. Malay,	18	81	89	64
4. American,	147	80	100	60
5. Ethiopian,	29	78	94	65

"1. The Caucasians were, with a single exception, derived from the lowest and least educated class of society. It is proper, however, to mention that but three Hindoos are admitted in the whole number, because the skulls of these people are probably smaller than those of any other existing nation. For example, seventeen Hindoo heads give a mean of but *seventy-five* cubic inches."

The Caucasians are in all respects the masters of the world, though they do not, we believe, constitute a fifth part of its inhabitants, nor cover, perhaps, more than one-eighth or tenth part of its surface. It is curious, as well as instructive, in a special manner, to compare the diminutive size of Great Britain with the measureless dimensions of the nations and territories she has conquered and sways. She occupies on the map we have referred to, but little more than a mere *speck* of space, which those who know not its position have difficulty in finding; while her fleets cover every sea and ocean, her arms are almost uniformly and every where triumphant, and her power is felt in every corner of the peopled globe. Nor can even the inferior animals in the north, the tropics, or the south, and whether they wing the air, cleave the waters, or move on solid ground, escape either by flight, concealment, or resistance, the devices of her artfulness, the snares of her hand, or the unlimited sweep and mightiness of her arm. And what is the source of this power and influence? We reply unhesitatingly the functions of the brain—of the largest, best developed, and best conditioned brain belonging to man. And if this brain be accompanied by bodies of the best size and shape, and the most adroit and vigorous in action, let it not be forgotten that brain and nerves, being the master tissue of the system, have no little concern as well in the production of

those excellencies of quality and endowment, in other portions of the body, as in their superintendence, maintenance, and regulation when produced. For that the brain, when of the highest order and in the best condition, imparts to the other tissues and organs of the body somewhat of the tone and character of its own distinguished qualities, is as certain as that moisture and sunlight, warmth and atmospheric air, co-operating with each other in a well-adjusted union, contribute to the growth and excellence of vegetables.

In a word, Great Britain is peopled chiefly by Anglo-Saxons, the most highly endowed variety of the Caucasian race. Their brains are superior in size, and more perfect in figure, than the brains of any other variety; and, from temperament and exercise, they are in the best condition. In function, therefore, they are the *most powerful* at least, if not the *most active*. And hence the surpassing strength and grandeur at home, and the influence and sway over the others nations of the earth, of those who possess them. The vast and astonishing productions of art in Great Britain, her boundless resources of comfort and enjoyment in peace, and her unequalled means of defence and annoyance in war, are as literally the growth of the brains of her inhabitants, as her oaks, and elms, and ash trees are of her soil. We shall only add, that the inhabitants of the United States, being also of the best Caucasian stock, and youthful, elastic, and vigorous, as a nation, and enjoying the influence of other circumstances as favourable to the production and perfection of mental and corporeal excellencies as nature can frame, or imagination conceive—in the midst and under the immediate agency of such advantages, the people of the United States promise to be even more than the Britons of future ages.

ARTICLE V.

CHARACTER OF OLIVER CROMWELL.

The life of Oliver Cromwell has yet to be written, and a faithful and comprehensive view of the stirring scenes in which he moved, yet to be drawn. Historians of kings and courts have burlesqued his character, blackened his memory, assailed and impugned his motives. Religious and political prejudices have conspired to make him odious to posterity. Novelists, borrowing their facts from those questionable sources, have supported falsehood and calumny by all

the charms of high wrought and ingenious fiction, and gratified the lovers of legitimacy by disparaging a republican, and depicting in the darkest colours the evils of a republic.

We shall not adopt, therefore, without considerable qualification, the statements generally met with in popular works, in regard to the commonwealth and its leader. We have always found it best, when wishing to form a correct estimate of an individual, to seek among his cotemporaries for some one who, possessing in himself a measure of the man, was capable of doing him justice; and we believe John Milton to have been precisely such a person. He was himself a republican, and could appreciate a republican's motives. He was the friend and companion of Cromwell, and enjoyed the best opportunity for studying his character. We altogether prefer, therefore, Milton's notions of the Protector to those of David Hume, or any of his followers. We look upon Oliver Cromwell neither as a fanatic, a heartless soldier, nor as an unprincipled usurper. But as a great and wise man, a brave and successful general in a noble cause, and as the lawful ruler over England. As a general who will not suffer in comparison with any of the worthies of antiquity—as a statesman of enlarged views and wonderful resources, directing an empire in one of the most trying periods of its history—and as a man justly elevated to great station, and clothed with the power of the Stuarts, by a people of whose right to make or expatriate kings, but more especially the latter—we have never entertained a doubt. But let us look at him phrenologically.

In very many points, his organisation is peculiar and interesting, being a rare union of general power, sensitiveness, and strength;—an amply-developed muscular system, broad and expanded chest—a large, dense, and active brain, with a deep and massive forehead. His temperament appears to have been principally crania thoracic, or that in which the head and chest predominate over other parts of the system. This temperament, together with the other conditions which he possessed, has been pronounced by Professor Caldwell, the most profound of American phrenologists, to be the very best combination for the bolder and more vigorous manifestations of mind. Mark how those favourable conditions harmonise with the character of the man. In one of the stormiest periods of history, in a monarchical government, an individual of humble birth, without wealth, without influence, but such as he created for himself, gradually advanced from his low estate, and became the centre and ruling spirit of a great people, contending for their social and political rights. As a soldier, led them on to victory; as their governor, swayed the sceptre with wisdom and energy, extorting by his ability

the admiration of foreign nations; as a statesman, rivalled the hoary diplomasts of foreign courts in the magnitude of his plans, his foresight, his matchless skill, and the boundlessness of his resources. "Success," says no friendly historian, "attended all his measures of foreign policy. He beat the Dutch, and forced their ships to strike their flags to the English. He took Jamaica from the Spaniards. Mazarin acknowledged him. The Venitians and Swiss sought his power. The northern courts respected him."

Let us now glance at his moral character, and at the motives which probably inspired and influenced his actions. Benevolence is large in his head, an organ indispensable to the pure republican. We believe that it was active, and exercised no small control over his life and political conduct. That he was ambitious, is certain; but to represent him as animated by no disinterested purpose, is unjust. Amid all his aims for self-aggrandisement, we see in him an abiding sympathy with that vast class of his fellow-beings, degraded and enslaved by social and political institutions. And we rejoice to think that, through the success of himself and party, a great blow was struck at a false and unnatural state of society. Many of his public acts tended to ameliorate the condition of the people. And Milton has told us, the Protector was at heart a philanthropist. Nor was he alone in this favourable opinion of Cromwell. Many of his intimate companions have recorded their belief in the inherent goodness of his nature. And novelists of our own age, deriving their hints from impartial history, have adopted and made them the ground-work of their descriptions. The following scene, from Woodstock, represents Cromwell on the point of storming a castle, and seizing upon young Charles Stewart. It is beautifully discriminative, and full of characteristic lines and shades. Cromwell wavers and appears unwilling to grasp his prey, and Pearson, one of his officers, upbraids him for his doubt and hesitation. Cromwell sighed deeply as he answered, "Ah, Pearson, in this troubled world, a man who is called like me, to work great things in Israel, had need to be as the poets feign, a thing made of hardened metal, immovable to feelings of human charities, impassable, resistless. Pearson, the world will hereafter, perhaps, think of me as being such a one as I have described—'an iron man, and made of iron mould'—yet they will wrong my memory; my heart is flesh, and my blood is as mild as that of others. When I was a sportsman, I have wept for the gallant heron that was struck down by my hawk, and sorrowed for the hare which lay screaming under the jaws of my greyhound; and canst thou think it a light thing to me, that the blood of this lad's father lying in some measure

upon my head, I should now put in peril that of his son? They are of the kindly race of English sovereigns, and, doubtless, are adored like to demigods by those of their own party. I am called parricide, blood-thirsty usurper, already for shedding the blood of one man, that the plague might be stayed, or as Achan was slain, that Israel might thereafter stand against the face of their enemies. * * *

Truly it is a great thing, Gilbert Pearson, to be lifted above the multitude; but when one feeleth that his exaltation is rather hailed with hate and scorn, than with love and reverence, in sooth it is still a hard matter for a mild and infirm spirit to bear; and God be my witness, that rather than do this new deed, I would shed my own best heart's blood in a pitched field twenty against one." The organ of Cautiousness was large in Cromwell's head, which, together with his Veneration and Marvellousness, may account for the gloomy and religious enthusiasm which, notwithstanding the imputation of hypocrisy, he unquestionably possessed. His intellect, however, was altogether too strong and acute not to perceive the absurdity of his more fanatic followers. To the diseased action of Cautiousness may also be attributed the hyponchondriasis under which he greatly suffered in youth, and with which he was more or less afflicted during his life. His constant dread of plots and cabals—the armour worn beneath his usual garments to protect him from unexpected assaults—his sleeping in different chambers, and changing them every night, that he might repose secure from the assassin's knife—these, and many similar traits, show the strength and activity of his Cautiousness. We are aware his gloom and restlessness have been ascribed by some to remorse. But it was the same state of mind, only increased by the danger of the times, which had long before disturbed the repose of simple Oliver Cromwell, the brewer's son, who, although possessing a robust constitution, and in the enjoyment of great physical health, was accustomed to summon his physician to his side at midnight, to save him from approaching dissolution. Fear is a very uncertain measure of guilt, and the degree of sin is the same, whether conscience sleep or sting, whether the heart of the criminal be harrowed by remorse, or be callous from indifference and insensibility.

His organ of Language was very indifferently developed, and was never much cultivated. Where is a large active brain, possessed of strong intellect, this faculty is small and unimproved by study, there will be under great excitement a rather powerful, yet an embarrassed, confused, and hurried expression—as if the powers of mind laboured for utterance, and which they at length attain without much regard to conventional rules and the ordinary construction of language.

The working features, glowing with thought and feeling, will often indicate the peculiar passion long before the tongue can express it; the brow will show it, the eye flash forth the meaning, and the whole countenance be radiant with struggling, yet intelligible emotion. The Protector was but a poor orator, so far as words are necessary to make one; and the specimens of his speeches which we have seen, are not over creditable to his powers. Yet he is known to have been wonderfully effective in addressing his soldiers, and in winning over men to his purposes, and must, therefore, have had eloquence of some kind. And so, indeed, he had. But it was the eloquence of strong primitive faculties, expressing themselves in the language of nature—the eloquence of a great mind, impressing with its superior weight and dignity all who came within its influence. This was the eloquence of Washington, Franklin, and many other illustrious men, ungifted with the powers of speech. The social organs in Cromwell were amply developed, in harmony with which he was a faithful friend and an affectionate husband and father. In those interesting relations, even his enemies have not assailed him. We have thus attempted to sketch in faint outline a few features of that extraordinary man. A well written essay on the subject should comprise both a phrenological portrait of the Protector, and a political review of the times, with their natural influence upon the primitive faculties. But for this we have neither time nor space. The student of phrenology may gather from the life of Cromwell the true moral of history. He will see that men are as often the victims of false institutions and an imperfect state of society, as of their own inherent vices; and that power and greatness, while they gratify Self-esteem and Approbation, can only minister to the real happiness of their possessor when inspired by the nobler sentiments of Conscientiousness and Benevolence.

W.

ARTICLE VI.

PLEA IN BEHALF OF PHRENOLOGY.

BY B. SILLIMAN, M. D., LL. D.

In our September number, we stated that an able and extended plea in behalf of phrenology had just appeared in the American Journal of Science and Arts, from the pen of its editor, Professor Silliman. This article reflects great credit on the candour, liberality,

and intelligence of its author, and differs very essentially in spirit and character from certain articles on the same subject, which appeared some years since in the *Christian Spectator*, *Christian Examiner*, and *North American Review*. We hope the day is past when this science is to be condemned by persons who are profoundly ignorant of its facts and principles, and who are governed in relation to it more by sheer prejudice and a spirit of dogmatism, than by regard either for truth or the dictates of justice. The remarks on this point in the following article, are worthy of all praise, and bespeak a true philosophical mind.

Most of our readers will recollect that Mr. Combe delivered his last course of lectures in this country at New Haven, Ct. At the close of that course of lectures, Gov. Edwards brought forward a series of resolutions, which were seconded and sustained by some remarks from Professor Silliman; and the article on phrenology referred to in the July number of the *American Journal of Science*, purports to be the substance of his remarks offered on this occasion, though they were undoubtedly considerably extended in preparing them for the press. We regret that circumstances have prevented us from giving this article an earlier notice, and that now our limits compel us to omit several pages. After some general and prefatory remarks, Professor Silliman proceeds as follows:—

It appears to me, sir, that phrenology involves no absurdity, nor any antecedent improbability. The very word means the science or knowledge of the mind, which all admit to be a pursuit of the highest dignity and importance, both for this life and the life to come, and the appropriate inquiry of the phrenologist is, whether the mind, with its peculiar powers, affections, and propensities, is manifested by particular organs corresponding with the conformation of the cranium, that defensive armour by which the brain is protected from external injury.

We have, each for ourselves, no better means of judging, than by the effects which the evidence and the discussions produce on our own minds; nor can we understand why some persons of great intelligence and worth treat phrenology as if it were, on its very front, ridiculous and absurd, and therefore to be dismissed with contempt and ridicule, as the dream of an enthusiast—or to be spurned as the invention of an impostor—while some disciplined minds regard the investigation as unphilosophical, and still greater numbers shrink from it with dread, as tending to impair moral responsibility, or to bind us in the fatal folds of materialism.

In what part of our frames is the mind manifested by any visible appearance?

All will answer, in the features—in the human face divine—through whose beautiful and impressive lineaments the mind shines forth as through windows, placed there on purpose by the Creator. In this all are agreed; we read there, in language which is often quite intelligible, the decisions of the will and the judgment, and the fluctuations of the affections. Even the inferior animals both manifest to us, and understand from us, this visible language, figured and shadowed forth by the form and movements of the muscles of the face, and especially by the effulgence of the eye.

But whence comes the intellectual and moral light that beams forth from the eye and from the features?

Surely, not from the eye itself, although it is the most perfect and beautiful of optical instruments; not from the fibres of the facial muscles; not from the bony skeleton of the face; not from the air-cells and blood-vessels of the lungs; still less, from the viscera and limbs; and with equal certainty, not from the cavities, the valves, and the strong muscular fabric of the heart itself, which is only the grand hydraulic organ for receiving and propelling the blood, in its double circulation both through the entire body to recruit its waste, and through the lungs to receive the beneficent influence of the oxygen of the air, without which, in its next circulation through the body, the altered blood would prove a poison.

Most persons are startled, when told that the physical heart has nothing to do with our mental or moral manifestations. What! does not its quick pulsation, its tumultuous and irregular throb, when fear, or love, or joy, or anger animates our faculties—does not this bounding movement, shooting a thrill through the bosom, nor the attendant blush, or death-like paleness of the features, prove that the heart is a mental or moral organ? Certainly not; these phenomena only evince that by means of our nerves, the divine principle within us electrifies, as it were, our muscles, and thus accelerates or retards the current of the blood through the arteries, as well as the movement of the muscles themselves, and especially of the heart, which, in relation to the circulation of the blood, is the most important of them all. The physical heart is no more to the mind and the affections, than the hose of a fire engine is to the intelligence that works the machine, whose successive strokes impel the hurrying fluid along, in a manner not unlike that which attends the circulation of the blood in the arteries.

Where, then, shall we look for the seat of the mind? We are seriously assured that some persons have believed the stomach to be the favoured region. The stomach, with its various coats, its innumerable nerves and blood-vessels, its muscular tissues, and its gastric

secretions, is a mere cavity for the reception of aliment; it is alternately distended with food and fluids, or partially collapsed by inanition, and although exquisitely sensible, by its nervous apparatus, both to external and internal injury, all that belongs to it is obviously required for the discharge of its appropriate functions in the reception and digestion of aliment; no office by it performed, no sensation there experienced, indicates it to be any thing else than an organ, indispensable, indeed, to the physical support and nourishment of the body, but in no degree the residence of the mind.

On this position we cannot consent to argue further; and if there be any persons who seriously believe that the mind and affections reside in the stomach, we can only say that, in this case, we have no perceptions in common, and that the proof which convinces us would probably be lost upon them.

We are, then, at last compelled to return to the head, from which intellectual citadel we should never, for a moment, have departed, did not some individuals affirm that they are not sure where their minds reside.

Such a doubt fills me with amazement, for I am as distinctly conscious that my mental operations are in my head, as I am of my existence, or that my eyes present to me the images of external things; nay, more, I am equally certain that no merely intellectual or moral operation has its seat below the bottom of the orbital cavities; that all the wonderful and beautiful structure beneath the base of the brain, quite to the soles of the feet, is composed merely of corporeal members, of ministering servants, that obey the will and execute the mandates of the heavenly principle, the representative of the Creator residing within the beautiful dome that crowns our frames, and which, like the lofty rotunda of a holy and magnificent temple, covers the inhabitant beneath, while it looks upward to heaven with aspirations toward its divine author and architect.

Are we, then, expected seriously to assert that which appears self-evident, that the seat of our mental operations, and of our affections and propensities, is in the brain? My consciousness informs me so, and this is the highest possible evidence to me, although my consciousness cannot be evidence to another person. Were it possible for life to exist with the body detached from the head, the latter might, perhaps, be even capable of thinking for a short time without the appendage of trunk and limbs. Indeed, we are sure that dislocation of the neck, while it has paralysed and rendered insensible all the parts below, so that the individual ceases to be conscious that he possesses a body, has often left the mind in full operation. Provided the luxation, or other severe injury, has taken place below the

vertebræ from which proceed the nerves that supply the lungs, the sufferer continues to breathe and to converse, manifesting a rational mind as before the accident. Death must of course soon follow, and as to perception the body is already dead; but the continued activity and soundness of the mind prove that its residence is in the brain. This fact appears to me decisive, as no one would imagine that the lungs, a mere light tissue of air-cells and blood-vessels, separated by thin membranes, and destined only for circulation and respiration, can contain the mind—especially as this noble power is not subverted in chronic diseases of the lungs, not even when their substance is almost removed by a wasting consumption.*

The residence of the mind being in the brain, it is not absurd or irrational to inquire whether it can be read in the form of the cranium as well as in the expression of the features.

It would appear, from the observations of Dr. Barclay, that there is at least a general conformation that indicates intellectual and moral powers, and we are thus led to ask whether the research for more particular manifestations is unphilosophical. On this point, we ought not to depart from the received rules of sound philosophy. We are accustomed, in all other cases of scientific inquiry, to examine and weigh the evidence of phenomena, and to apply to them the severe canons of induction, nor can we discover, in the present case, any reason for a different course.

If, as has been ascertained by physiologists and anatomists, the bony matter of the cranium is deposited upon and around the membranous envelopes of the brain, which is formed before the skull, then the latter, adapting itself in its soft and yielding state, must of necessity take the shape of the former; if the different faculties, affections, and propensities of the mind are distributed in different organs contained in the convolutions of the brain, and if the energy of the faculties is in proportion to the size and developement of the

* Dropsy in the brain does not form an objection, because its appropriate seat is in the ventricles or cavities; and by the very postulates of phrenology, a particular organ, or particular organs, of the brain may be diseased, or even destroyed, without subverting the action of the mind, except in the part affected.

The case of Sir Robert Liston, mentioned by Mr. Combe, is very remarkable on this point, as his intellectual powers remained unimpaired, while the organs of Wonder, Combativeness, and Language, were affected on one side. I had the pleasure of knowing him at his beautiful cottage near Edinburgh, when all his faculties were perfect, and nothing was at that time more removed from his conduct and character than the frantic anger which he afterwards manifested in a state of the brain, ascertained by post mortem examination to be diseased in the three animal organs.

organs, then the external form and size of the cranium will indicate the powers and affections within, due allowance being made for the varying depth of the frontal sinus, and for some other peculiarities of idiosyncrasy or of disease, affecting the thickness and development of the bone in different individuals.

This, then, is the vexed question—is there such a correspondence—are the views of phrenologists sustained by facts, and do the prevailing powers, affections, and propensities of individuals, correspond with the cranial developments, modified by the temperaments, by health, and other circumstances? It is obvious that these questions can be answered only by persons of large observation, of great mental acumen, and extensive and accurate knowledge of the structure, physiology, and history of man. The investigation includes, in the widest sense, all that belongs to him, and therefore few persons are qualified to make such responsible decisions. They have been made, however, in so many instances with success, as to command confidence and to conciliate favour.

Many persons are alarmed lest phrenology should produce an influence hostile to religion, by favouring materialism. It is supposed that our organisation may be pleaded in bar against our moral responsibility, since, if we have strong dispositions to do wrong and no power to do right, we are like machines and are not responsible. When there is no intellectual power, as in the case of an idiot, or a subversion of reason, as in the instance of a maniac, it is agreed by all, that the individual is not amenable to human laws. This opinion has no reference to phrenology, and is embraced by all mankind.

If we have rightly understood Mr. Combe, he holds that the individuals in whose heads the intellectual and moral sentiments predominate, are highly responsible; those in whom the three classes of organs are in equilibrio, are considered as still responsible, but entitled to much mercy, combined with justice, on account of their strong temptations; while those who are sadly deficient in the moral and intellectual organs, are regarded as moral patients.

From the latter class, we slide down insensibly to intellectual idiots, whom all regard as not responsible. Where shall we draw the line? The common sense of mankind is agreed upon the principle, but some difficulty is found in the application to particular cases, on account of the infinitely varying degree of intellectual and moral power.

There are also peculiar cases, as those of monomania, which are treated with indulgence, and exempted, to a certain degree, from responsibility; while there are, also, other cases still, of a doubtful character, which must be judged under their peculiar circumstances,

and cannot easily be brought under any general rules. As regards organisation, it is obvious that our condition in this world is dependent upon it, and that it influences all our actions and arrangements. Organisation is the foundation of human society; upon it depend our dearest relations in life, many of our highest enjoyments, all our intellectual efforts,* and our most exalted virtues; from its abuse, on the contrary, spring some of the most flagitious crimes and most poignant sufferings. Still, no court permits a criminal to plead against his condemnation the strength of his evil propensities which have led him to the commission of crime. The temptations of cupidity will not excuse the felon from transportation; nor the fierceness of anger, or the delusions of inebriety, avert the sentence of death from a murderer. Phrenology does not, in the least, alter the case; for, independently of this science, or of any other relating to our frames—as, for instance, anatomy and physiology—we are quite sure of the existence of our faculties, our affections, and our propensities, and we know that we are responsible for their proper use and for their abuse. Their manifestations through the brain does not affect our moral responsibility, any more than if they were associated with any other parts of our frame, or diffused through the whole of it, without any particular locality.

It is our duty to regulate and control all our powers, affections, and propensities, and nothing but the impotency or subversion of our reason can excuse us from moral responsibility. We will suppose, for instance, that, according to the language of phrenology, a man may have small intellectual powers, little Conscientiousness and Benevolence, and large Acquisitiveness, Destructiveness, and Combativeness. Will he, therefore, stand excused for theft or murder? Certainly not. It was his duty to obey his conscience, and to resist his animal propensities when they would lead him to evil. Feeble faculties and dispositions may become strong by cultivation and encouragement, and strong propensities may be controlled and subjected by vigilant discipline. We see in life many examples of self-government producing, by the force of a voluntary discipline, fine characters, formed, as it may be, out of very imperfect or bad materials, while brilliant intellectual powers and elevated moral feelings are, unhappily, too often subdued by the lower propensities—the animal powers; in these cases, the latter were not governed, and thus the intellect, which should have been the master, became a miserable and ruined slave to the propensities. If the case of the feebler powers and stronger propensities admits of no justification,

* Since we have no knowledge of a human mind unconnected with a brain.

the opposite case presents no palliation; for with a strong intellect, and a conscience quick to distinguish right from wrong, the propensities ought to be subjected to the most perfect control. Phrenology, therefore, stands not in the way of moral and religious influence; but, on the contrary, if the science be true, it indicates, in a manner most important, where and how to exert the discipline of self-control, as well as the right and power of controlling others. This discovery will, indeed, without phrenology, be made in the progress of the experience of the individual, but it may be at too late a day. Health, conscience, fortune, and honour may have been sacrificed, when, had the point of danger been early made known, and the course of safety seasonably indicated, the peril might have been shunned or averted, and peace and security insured.

But, the Christian will anxiously inquire, is our safety, then, to depend on our own imperfect knowledge and resolution in performing our duty? We answer, that however ignorant and weak we may be, there can be no doubt that our Creator has placed us here in a state of discipline, and that we are under bonds to him to perform our duty, despite of evil influences from within, and of temptations from without. If, however, phrenology will enable the anxious parent to understand the powers and capacities, with the prevailing affections and propensities, it cannot but influence the destination and pursuits of the child, while it will also indicate the course of discipline and treatment.

But all this will not avail, without superior influence flowing from the Creator himself, through his divine revelation, which is the charter of our hopes, and our supreme moral guide through life. If there be, in any instance, an unhappy cranial formation, surely it does not diminish, but, on the contrary, it enhances the necessity of a prevailing heavenly influence to illuminate that which is dark, to strengthen the weak faculties, subdue the wild animal propensities, and purify, by a holy efficiency, the moral sentiments and affections.

Religion can therefore do what phrenology cannot alone effect. Phrenology undertakes to accomplish for man, what philosophy performs for the external world; it claims to disclose the real state of things, and to present nature unveiled, and in her true features.

As science and art build upon the laws of nature, and borrowing materials from her, proceed to construct all the machines, and edifices, and various physical furniture of refined civilisation, so phrenology, if successful in developping the real powers, affections, and propensities of man, furnishes to revealed religion, in the best possible state, the subject upon which, through the spirit of God,

the holiest and happiest influences of piety may be exerted and made effectual.

Phrenology, then, is not a substitute for revealed religion—it does not present itself as a rival or an enemy, but as an ally or ministering servant. It is obvious that if all which is claimed for it be true, it is capable of exerting a most important influence on the faculties and moral powers of our race, and with experience for its interpreter, it must form the basis of intellectual philosophy.

The developement which it makes of the faculties, as connected with the organisation of the brain, illustrates the wisdom of the Creator in common with the wonderful structure of the rest of the frame; and, indeed, it has still higher claims to our admiration, in as much as the faculties of the mind are more elevated in dignity than those of the inferior members. If it should be objected, that we ought not to attribute to God a structure in which evil propensities are included, we answer that they cease to be evil if they are controlled by the superior powers; and after all, the introduction of moral and physical evil into this world must be referred to the will of God, nor does it at all change the conditions of the problem, whether our moral errors arise from our organisation or from external influences, or from both. In either case we are responsible, because power, either inherent in our constitution, or imparted through the influence of religion, is given to us, sufficient to resist moral evil and to perform our duty. It appears, then, that phrenology is neither an unreasonable, an unphilosophical, nor an immoral or irreligious pursuit.

The connection which it proves between the brain and the mind, is founded upon our personal experience and daily observation. There is nothing in the nature of the brain which can enable us to understand how it is made the residence or instrument of the mind, nor can we in the least comprehend in what way the mind will subsist after the death of the body, or in what the intellectual essence consists. We are indeed instructed, from the highest authority, (and the thought, with its illustration, is equally beautiful and sublime, in a philosophical as in a moral view,) that “the seed which we sow* is not quickened unless it die; that we do not sow the body that shall be, but that God giveth it a body, as it hath pleased him, and to every seed his own body; so also in the resurrection of the dead; it is sown in corruption, it is raised in incorruption; it is sown in dishonour, it is raised in glory; it is sown in weakness, it is raised

* “Bare grain, it may chance of wheat or of some other grain.”

in power; it is sown a natural body, it is raised a spiritual body; there is a natural body, and there is a spiritual body." (St. Paul.)

Of the future association of our minds with that new and spiritual body, we can no more form a distinct conception, than we now do of the existing connection with our living acting frames. They obey the mandates of God's vicegerent, the immortal mind, which is truly and locally enthroned in the superior region of the head, to rule the inferior body, employing its members as servants to fulfil its commands, and in that manner to accomplish the will of the infinite Creator. Great dignity is thus imparted to our reason and to its temporary residence in the head, its truly regal palace. But the human mind soon finds the limits of its power in every department of nature. It comprehends, indeed, the celestial mechanism, and demonstrates the existence and the ratio of gravitation and projection, but understands not their nature and origin; it penetrates the chemical constitution of bodies, and ascertains the laws by which the heterogeneous atoms rush into union, while it cannot fathom the essence of the particles, nor even prove the reality of matter. The mind commands the hand to move, and it instantly obeys, to perform its behests of anger or of love—while the mind itself perceives not the nature of the influence, nor the manner of its movement; and thus phrenology forms a perfect parallel with all we know of nature and of nature's God. With us, rests the knowledge of the effects; with him, the cause and the manner of the connection. Philosophy, then, equally with religion, bows before the throne of the Supreme; and while it renders grateful homage for the glorious illumination which he has poured into our minds, it acknowledges with profound humility, that our light at last ends in darkness—that none, by searching, can fully find out God, nor comprehend the Almighty unto perfection; for it is higher than heaven, what canst thou do; and deeper than hell, what canst thou know!

Phrenology, then, stands exactly like the other sciences of observation, upon the basis of phenomena, and their observed correspondence with a theory which is deduced from them. The mental energy of Gall, of Spurzheim, of Combe, and of many other philosophers of high intellectual powers and wide observation, has been, through many years, directed to the investigation, and they have declared that they find a prevailing correspondence between the size and conformation of the brain and of the cranium, and the energy of the intellectual faculties, moral sentiments, and animal propensities of man.

As it is a fair pursuit—a legitimate branch of physical, mental, and moral philosophy—let it, then, have free scope, until additional

observations through a wider range of time, and made by many other men, equally, or even better, qualified for the investigation, shall either establish or overthrow its claims.

This apologetic plea for phrenology has been thrown in, not because we have made up our minds *to go for the whole*, but because we would strenuously maintain the liberty of free investigation. Philosophical is as sacred as civil and religious liberty, and all three are indispensable to the perfection of man's faculties, to the improvement of his condition, and to the just comprehension of his duties. In suggesting the considerations that have been presented, we do not assume or deny that the minute divisions of the mental, moral, and animal faculties indicated by phrenology, as the science is now taught, are all fully made out. On this question we would not hazard an opinion, for here phrenology would demand a trial by its peers—by a jury of superior minds, qualified to decide by their acumen, their general knowledge, their large observation on this subject, and their strict logical discipline; but all intelligent and candid persons can judge of the general correspondence of the theory with the phenomena; they can observe that there is an intellectual, a moral, and an animal conformation of the head, which, as the one region or the other prevails, greatly influences the character and conduct.

This general developement, this characteristic conformation, we think, is clearly discernible when we examine many individuals; it is, therefore, this leading revelation of mental power, of moral affections, and of animal propensities, which we believe that Gall, Spurzheim, and Combe, and other able and enlightened phrenologists, have it in their power to indicate, with a prevailing certainty, sufficient to justify particular courses of treatment with the insane, with felons, and (with great care and prudence) even with pupils and children.

If, then, we are right in this conclusion, phrenology does not deserve the sneers, the ridicule and contempt of which it is still made the theme; nothing is easier than to cherish our own self-esteem, by indulging in such cheap effusions of self-complacency; and to guard against any possible verdict of credulity, by an early vindication of our superior sagacity in foreseeing the *reductio ad absurdum*, which those who predict such a result will be very prone not only to expect but to desire. Many excellent people, with the best moral and religious feelings, are often alarmed by the discoveries of science; we do not speak of science, "*falsely so called*," but of real science, which is only another name for truth. Truth is the noblest attribute of the Creator himself; we are too apt to forget

that it is as distinctly recorded in his works as in his word, and if we would know what he has revealed for our instruction, we must faithfully read and understand the volume of creation, as well as that of revelation; both are his work; both are true, and both are worthy of our most assiduous study. We fail, therefore, in moral courage, if we fear to advance in the ways of truth, and to follow where she leads, whether in nature or in revelation.

Every important science has at first been received with scepticism, if not with obloquy, contempt, or hostility. Astronomy, assailed by ignorance and bigotry, long maintained a defensive attitude against the civil and ecclesiastical powers of that age, which boasts a Galileo, a Kepler, and a Newton; but for almost two centuries, this, the noblest of the physical sciences, has been fully victorious. Geology has sustained a warfare of many years, but having vindicated her cause, begins to feel assured of permanent peace. Phrenology is still marching in an enemy's country, and the issue may appear more doubtful; but we are assured by her learned professors, that she is gaining efficient allies, and every year increasing in power.

ARTICLE VII.

PATHOLOGICAL FACT, CONFIRMATORY OF PHRENOLOGY.

[Communicated by Dr. Andrew Combe to the Edinburgh Phrenological Journal.]

A young lady of high musical and intellectual powers, and of a very active mind, and who has for some months past been subject to frequent attacks of hysteria in all its ever-changing forms, and who suffers almost constantly in a greater or less degree from headach, complained on Saturday, 22d April, 1826, of feeling acute pain at the external angle of the forehead, precisely in the situation of the organs of Tune, which are largely developed, and upon which, in describing the seat of the pain, she placed most accurately the points of the fingers. Next day, the same complaint of pain in that region was made; and about two hours after I saw her, she was suddenly seized with a spasmodic or rather convulsive affection of the larynx, glottis, and adjoining parts, in consequence of which a quick, short, and somewhat musical sound was regularly emitted, and continued with great rapidity, as if the breathing had been very hurried. On examination externally, the os hyoides at the root of the tongue and

the thyroid cartilages were seen in constant motion, and in the act of alternately approximating and receding from each other. The will was so far powerful in controlling this motion, that the young lady was able to utter a few short sentences at a time without much difficulty, interrupted, however, by two or three movements. After this singular state had continued for about two hours, she herself remarked, that it was becoming rather too musical, and wished that it would cease, which it did at the end of another half hour, from accidental pressure of the finger in pointing out the motion to another person; she was then as well as usual, only somewhat fatigued.

On Monday, 24th of April, she still complained of pain in the situation of the organ of Tune; and stated that she had been dreaming a great deal of *hearing the finest music*; that she felt quite excited by it, and could not even now get the impression out of her head. The day passed on, however, and nothing remarkable occurred.

On Tuesday, I found that I had been rather anxiously expected. During the night, the young lady had been tormented with the recurrence of the musical dreams, during which she heard and performed the most beautiful airs, with a distinctness which surpassed those of the preceding night. These dreams continued for some hours, and left such an impression that, on awaking, she thought she could almost note down one piece of composition which had particularly pleased her. But what is very remarkable, the excessive excitement of the faculty of Tune had now reached a height that could not be controlled; the patient felt, not to say a desire only, but a *strong and irresistible passion or craving* for music, which it was painful beyond endurance to repress. She insisted on getting up and being allowed to play and sing; but that being for many reasons inadvisable, she then begged to have a friend sent for to play to her, as the only means of relief from a very painful state; but shortly after, the craving of the faculty became so intolerable that she got hold of a guitar, lay down upon a sofa, and fairly gave way to the torrent, and with a volume, clearness, and strength of voice, and a facility of execution, which would have astonished any one who had seen her two days before, she sung in accompaniment till her musical faculty became spent and exhausted. During this time, the pain at the angles of the forehead was still felt, and was attended with a sense of fulness and uneasiness all over the coronal and anterior parts of the forehead. Regarding all these phenomena as arising from over-excitement chiefly of the organs of Tune, I directed the continued local application of cold, and such other

measures as attended to allay the increased action, and soon after the young lady regained her ordinary state, and has not since had any return of these extraordinary symptoms.

In this case, the order in which the phenomena occurred, putting leading queries on my part, or exaggeration or deception on the part of the patient, alike out of the question. The pain in the organ was distinctly and repeatedly complained of for many hours (at least thirty-six) BEFORE the first night of dreaming, and for no less than *three days* before the irresistible waking inspiration was felt. When my attention was first drawn to the existence of the pain, I imagined it to arise from an affection of the membranes covering that part of the brain, and had no conception that it was to terminate in any such musical exhibition as afterwards took place; and, in fact, although the young lady had mentioned her previous melodious dreams, my surprise was quite equal to, although, thanks to phrenology, my alarm was not so great as that of her relations, when, on entering the house on the morning of Tuesday, the 25th, I heard the sound of the guitar mingling with the full and harmonious swell of her own voice, such as it might show itself when in the enjoyment of the highest health and vigour.

MISCELLANY.

Education.—The July number of the British and Foreign Medical Review, in noticing a small work on education, based on phrenological principles, remarks as follows:—"For some years, enlightened teachers have considered it necessary to give their pupils due insight into the general laws governing their own organic structure, and the period is not far distant when another advance will be made, and the grand doctrine will be universally taught, that man's moral, intellectual, and animal faculties are solely dependent upon a portion of his organic structure. When the plain and the simple truths of physiology are made to sweep away the present system, the result of metaphysical speculation; when the teacher is enabled to apply certain general and immutable laws in his course of education, instead of depending upon opinions and dogmas resulting from imperfect views of human nature; when, in fact, philosophy is advanced to the post hitherto occupied by empiricism, then, and not till then, will our youth be educated with, and not in opposition to, nature's commands."

In the same number of this review—which may now be considered the first medical periodical in Great Britain—we find a very favourable notice of Dr. Andrew Combe's new work on Infancy. "After a careful perusal," says the reviewer, "of this little volume, from beginning to end, we do not hesitate to pronounce it to be one of the most valuable

and most important works that has issued from the medical press for years. The last chapter, 'On the Moral Management of Infancy,' humble as are its pretensions, we venture to recommend to the notice of the instructors of youth of every degree, to our moral teachers, however elevated, and to our metaphysicians, however learned, as fraught with truths of the most momentous kind, which will probably be new to many of them, and which cannot fail, if candidly considered and honestly acted on, to lead to practical results of the highest import to human happiness. In it the author touches lightly, but with a masterly hand, on that chain, mostly overlooked by our philosophers, which unites so harmoniously the intellectual and moral with the physical nature of man, and the due recognition and just appreciation of which are indispensable to our progress in real metaphysics, and to the establishment of all rational instruction."

Brain of Cuvier.—The fame of Baron Cuvier is immortal. It is probable that the name of no other individual can be found in the annals of history who became more profound in every department of science. It might be expected, according to the principles of phrenology, that the head of such an individual would possess some remarkable features. In the fifth number of the French Phrenological Journal, we find the following notice of Cuvier's brain, a critical examination of which was made after his death.—"The weight of the brain was found to be *four pounds eleven ounces four drams and thirty grains*—exceeding by nearly a third that of ordinary brains. It was ascertained that this enormous superiority applied almost exclusively to the development of the cerebral lobes, particularly their anterior and superior parts. None of the gentlemen present, says M. Bérard, from whom Dr. Foissac obtained his information; remembered to have seen so complicated a brain possessing convolutions so numerous and compact, and with such deep anfractuosités. Every one, says Dr. Foissac, who knew Cuvier when alive, is aware of the enormous development of the frontal region in comparison with the three others. We rarely meet with so great a development of the organs of Language, Individuality, Locality, Form, Order, Colour, and Constructiveness. Hence Cuvier was able to read at an age when other children can hardly speak; drawing was one of his favourite occupations; in every respect his memory was prodigious, and he was deeply versed in literature and foreign languages. These faculties, common, though in an inferior degree, to all naturalists, would have given to the forehead of Cuvier a sloping appearance, had not the prodigious development of the organs of Comparison, Causality, and Ideality elevated and expanded the anterior and superior region of his forehead, in which reflective intellect resides. Hence those profound investigations—those precise and exact descriptions—those skilful classifications—those philosophical, clear, and prolific principles, and the inimitable spirit of generalisation which shine in his works, particularly his Lectures on Comparative Anatomy, and Researches on Fossil Bones."

New York Phrenological Society.—The following gentlemen have been appointed officers of this society for the ensuing year:—Professor B. F. Joslin, A. M., M. D., President; Rev. T. J. Sawyer, Vice-President; G. C. Shaeffer, Esq., Corresponding Secretary; A. Boardman, M. D., Recording Secretary; F. Fawcett, Esq., Treasurer; E. Newberry, Esq., Warden.

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ARTICLE I.

ANATOMICAL AND PHYSIOLOGICAL OBJECTIONS TO PHRENOLOGY
EXAMINED.

Among all the cavils and objections that have been brought against phrenology, few have ever ventured to call in question its fundamental principles. These have their foundation too deeply laid in anatomy and physiology, and are too well fortified by facts and arguments, deduced from the great laws of physical organisation, to be easily refuted or overthrown. As but little was known respecting the true structure and functions of the brain previous to the discovery of phrenology, the great majority of the medical profession (who might naturally be supposed to understand the subject) were unprepared to decide on its claims to credence and support. Some members of this profession, however, before condemning or rejecting phrenology, wisely set themselves to work in examining into its merits, as well as the nature and amount of evidence upon which its principles professed to be based; *such* have invariably become believers in the science. At the same time, there have been others, (but, be it said in honour of the profession, the number has been very small,) who have, either through ignorance, prejudice, or preconceived opinions, most violently opposed phrenology, and have brought to bear against it all the weapons that could possibly be manufactured by means of ridicule, misrepresentation, and sophistry. With what success this opposition has now been carried on for more than forty years, may be learned from the constantly increasing advancement and general popularity of the science, in the most intellectual and enlightened portions of Europe and America.

Some have pretended to base their objections to phrenology on anatomy and physiology. Arguments and statements drawn from this source have the appearance of much plausibility, and are very

effective in operating upon, and forming the opinions of, the great mass of the public. That our readers may know the precise nature of such objections, and have in their possession the means of fully answering them, we are induced to present the following article—an article which has never been copied into, or noticed in, any phrenological work, though it contains, perhaps, a clearer and more satisfactory answer to the leading anatomical and physiological objections to the science, than can any where else be found within the same compass. This article is a review of Dr. Sewall's lectures against phrenology, and appeared in the *Eclectic Journal of Medicine*, for August, 1837, edited by Dr. John Bell, of this city. The manner in which these objections are here critically examined, and ably answered, needs no comments. The reader, after perusing the article, we are sure, will not hesitate to decide that the work of the reviewer was *well done*. After a few introductory remarks, Dr. Bell proceeds as follows:—

His first count, in the impeachment of phrenology, is, that it is not sustained by the structure and organisation of the brain. This allegation must be advanced merely *ad captandum*, and to influence the general reader and the tyro in physiology. Where, we would ask the lecturer, is our belief of the function of any part of the nervous system, or of any of the external senses, sustained or confirmed by structure and organisation? There is, indeed, an obvious mechanism in the eye and ear for the transmission of light, and of the vibrations of the air; but who, after the most careful inspection and longest study of the retina, could have declared, *a priori*, that it was excitable by the stimulus of light, and of light alone, as far as regards impression on it, being followed by the sensation of colours, form, &c.? Who could have declared, from the most minute examination of the *portio mollis*, and its branches separated from the labyrinth, that it, and it alone, conveyed the impressions which give rise, on reaching the brain, to the sensation of sounds? Even now that we are assured of this correspondence between these nervous expansions and their specific exciters, can we yet detect or explain the fact, by any peculiarity of structure or organisation, indicative of primary intention on the part of the great Architect.

If our knowledge of function depended on an evident relation between it and organisation, why was physiology not enriched, long before the present age, by a knowledge of the fact of the double property of the spinal nerves? That each one of those has a double root, and that the posterior is longer, and marked by an enlargement or ganglion, has long been known. *Monro* described this arrangement, and depicted it in his plates of the nervous system now before

us. But neither he, nor any other anatomist conversant with the fact, was led to infer, from structure and organisation, a twofold property in the double root, nor the possession of sensibility by the posterior or ganglionic, and of motility by the anterior. Do we derive any support from the structure and organisation of the portio dura and of the fifth nerve, in elucidation of the different functions performed by them? Or could all the aids in the use of the scalpel, the microscope, and chemical reagents, teach us, *à priori*, the difference in function between the larger and chief, or ganglionic portion of the fifth, or that for common sensation to all parts of the face, and the smaller muscular branch which goes to the lower jaw. Yet more: Wherein were we guided to the discovery, and now that the discovery is made, wherein are our convictions a whit strengthened, by any peculiarity of structure and organisation in the gustatory branch of the fifth nerve, or that of special sensation, different from the other branches, or those of general sensation?

Dr. Sewall, in continuation of this part of his argument, repeats the often alleged objection to the existence of the phrenological organs, in their not being distinctly marked, nor indeed separated by any visible boundary. On the same ground, he ought to deny the existence of the two tracts on each side of the spinal marrow, which possess each a different property, because it is impossible to see or to draw any evident line of demarcation between the anterior or motor and the posterior or sensitive tract. These two portions of spinal marrow are as continuous, and blended with each other, as are the phrenological organs in the cerebrum; and yet the properties or functions of the former are not more diverse than those of any two contiguous ones of the latter. And again: there is uninterrupted continuity of white nervous fibres from the medulla spinalis, through the medulla oblongata, on to the cerebellum and cerebrum. But no anatomist or physiologist will be found to contend for similarity of function in all these divisions of the cerebro-spinal axis, or to deny a marked difference of function, because there is not corresponding difference of structure.

It would puzzle, we believe, the most skilful anatomist and accurate microscopical observer to point out any line or boundary between that portion of the Schneiderian membrane, which is supplied by a branch of the fifth nerve, and is the recipient of stimulants provoking common sensation, and that other and upper portion, which derives its sensibility from the olfactory nerves, and is in consequence the seat of special sensation. Neither the eye alone, nor the eye aided by the microscope, can enable us to indicate where the surface of the mucous membrane, lining the mouth and digestive

canal, ceases to impart the sensations of touch, and of heat and cold. Still more wonderful, and if we were to adopt Dr. Sewall's mode of reasoning, incredible, are the differences in function of the several divisions of the gastro-intestinal cavity, especially of the stomach, the duodenum and other small intestines, and the colon—continuous as are these one with another, and performing their respective offices through the medium of a membrane (the mucous) which exhibits, throughout, no differences adequate to enable us to tell, *à priori*, the changes of the alimentary matter in its passage over it. Surely, the most enthusiastic anatomist will not pretend to say that the stomach gives evidence in its "structure and organisation" of the part which it performs in digestion? Neither this nor any other function has been discovered by the peculiar structure of the organ on which it depends. All have been ascertained by observation; by noting the relation between the stimulants and excitors of the organ itself, and not by any evident relation between the structure or mechanism of the organ and its function. It is true that, the function once ascertained, we can then see, in some instances, as in the mechanism of the heart, the direction of its valves, and of the valves of the veins, the adaptation of organisation to function. But even in this case, clear and evident as are the organic arrangements, they did not of themselves, if at all, prompt or guide to a discovery of the office for which they were intended.

The first inquiry, therefore, of Dr. Sewall—"How far phrenology is sustained by the structure and organisation of the brain?"—may be answered by saying; just as far as any part of physiology is similarly sustained. If we are content to believe in the functions of the other organs, without this kind of evidence, we need not be sceptical in regard to those of the brain.

But the function of an organ once known, we can predicate, in general, from the quantity of specific tissue or structure of the latter, the power of the former. And this axiom, overlooked by Dr. Sewall, is the best answer to his denial of the fact, that there is any established relation between the volume of the brain and the powers of the mind. The contractility of a muscle is in proportion to the quantity of fibrinous matter of which it consists, and its motive power is in proportion to its size—not adventitious size, by intervening adipose and cellular tissue, or by infiltrations in them, but true bulk, made up of a deposit of fibrin. The larger a healthy heart, that is to say, the more it abounds in muscular fibres, themselves made up mainly of fibrin, the more powerful is its expulsive and propelling action, and the greater its energy as the central and chief organ of the circulation. So, also, of the function of the liver,

as measured by the amount of its secreted-fluid : it will be greater the larger is the organ, and the more bulky its peculiar parenchyma, and the more numerous its acini. Size, when caused by disease, ceases to be a measure, as where there is a fatty degeneration of the liver, or where the growth is of the cellular tissue intervening between the vessels and the acini and excretory ducts, or where this tissue is partially infiltrated with serous fluids.

The brain is no exception to this physiological axiom. This organ consists of a deposition of neurine, enveloped by membrane, and copiously supplied with blood. Its laws of nutrition are the same as those of other organs ; its activity and stages of function will be found to correspond with its periods of development and its size. We suppose now that we are addressing those who believe that the brain is the material instrument of the mind, without reference to specification of organs, whose functions consist in the performance of special faculties. If the brain be this grand instrument, we would ask, wherein consists its peculiarity of structure and organisation for this purpose, if not in the deposition of neurine, and the fibrous arrangement of the latter ? The convolutions and ventricles are secondary modifications of structure, by which greater volume and expansion of surface are secured in the same space.

We only invoke the application of admitted physiological laws, when we affirm that the brain must, like every other organ, in order to discharge its appropriate functions, have acquired a completeness of growth and a development, measured not only by the harmonious relations of its several parts and outlines, but also by the internal or interstitial deposit of its peculiar distinctive element. The greater its size, provided always this depend on the abundance of its peculiar element, the more apt and powerful will be the display of its functions ; just as the larger the muscle and the more abundant its fibrinous part, the greater is its motive power. As we cannot believe otherwise, than that there is a direct and positive relation between function and the matter and organic arrangement of the brain, so neither can we understand why there should be increase of this matter without increase of power of the function ; unless we were to suppose that there is a superfluity of organ, and a waste of skill in the great Architect. Not only would this waste be exemplified in the needless quantity of brain, but in the needless extent of membranes and capacity of bony case for its investment and protection, if a large brain had no more power than a small one. It is not thus that we find his intention expressed, or rather marred, in the laws of structure and function in the organs of the body at large ; and hence we have no right, from any abundant zeal with which we may be

actuated, to impute to him imperfection in the case of the brain, the more especially when we would profess at the same time to glorify him, by denouncing certain doctrines as favouring materialism and fatalism.

When speaking of the size of an organ, it will have been seen that we were careful to specify a size maintained by a healthy growth of its peculiar structure, and deposition of its peculiar element; and not on the enlargement of common tissue, or an adventitious deposit between its fibres. Size in health is indicative of the actual amount of organised matter, and the latter is again of the completeness of functional effects to be obtained from it. In disease, the size of an organ may, and often does, depend on other conditions; some, and the chief of which, have been already mentioned. In this case, as where we see a large and dropsical brain, for instance, size is not an evidence of power and strength of mind; any more than the muscles of the limbs, large by infiltration, would be of strength and activity of locomotive power.

But, it will be asked, are there not different degrees of density and amount of structure in the same bulk, all of them compatible with health? May there not, for example, be two masses of brain, or of muscles of equal size, and yet of different degrees of power? To a certain extent this may be; as where the fibrin of that muscular tissue, or the neurine of the nervous, is more abundantly divided by lax cellular tissue. On these known differences rests the doctrine of the temperaments. The bodies of some persons are distinguished by a predominance of the white fluids and vessels, and of the cellular and adipose tissues; whilst those of others are characterised by a greater proportion of red blood and fibrin, both in this fluid and in the muscles; and some, again, with this activity of the blood-vessel system, will have a large allowance, also, of neurine, with little intervening cellular matter; consequently, an excess of the nervous system. We must be careful, however, on this point, not to confound power with its readiness to be called into action, or its habitual activity. A man of large and massive frame of trunk and limb may be, as he often is, slow and heavy in his movements of locomotion, and averse to undertake any labour or feat requiring a display of strength, which another of less size of muscles even would readily engage in. But if once the former be roused, goaded as it were to action, he will manifest prodigious activity and strength, such as the latter cannot by any means equal. The power was possessed, but not used; and hence its existence was perhaps denied. Size, here, is still a criterion of strength.

In like manner, a person of lymphatic temperament, with little

activity of circulation, but possessing a large brain, may be often heavy, lumbering, as it were, in the process of thought and expression of ideas; but there is still an evident vigour of thought, and rectitude of judgment, which will inspire more confidence in a discerning observer, than the quick resolve, plausible common-places of ideas, and fluency of speech of a more excitable person, who has a smaller cerebral structure. Let the first be roused, as we sometimes see really to occur, by some strong incentive, and the latent powers are rendered evident, and show themselves in great ingenuity, a forcible and convincing logic and outpouring of language, which startle even those who had long known and thought they had formed a due estimate of his mind.

In the above instances, whether it have been of muscular or mental strength, we venture to say, that the power on which the manifestation depended, will be found to be the result or inevitable concomitant of size and quantity of the peculiar and specific matter of the organ, be it either fibrin for the muscle, or neurine for the brain. And all allowances made for temperaments, and the relative activity of function dependent on this cause, size will still be the criterion.

Phrenologists cannot be accused of needless refinement, still less subterfuge, in admitting the modifications of activity caused by temperaments, when Dr. Sewall, for example, points out how much the same individual differs from himself in the two states of repose and excitement. That two men with brains of equal size and identical development, the one of a lymphatic, the other of a sanguine temperament, should differ in the readiness of mental manifestations to the degree that one is slow, halting, and uncertain in the delivery of his opinions, and the other quick, connected, and pointed, is no contradiction to the principles of phrenology, unless it were shown that full time being given to the former to express himself quietly, deliberately, and maturely, he is found to fall short of the other in the force of his reasoning, and the variety and abundance of his proofs and illustrations.

Not more contrasted are these two persons than the two states of brain and mind of the same individual, as thus related by Dr. Sewall in his second lecture:—

“The late William Pinckney, of Maryland, whose extraordinary power in debate is universally known, when unexcited, exhibited nothing in his appearance which manifested great activity and energy of mind; but when roused by debate, his face became suffused with blood, his eye sparkling and animated, his carotids pulsed violently, his jugular veins became swollen, and every thing indicated that the blood was carried to the head with an impetus,

proportioned to the excitement of the occasion, and his intellectual effort; and it was only during this cerebral orgasm, that his thoughts were poured forth with that fluency and power for which he was so remarkably distinguished. The same phenomena occurred, to some extent, in his private studies, whenever he fixed his mind intently on any subject for the purpose of deep investigation."

Changes, similar to the above, are experienced by nearly every man of any vigour of mind, when summoned to unwonted exertion, whether it be in public, or at his own desk. But it will hardly be alleged by Dr. Sewall, that Mr. Pinckney, when excited, acquired mental faculties other than those possessed by Mr. Pinckney when tranquil and passive, any more than that Hercules, engaged in one of his labours, can be supposed to have acquired more muscular power than he possessed when leaning quietly on his club. The faculties in the first case, and the power in the second, were constantly present; they were intimately associated with organisation; but they were only *manifested*, or called into *active display*, under some strong excitement. It cannot be contended that the more active circulation of blood in the brain, and its greater determination to this part, are the cause of new talents or of genius; since no proportion exists between the frequency of the former and a display of the latter. Were it so, every man in a furious passion would forthwith become a powerful reasoner, a fluent speaker, a poet, or a mathematician; and the exploding rhapsodies of poetry in favour of cerebral stimulation by intoxicating liquors, might once more obtain currency and credence. The true cause and support of mental power is the organic structure; the amount of the former corresponding with the mass and density of the latter. But the primary conditions, and occasional means of giving activity to the power, are various. Among the chief conditions, are temperament; among the occasions, the incentives furnished by necessity, imitation, a desire to excel and govern, &c. The brains of some men are habitually in the state of orgasm which Mr. Pinckney's brain is represented by Dr. Sewall to have occasionally exhibited; whilst those of others are habitually and uniformly as quiet and relatively passive as Mr. P.'s was in common. The lecturer, in confounding power with activity and manifestation, is led to assert, that "there is something which gives power to the mind, which has no connection with the volume of the brain;" but if a power can be thus indefinitely augmented, independently of and without increased volume, where was the necessity of any volume at all, or matter on which the volume depends, in order that power should have been originally possessed? That which can be indefinitely extended, without any increase of its

common material adjunct and associate, may, undoubtedly, be maintained at its common and average degree without this latter at all; and if we were to push the inference from Dr. Sewall's assertion, it would be, that a man may have a very respectable mind and be a passable philosopher, although destitute of brain, or with a monkey's allowance, just to save appearances.

In the second lecture, page 43, it is said,—“The doctrine, therefore, that man owes his intellectual superiority to an excess of brain, deserves no support from his comparison with the lower animals.” The “therefore,” in this sentence, is the expression of an inference drawn by Dr. Sewall, after a table furnished by Cuvier, in which it is shown that the proportion of the volume of the brain to that of the body, is not greater in man than in many animals. We were not aware that this kind of comparison was received as a standard, or test, by either phrenologists, or any other class of physiologists. Gall has distinctly stated its inapplicableness. The introduction by the lecturer of the name of Soemmerring, might have suggested another standard adopted by this distinguished writer in his examination of the subject. It is the relative proportion between the nerves connected with the brain and this organ itself. If we divide the brain into two parts, we have, 1, That which is immediately connected with the sensorial extremities of the nerves which receives their impression, and is therefore devoted to those common wants and purposes which we partake with animals. 2, That which includes the rest of the brain, and which may be considered as connecting the functions of the nerves with the faculties of the mind. In the greater proportionate volume of this second part, or of the brain proper, man is decidedly pre-eminent. There is, we believe, in fact, but one opinion among the physiologists who have taken the most pains to investigate the subject in all its bearings. It is, that the cerebral hemispheres are, proportionately to the rest of the encephalic mass, more developed in man than in other animals, and that these are the material instruments, the organs of the mental faculties. By development, is understood not only the mass of the brain, but the number and distinctness, and consequently greater surface of the convolutions. In the constant proportion of the volume of the cerebral lobes to the degree of intelligence of the animals, comparative anatomy, says Cuvier, offers another confirmation.

The distinction to be made between the brain proper and its base, or the field of the nerves, in estimating the truth of the proposition, that man owes his superiority to his greater relative cerebral development, seems to have been overlooked by Dr. Sewall, and, indeed,

by most of the opponents of phrenology. For the correct appreciation of a corollary from this proposition, that one man is superior to another in intellectual capacity, in virtue of his greater volume of brain, it must be remembered that intellect and mind are not synonymous terms, having even analogous meanings. To say, in general, that mind, with all its attributes, including propensities and sentiments, (passions and emotions,) and intellect, is powerful in proportion to the volume of the head, is, we believe, a truth. But it would not be correct to assume this same proposition for a part of the mind, the intellect, which can only apply to the whole.

The length of our remarks on the first two questions put by Dr. Sewall, will require of us to be more brief in our notice of the remaining ones. The third is, "How far is it possible to ascertain the volume of the brain in the living subject by measurement or observation?" The difficulties in the way of our success on this matter, are urged by the lecturer with some force—though with no great novelty. The general proposition, that the skull is formed on, and takes the shape of, the brain, has been so fully enforced and proved by various physiologists, especially by Gall, Spurzheim, Magendie, Vimont, &c. that we need not here enlarge on or enforce it by additional authority or argument. The experimental observations of Vimont were prosecuted for many years in direct reference both to pure phrenology as well as to craniology. He had accumulated a vast collection of skulls and casts of the brain, both of the human subject and of animals, and the result was a conviction on his part of the truth of the doctrines into which he had been inquiring.

Dr. Sewall tells us, that "in childhood the integuments of the head, and the walls of the cranium, are thin and delicate; in the adult, they are thicker; but in old age, they are again diminished in thickness." Less difficulty will, of course, be experienced in ascertaining the size and relative developement of the contained brain in young persons; the very class in whose favour it is most desirable to exercise craniological tact, and to make the application of the doctrines of phrenology.

The lecturer adds, that "there is often a great diversity in the thickness of integuments and the skull in different persons of the same age, sex, and condition, and of which we have no means of judging in the living subject." In the plates which accompany the lectures, we are presented with specimens of these differences, some of which are, indeed, sufficiently striking; but by whom, we would ask, has this fact been more pointedly stated, and examined in all its bearings, than by Dr. Gall himself, in his large work, in which he indicates modifications both of outline, figure, and substance, to which

the skull is subjected by the brain, before birth, from infancy to adult age, in certain diseases, as in hydrocephalus, mental alienation, &c. ? This distinguished physiologist points out, also, the primary differences in the figure of the brain and cranium, and examines the question whether the form of the head can be modified either during the progress of delivery, or subsequently by forced compressions, and into the effects on the figure of the skull by the development of particular portions of the brain. He also fully anticipated, and, indeed, stated with more fulness and distinctness than his contemporaries and successors, the objections depending on the occasional want of parallelism of the two plates of the cranium, especially at the frontal sinuses, and the consequent embarrassment in external or cranioscopic examinations.

Respecting the varying thickness of the skull, Dr. Gall distinctly tells us, that the extent of duration may be from two lines, its customary measure, to one inch. But then he shows, what Dr. Sewall has omitted to do, that the increased thickness was, except in the case of old persons, usually morbid, and more especially evident in those afflicted with insanity and imbecility of some duration. The bones of the cranium acquired at the same time an ivory hardness. This state has been seen to exist on one side alone of the cranium. In hydrocephalus, in which the brain is so much enlarged in volume, though not increased in mass, the cranium becomes of an extreme thinness, sometimes equal to parchment.

From the whole tenor of these observations, we infer the obvious dependence of the skull, in its configuration, on the brain, and that it is moulded on this latter ; becoming, in certain diseases, thickened by the recession of the inner table, so as to be kept in apposition with a diminished, shrunken, or atrophied brain ; and in other cases, extremely thin by the absorption of the bony tissue from the continued pressure of the cerebral mass beneath. The principle, therefore, of the correspondence between the form of the outer surface of the brain, and of that of the outer surface of the cranium, must be considered to be fully established. The causes of embarrassment to the craniological examiner in the few cases of exception above mentioned, are but additional illustrations of the principle itself.

It will hardly be contended by Dr. Sewall, that the instances of very thick crania, such as in the case of the young female whom he mentions, and in the skulls sent by Dr. Smith, of Baltimore, are frequently met with, or that they are not exceptions to the average, which is much thinner. Putting aside, therefore, the exceptions depending upon old age and disease, in which we are either not called upon to make any cranioscopic investigation, or if we should

be, we can appreciate and make allowances for the probably increased thickness of the skull, there remains only the difficulty from want of parallelism in certain parts, as the frontal sinuses and the crucial ridge; and from there being a small space below the median line at the summit of the skull, in which runs the longitudinal sinus, and which is not filled up with brain.

The objections from these causes would be insurmountable, if the phrenologist pretended to ascertain, from the configuration and fulness of the skull, the nicer degrees of development of each convolution of the brain. It is only the more distinct protuberances from which Gall himself drew any inference respecting the cerebral development beneath, and the strength of the faculty depending in this latter. And although the skull in several persons may be of the same thickness, and this much greater than natural, a careful observer cannot fail to perceive marked differences in the relative fulness of certain regions—a fulness resulting from the different degrees of development of the brain beneath. The same remark applies to the alleged concealment of the organs by the extent and thickness of the temporal muscle. Even the eye can hardly be deceived by this interposed muscular investment, so as to fail to see the varied degrees of protuberance of the adjacent skull. Still less is it probable that the sense of touch would be unable to determine what is muscular and what bony development. If there were any uniform proportion between the muscularity of an individual, and especially between the thickness of the temporal muscle and the fulness of the skull at the regions covered by it, then would there be some force in the objections urged on this ground by Dr. Sewall. But he must have seen frequently notable protuberances on each side of the head, corresponding with the location of the different phrenological organs which he enumerates, and at the same time very little muscular development.

Even in the regions in which, from causes already enumerated, as at the summit of the head in the line of the sagittal suture, the brain is not in close apposition with the internal surface of the skull, and at the external angle of the eye, and above the superciliary ridge where there is a want of parallelism, Gall was able to detect, and to show to others, notable protuberances in certain subjects, which could only have resulted from the development of the portions of brain beneath. In such persons, there was found an unequivocal manifestation of the faculty or faculties indicated by these protuberances.

As the author of the lectures seems to assume that anatomical authority is opposed to phrenology, and intimates that an acquaint-

ance with the former will make us sceptical in regard to the latter, we will just quote, while we think of it, the very modest remarks in a late work on the human brain, in which, to a knowledge of what has been said and written on this subject, the author, Mr. Solly, adds his own careful observations and dissections. He describes and gives plates of the nervous system of the inferior animals, and of the brains of the different classes, up to man, and scrutinises with care and caution the accounts of functions attributed to its different parts.

"The whole subject of phrenology appears to me," says Mr. Solly, "of far too much importance to be discussed without the most rigid and impartial examination of the immense body of facts adduced in support of it; and this I have not hitherto had leisure to undertake. I shall therefore only say that, so far as I am acquainted with the subject, I do not see it as otherwise than rational, and perfectly consistent with all that is known of the functions of the nervous system."

We have now to notice a pervading error in all Dr. Sewall's reasonings on the subject of phrenology, as, indeed, in those of most of the opponents of the science. It is, to regard the brain as a unit, the whole of which "is concerned in each and every operation of the mind." This position being assumed, though it is that which phrenologists have more completely subverted than, perhaps, any other of the metaphysical dogmas of the schools, great surprise is naturally expressed, that persons with brains of equal mass and volume should exhibit such marked differences in their mental faculties; and the fact has been adduced in disproof of the doctrines of phrenology. The true state of the case, argued phrenologically, is, 1st, That the brain is a congeries of organs, each of which performs a special function, manifested by the exercise of a particular faculty of the mind. 2d, That the mental faculties are numerous, and of disproportionate power and activity. The larger the mass of which the congeries consists, the more powerful is the mind, made up as this latter is of all the faculties collectively. What holds true of the whole, is applicable to each of its parts; and hence the larger a single organ, the more powerful is its corresponding faculty. It is obvious, however, that without specification of region and organ, or organs, an annunciation of the size of the brain can give us no definite idea of the predisposition to particular modes of action or thought, or of the mental qualities in general. Thus, to tell us that a man has a large brain, simply assures us that he has certain mental faculties powerful; but whether these belong to the propensities, the lower faculties of our nature, or to the sentiments, and thus make the man a creature of strong, often passionate impulses, and of varied emotions, we cannot say. He may, or may not, be

remarkable for either vigour or variety of intellectual faculties. The intellect, although the nobler part of the mind, has a smaller portion of brain for its organic support than the other divisions of the mental faculties; and hence it may be defective, and yet the size of the brain relatively large. On the other hand, when we learn that a person has a small brain, we cannot, simply from this announcement, tell whether he is deficient in, or remarkable for, intelligence. A large head, with fully proportioned developements in all the regions, anterior as well as posterior, leaves us in no doubt of the powers of the mind of its possessor, and of his being endowed with both strong intellect and strong feelings; of his being, in fact, a man of excellent contradictory parts. But a large head, with a deficiency anteriorly, gives no promise of power; on the contrary, to the phrenologist it is evidence of deficiency of intellect. On the other hand, the collection of organs on which the exercise of the intellectual faculties depends may be present, and the organs of other faculties, in small developement; and here will be a man with a small head remarkable, perhaps, for his intellect. It is no argument against the function of the anterior lobes, through the instrumentality of which the intellectual faculties are, according to phrenology, displayed, to allege that an individual, distinguished for the variety and extent of his "native talent," had an uncommonly small brain—unless we had been informed at the same time, that, with the variety and extent of his native talent, he had also been noted for the power and energetic display of all the faculties which are represented by the phrenologists to depend on the middle and posterior lobes of the cerebrum and the cerebellum. Had we been told that the individual cited by Dr. Warren as thus distinguished, had at the same time a notable deficiency in the developement of the anterior part of his cerebrum, we should have had more cause of wonderment, and for agreeing with Dr. W. and Dr. Sewall, that this fact furnishes an objection to phrenology.

The remark of Dr. Sewall, therefore, that "if we look around upon the intellectual world, we shall find as many men distinguished for intellectual power with a head of small or medium size, and as many with a large head possessing a feeble intellect, as the reverse of these," is entirely without point, and inapplicable for his purposes. Its truth is not adverse to phrenology; it is rather a strong confirmation of the doctrines of this science. But to those who believe in the unity of the brain, it must appear to be a manifest absurdity, unless they deny that this part is at all necessary for thought and sentiment. What! that an instrument, whether it be large or small, closely knit together in its several parts, or loosely joined, (a dense

or a lax fibrous structure,) is equally fit for the offices, simple or complex, which it is known to fulfil.

Dr. Sewall, whilst he admits "that there is a difference in the natural capacities of men," is equally clear that this difference is utterly insignificant, compared with what is impressed upon the mind by circumstances.

"The influence of climate, occupation, literature, science, and the arts, commerce, war, civil and religious institutions, the state of society, and the modes of life, all exert a powerful influence upon the human intellect; but, above all, it is the discipline of the mind which gives it power."

No one can deny the power of circumstances; but it is not so great as the lecturer affirms it to be. A seed will not germinate without the "circumstances" of heat and moisture; and a plant will not bring forth leaves, flowers, and fruits, without the added circumstance of light. But we believe it will be difficult, by any possible combination of circumstances, to make a barren seed germinate, or to cause a pumpkin seed to grow into a pomegranate tree, or a cucumber seed shoot up into Indian corn. And yet, to our mind, these events would not be more strange than if, by all the circumstances enumerated, certain brains could be made to perform the higher intellectual functions, and enable their possessors to manifest genius and invention. Did "circumstances" cause the differences between the Egyptians and the Greeks, or between the Ionian Greeks and their Asiatic neighbours? In later times, wherein were the circumstances through which the followers of Mahomet from Arabia, the conquerors of Egypt, Mauritania, and Spain, so soon felt the humanising influence of letters, and extended their cultivation, and that of the arts and sciences, far beyond any other people of their time; whilst the Turks, with the same religion, also conquerors of Asia Minor, Egypt, and the remains of the Greek empire, persisted in barbarism, and up to this day are encamped, as it were, on the fairest portion of Europe, alien to her letters, her arts of usefulness and ornament, and her sciences? Are there not some other than the circumstances, either mentioned or meant by the lecturer, which can explain these differences? Need we go farther, or can we go beyond the innate differences of mental constitution and capacity?

The whole history of genius is a continued refutation of the dogma of circumstances alone, or mainly causing the differences between men in their intellectual manifestations. Where were the fostering influences of climate and situation, or the encouragement of friends and the patronage of the great, under which Linnæus, the Swede,

began and pursued his botanical studies, and acquired an enduring reputation in all the branches of natural history? Was it a favourable combination of circumstances by which Columbus, in opposition to the opinions of the learned, and amidst the coldness and indifference of princes and rulers, discovered this continent? Was Franklin indebted to circumstances for his distinction as a natural philosopher, and the reputation and influence as a politician and political economist, which he acquired in both Europe and America? But why need we multiply examples, which are nearly as numerous as the names of men of genius.

When a youth leaves his paternal farm, perhaps cot, and becomes one of the busy throng of a city in which he is a stranger, unknown, unbefriended, without wealth, or any aid or appliance but the conviction of his own powers, and works his way to honours and fame in a learned profession, or in the legislative hall, can he be said to be the favourite of circumstances?

Dr. Sewall tells us—"The intellectual, like the physical functions, acquire strength by use; and he who would attain to eminence, must subject himself to the habit of long-continued and close application to study, to deep and systematic reflection, severe investigation, and accurate analysis. These give a vigour to the mind that nature never imparts." With much truth there is mixed up no little fallacy in these opinions. The lecturer has forgotten that the greatest geniuses have ever been among the most devoted students. No obstacle has withheld them from their darling study and pursuit. Out of the wildest confusion around them, they have methodised their labours, and, undisturbed even by the din and tumult of war, they have continued their calculations and experiments. They but gratify, in so doing, a craving of their nature, a thirst for knowledge, which, though constantly ministered to, is never satiated. The mere student from imitation or vanity may accumulate a large and not unprofitable store; but unless he be quickened by genius, it will be of comparatively little avail for great and noble ends. Newton has had many to equal him in "the habit of long-continued and close application to study, to deep and systematic reflection, severe investigation, and accurate analysis." His genius impelled him to this course: others, in a spirit of imitation, and from a sense of duty, followed it; but with what result, the annals of science will show. Milton gratified his powerful mind by deep and various study: he was a poet and a student—a student rather because he was a poet, than a poet because he was a student. According to Dr. Sewall's opinion, labour imparts genius, but not genius impels to labour. Two of the most celebrated painters of Italy, Michael Angelo and

Leonardo da Vinci, and men of the greatest genius in their art, were also the most persevering students, and noted for their varied attainments. Study and attainments were here, as in the other instances mentioned, but effects, and not, as Dr. Sewall would imply, causes of their intellectual vigour and inventive faculty. Were it otherwise, every academy of art and school of science should furnish, by its mere discipline and the intentness of some of their students, a Michael Angelo and a Newton.

If men of the greatest genius have ever been among the most indefatigable students, the fact must be received as an acknowledgment of the importance, nay, absolute necessity, of diligence and labour for the accomplishment of great ends. No distinction in literature, science, or the arts, was ever yet attained without the individual submitting to these indispensable conditions. With some more happily gifted, it is a labour of love, with others, of duty; but in all, there must be a continued straining to reach the goal of their hopes and their ambition.

We find, indeed, every now and then, a particular faculty in early and active exercise, with comparatively little labour or education. This fact itself is sufficient proof of the innate power, and separate action and plurality of the faculties of the mind. But their display, isolatedly, will seldom be productive of very varied or beneficial effects, or redound much to the honour of their possessor, without study, meditation, and frequent trials.

Dr. Sewall says: "The individual who exclusively cultivates his memory, acquires a faculty of retaining facts to an extent inconceivable to those who neglect this faculty." Here is another specimen of the vagueness and inaccuracy of thought and expression into which the followers of the old school of philosophy are continually led, in treating of the mind and its attributes. Memory is not a faculty; but a modification, a mode of exercise of a faculty. There are as many kinds or varieties of memory as there are of the intellectual faculties. One person exhibits a great facility in remembering and repeating the words of a speaker or author, no matter on what subject; but often with hardly any understanding of its nature or merits. Another remembers places and objects, or a landscape which he has once seen, but has no memory for mere words. A third, again, remembers all the combinations of figures and calculations of a difficult problem in mathematics, whilst he cannot bear in mind any details of description of men or things, of history or poetry. One man will have a most tenacious memory for every thing connected with painting, whilst another will be equally retentive of musical combinations and details; and neither of the two, by any

effort of intellect, shall be able to acquire the knowledge, or display the kind of memory, of the other.

It may be alleged that, in these cases, the strength of memory is proportionate to the exclusive direction of the mind, and its intentness on one subject or series. But it will be found that the direction and intentness are the effect of the strength of a particular faculty, which naturally seeks for, or impels its possessor to seek for, its gratification, and which enables him to remember best that which gave him most pleasure.

Similar comments might be made on the remarks of the lecturer which follow the above extract, touching the success of a metaphysician who principally exercises his understanding, in arriving at a power of analysis—fancy being checked causes a neglect of judgment, &c.

An argument frequently urged in support of phrenology, is the success with which its principles have been applied to practice, in distinguishing character. To this Dr. Sewall replies, by alleging, that the same manifestations of mind, as in crime, for example, cannot grow out of the same or one unit cerebral developement; "men," says he, "of the same natural propensities perpetrate different crimes when placed under different circumstances." Doubtless they do; and the admission of the fact is the best reply to those who argue against phrenology and craniology, because every murderer has not Destructiveness large, and every thief, Acquisitiveness in excessive developement. It is not the solitary crime that proclaims the character, or even the innate propensity, of the individual, so much as a series of crimes of the like nature, persisted in, often without apparent object or common motive—as where a man repeatedly commits murder in cold blood, or systematically robs without necessity, and without regard to the application which he will make of his booty. In cases like these, we expect to find a correspondence between structure and function—between the cranial configuration and the mental manifestation. Where, also, the cerebral developement and cranial configuration are very marked in a young person, we have reason to believe that he will be prone to acts constituting the range of the function of the organ, and that if he is not restrained by suitable education and the exercise of counteracting faculties, he will habitually indulge the dominant propensity.

We agree with Dr. Sewall in exclaiming, "How preposterous, then, to look to the developments of the head as the measure of a man's virtues and vices, or even to regard his known propensities and dispositions as the true index to the history of his life." We do not, ourselves, know of any class of philosophers, phrenologists or

others, who measure a man's character by such signs, or who pretend to read in them his past history. A tendency to, does not imply actual indulgence in, crime or passion of any kind. A man may, and is often known to be naturally, or constitutionally, as it is sometimes termed, impetuous, impatient, choleric, prone to extreme measures, even of a violent nature, but who, nevertheless, by early and successful appeals made to his sentiments of Benevolence or of Veneration, or both, or of Conscientiousness (sense of justice), by the lessons and examples of pure morality and religion, has succeeded in keeping his erring or evil nature in subjection. But the particular tone, or colouring, as we might term it, of his character and disposition, dependent on the first mentioned causes, still remains, and can never be eradicated. Saul, at first the fierce and vindictive persecutor of the Christians, was subsequently, when enlightened and converted, and preaching and travelling as St. Paul, still warm and impassioned, but in a different guise, and with far different objects. Let elders, presbyters, deacons, and even pastors in the churches, tell of their early lives, and of their early passions, and it will be found that a phrenologist who would say, from their cerebral developements, that they evinced certain tendencies to evil, or had, for example, Combativeness, Destructiveness, or Acquisitiveness full, would not be accused by them of slander. But this person would not pretend to tell all their actual character and present conduct; any attempt to do so has been expressly disclaimed by Spurzheim, Combe, and all, we believe, of their school.

So, also, in regard to the intellectual faculties: it has never been contended that men are born painters, poets, or musicians, mathematicians or metaphysicians; nor that they have the organs of poetry, mathematics, &c. This is one of the exaggerations and fictions of anti-phrenologists. All that has been alleged by the advocates of innate faculties, and corresponding material instruments, is, that there is in some men an original aptitude for seeing and seizing the relations of various objects in nature, and of so combining them as to produce results in science and the arts of a novel and striking character, which, under the same external circumstances, others differently organised could not by any effort or labour, however long and laborious, attain.

We shall conclude with introducing a sentence of Dr. Sewall's, respecting the writers on phrenology. Earnestly do we wish that we could, with sincerity, give a like favourable opinion of the labours and success of the writers on ethics and metaphysics, whose works are the most approved in our schools and colleges. If there is truth

in their philosophy, it is yet entirely hidden from mortal ken; facts with them are not illustrations, nor are their illustrations facts.

"These writers [phrenologists] have intermingled with their doctrines so much of philosophy and truth, have introduced so many novel facts and illustrations, and have exhibited the whole subject in such an aspect, as to render the study exceedingly captivating."

ARTICLE II.

BRITISH PHRENOLOGICAL ASSOCIATION.

An association with the above name has been formed in Great Britain for the cultivation of phrenology as a science. It was first suggested by Sir George Mackenzie in the year 1835, who then drew up a prospectus for such an organisation, and stated, in a general manner, what should be its leading objects. In accordance with this suggestion, a meeting of phrenologists was held at Newcastle, in the year 1838, when a phrenological association was instituted. A committee was then appointed to prepare a code of laws, and make necessary arrangements for the future meetings and government of the association. This body met the ensuing year at Birmingham, and continued its meetings for several days, with very interesting discussions and speeches. At this meeting, officers were appointed, laws adopted, and a more perfect organisation was secured.

This association held its last meeting (September, 1840) at Glasgow, and we have just received, from a London correspondent, a large printed sheet containing a brief report of its proceedings. Mr. George Combe, president of the association, opened the meeting with an appropriate address, describing some of the leading principles and more important applications of phrenology, and detailing, at the same time, many interesting facts in the history and present state of the science. The association was in session one week; and its meetings are represented to have been attended by large and respectable audiences, of both ladies and gentlemen. Many valuable communications were made, and a new impulse given to the study and advancement of mental science. Some of the more interesting facts and items of intelligence, elicited at the several meetings of the association, we shall transfer to the pages of the Journal. As

the prospectus referred to above, drawn up by Sir George Mackenzie,—one of the first phrenologists, and ablest writers in Scotland,—contains some valuable remarks on the importance of phrenology as a science, and a statement illustrating the extensive application of its principles, we are induced to present it here entire, copied from the forty-third number of the Edinburgh Phrenological Journal. It is as follows:—

The establishment of an association for the advancement of physical science, naturally led several persons who have paid attention to the state of mental science to desire the promotion of the latter by a similar association. Whether mental science be regarded as one hardly yet in existence, or as having advanced sufficiently to enable those who have particularly attended to it to perceive that it is minutely interwoven with human conduct and human institutions, it has been too long neglected. While physical science opens up to view many proofs of the immensity of creative power, and administers to the increase of human comfort, it likewise multiplies human wants, and contributes to the useless gratification, even to the extent of abuse, of appetites which were destined not to be the guides of human conduct, but to be subservient to the higher faculties, the exercise of which alone can direct mankind to the rational use of physical discovery. The rational enjoyment to which physical science can administer, can be rendered so only by a knowledge of the real constitution of man; and such happiness as it may be permitted to us to enjoy in this world, can be attained only by searching for the relation in which man stands to his fellow-men and to external nature—in other words, for the laws which it has pleased Almighty Power to establish for that relation, and by obeying those laws as part of the Creator's will. No doubt it has been discovered that the mind is so closely connected with the body as to produce mutual influence; and to investigate this, is a branch of physiology; and thus mental science might appear capable of being connected with physical, in our present association. But, since the mental faculties have not yet been all discovered, nor those known defined with sufficient accuracy, they have to be submitted to farther metaphysical inquiry; and it seems proper, from the wide extent of the subject, that a separate association should be established. While mental science is truly one of observation, inquiry being applied in the first instance to the discovery of faculties, much discussion will be required before the definitions of discovered faculties are settled. Seeing, therefore, that this is what may be called a mixed science, and that its results are applicable to legislation, the administration of justice, political science, education, and the treatment of the insane, and, in short, to

every sublunary concern of human life, it would be improper to attach it to an association for the advancement of purely physical discovery, while its extent is ample for the full employment of a separate one.

The immense importance of mental science to mankind has been overlooked, because for a very long period no discovery of any importance had been made in it. Philosophers had speculated only on their own individual consciousness, and had made themselves standards for the whole human race, neglecting, or setting aside as not worthy of regard, the marked differences of human talent and character. Attention has been attracted to physical science, because discoveries were, to all appearance, more easily made, and every discovery opened the field still wider, so that every one found a range for his prevailing talent. Physiologists, however, have at last withdrawn the veil which had obscured and rendered uninviting the track of those who had embarked on the ocean of metaphysics, without a single fact to serve as a pilot.

Enough has been said to introduce what is proposed to be the manner of proceeding. As soon as a sufficient number of persons shall have announced their desire to be members, a general meeting will be held at such time and place as may appear convenient, at which officers will be selected, and rules for future government enacted. And, if they can be procured, reports will be read on the following subjects:—

1. On the present state of mental science.
2. On the present state of our knowledge of the causes of insanity, idiocy, and other aberrations of the faculties.
3. On the present state of the criminal law, in reference to the mode of trial and punishment, and as applicable to the human faculties.
4. On the present mode of administering justice in civil cases.
5. On the present state of education.
6. On the present state of political science.
7. On the present customs and usages of society, as affecting the faculties.

It is proposed that the inquiries to be instituted shall be remitted to different committees or sections, as follows:—

1. Enumeration and analysis of the human faculties; the physiology of the brain; the causes of difference in human talent and character; hereditary influences.
2. Education, in reference to health, and the discipline of the animal, intellectual, and moral faculties; the customs and usages of society, in reference to their influence on the human constitution.

3. Civil and criminal legislation; the relations of man to external things.

4. Political economy; colonisation; in reference to the moral faculties.

ARTICLE III.

CHARACTER OF COLUMBUS.

The most remarkable event of the fifteenth century was the discovery of the new world. The vast results of that discovery, and its important bearing upon the welfare of our race, have long made it the true epoch of the age. Compared with it, all the regal splendour of Ferdinand and Isabella, all their proud achievements—the expulsion of the Jews and the conquest of Granada—sink into insignificance. By far the most extraordinary man of those times—he whose genius conceived, and whose matchless energy accomplished, the lofty enterprise which shed so much glory around the Spanish throne, and rendered the reign of its monarch far more illustrious than could a thousand victories—was Christopher Columbus.

In the character of such a man, there must needs be much to impress even a casual reader, seeking only amusement to beguile a weary hour. For the more profound student of history, who loves to trace all events to their source, and estimate the wonderful influence of individual genius upon the destiny of nations, it possesses yet greater charms. And for the phrenologist, who delights to observe and reflect upon the operations of mind, in every age and country, and under every possible influence—to mark the fierce struggle between inborn energy of soul and the strong force of factitious circumstances—to see in the victory almost invariably achieved by the former, confirmatory evidence of the truth of his science—it has, indeed, peculiar attractions, and is full of deep and lasting interest. The following notice of his person, is from Irving's admirable biography. "Columbus arrived at Lisbon about the year 1470. He was at that time in the full vigour of manhood, and of an engaging presence. He was tall, well formed, muscular, and of an elevated and dignified demeanour. His visage was long, and neither full nor meagre; his complexion fair and freckled, and inclined to ruddy; his nose aquiline; his cheek bones were rather high; his eyes light gray, and apt to enkindle; his whole countenance had an

air of authority. His hair, in his youthful days, was of a light colour, but care and trouble, according to Las Casas, soon turned it gray; and at thirty years of age it was quite white."

We cannot but regret that the elegant historian has in this description omitted the most important feature of all, and made no mention of the *head* of Columbus, or only noticed it incidentally. We would have been pleased with a finished portrait from his graceful and graphic pen. Many might have sat for the above picture, but few for the *head* of the great navigator. So, at least, we must believe, judging from the character of the man, and from the fine old engraving before us. We are so accustomed to look at all portraits phrenologically, that our eye instinctively rests upon the forehead. This is so striking and every way remarkable, that the most indifferent observer would soon pass over the general features of the face—the well formed nose—the firm and compressed lip, and the air of conscious power cast over all—and dwell exclusively upon the deep, clear, and expanded brow. The thoughtful introspective eyes might for a moment arrest us, but they evidently derive their chief expression from those instruments of thought which swell out between the temples. As a whole, the head is rather long and high, showing large intellectual and moral organs. It has not the breadth of brow, and expansion at the sides, which we see in the likenesses of Milton and Shakspeare. The difference is of course owing to the greater Ideality of the two masters of song.

In its general appearance, his head bears no small resemblance to that of Franklin. Both are distinguished by great size, as well as great Causality. In both, Firmness and Self-esteem are prominently marked; while in neither is Ideality much above the average development. In several other points, the likeness, in their phrenological conditions, is very striking. Nor is the correspondence in the lives and characters of these extraordinary men much less remarkable. Although neither of them could boast of his family, or vaunt the deeds of his ancestors, both lived to render their names illustrious. The youth and early manhood of both were passed amid poverty and privation. But not want, with all its concomitant evils, truly termed the imprisonment of mind, could reconcile either to ignorance. The journeyman printer and the humble map maker were as eager in their pursuit of knowledge as the most aspiring youth, born to lofty hopes, surrounded with flattering incitements, and cheered onward, at every step of his career, by the plaudits of fond and exulting friends.

Columbus was no genius, in the common acceptation of the word. His peculiar excellence lies neither in the variety nor the depth of

his knowledge; not so much in any particular art or science, for even in his favourite pursuits, geometry and cosmography, he was equalled, and perhaps surpassed, by many of his cotemporaries. Yet was he unquestionably a great man, and great because of his capacious intellect. Take away, then, from his brain the phrenological condition of size, by which it was so eminently distinguished, diminish the organs of Causality and Comparison, and the discoverer of the new world dwindles into an ordinary man, and sinks to the level of the herd. As suddenly dwarfed in his huge stature, as were the fallen angels on entering pandemonium.

But the student of nature, confident in her consistency, and in her unvarying laws, is well assured that those important conditions did, in fact, exist in the organisation of the ancient mariner, although he could find no evidence of the truth, either in any portraits of him, or in the descriptions of his historians. He is, indeed, as firmly convinced of it, as was Columbus himself of the existence of the unknown world he once could not descry, but which he at length discovered. And he is convinced by means of the same severe, but yet much more cautious and unerring, *induction*.

The moral organs, as we have intimated, were large—Benevolence, Veneration, and Marvellousness, are greatly developed. These faculties would at first sight appear to have little influence in forming his character and inspiring his actions. But without them, it would be incomplete. It is the peculiar beauty and excellence of the phrenological analysis, that it has omitted in its classification no instinct, no sentiment, no intellectual power that can possibly enter into the nature of man, or naturally affect his conduct. And herein appears its very great superiority over every other system of mental philosophy, showing it is indeed what it professes to be, a true interpreter of nature, and expounder of the mysteries of mind.

"When Columbus," says Irving, "had formed his theory, it is singular the firmness with which it became fixed in his mind, and the effect it produced upon his character and conduct. He never spoke in doubt or hesitation, but with as much certainty as if his eyes had beheld the promised land. A deep religious sentiment mingled with his meditations, and gave them, at times, a tinge of superstition, but it was of a sublime and lofty kind. He looked upon himself as standing in the hand of Heaven, chosen from among men for the accomplishment of its high purpose. He read, as he supposed, his contemplated discovery foretold in Holy Writ, and shadowed forth darkly in the mystic revelations of the prophets. The ends of the earth were to be brought together, and all nations, and tongues, and languages, united under the banners of the

Redeemer." It is not our design to dwell in detail upon the development of each separate organ, but we cannot refrain from selecting the two primitive faculties of Hope and Firmness for a passing remark. They enter into his character as essential ingredients, absolutely necessary to form and complete it, and fit it for the accomplishment of its great destiny. By means of his intellectual faculties, his vast schemes could have been conceived and matured, but without Hope and Firmness in unusual development, those schemes would never have been realised in his own person. They would have been left at last for some more determined spirit to achieve. Disgusted and sickened with hopeless delay and repeated rebuffs, he would have returned with indignation from a world that refused to be benefited by his services, have buried his disappointment in some cloister, and consumed the remainder of his days in bitter and unavailing regrets. "Let those," says his biographer, "who are disposed to faint under difficulties in the prosecution of any great and worthy undertaking, remember that eighteen years elapsed after the time that Columbus conceived his enterprise, before he was enabled to carry it into effect; that most of that time was passed in almost hopeless solicitation—amidst poverty, neglect, and taunting ridicule; that the prime of his life had wasted away in the struggle, and that when his perseverance was finally crowned with success, he was about his fifty-sixth year. His example should encourage the enterprising never to despair."

In reflecting upon the reception which the grand theory of Columbus met with from the learned of his day, the phrenologist may be excused for comparing it with the very similar treatment experienced by Gall, at a much more advanced stage of civilisation, in an age proud of its superiority over all other times, in wisdom, in love of science, in devotion to the cause of truth, constantly proclaiming its great liberality, and especially its singular freedom from all religious bigotry and scholastic prejudice.

W.

ARTICLE IV.

ON THE HARMONY BETWEEN PHRENOLOGY AND CHRISTIANITY.*

The relation between Christianity and phrenology appears to us to be the following. The communications of the Bible may be divided into two great classes: the one relating to matters which the human intellect could never, by its own powers, have discovered; and the other consisting of descriptions of beings which exist in this world, and of rules of duty to be observed by those beings—which rules and beings appear to be subjected to the examination of every ordinary understanding. To the former class belong the character and offices of Jesus Christ, and the state of man after death; and in the latter are comprehended human nature such as it now exists, and all moral and religious duties which bear relation to human happiness in this world.

The Calvinist, Arminian, and Unitarian, entertain views widely different regarding the character and offices of Jesus Christ. On such subjects phrenology can throw no light whatever, and therefore it would be unphilosophical to mix up a discussion of the one with a treatise on the other; and this observation is equally applicable to every announcement contained in the Bible regarding matters which are not permanent portions of ordinary nature.

The Bible, however, contains numerous descriptions of human nature, and numerous rules for the guidance of human conduct; all of which may be compared with the constitution of the mind as it is revealed to us by observation, and with the inferences which may be drawn from that constitution concerning its most becoming and advantageous modes of action. The result of this comparison appears to us to establish the harmony between phrenology and the representations of Scripture on the points alluded to. But let us come to details:

We are informed in Matthew's Gospel (xv. 19), that "out of the heart" (clearly meaning the mind) "proceed evil thoughts, murders, adulteries, fornications, thefts, false witness, blasphemies;" and statements essentially to the same effect are made in the Epistles of St. Paul to the Romans (i. 29-31), and to the Galatians (v. 19-21). Now, according to phrenology, excessive and irregular action of

* The above article is the substance of a review (in the forty-fourth number of the Edinburgh Phrenological Journal) of three lectures, by Rev. Henry Clarke, of Dundee, on the Teachings of the New Testament respecting the Animal, Moral, and Intellectual Nature of Man.—ED.

various faculties produces evil thoughts; an abuse of Destructiveness occasions murder; an abuse of Amativeness gives rise to adulteries and fornications; an abuse of Acquisitiveness produces thefts; an abuse of Secretiveness leads to falsehood; and an abuse of Destructiveness and Self-esteem is the origin of blasphemies.

Here, then, is a striking accordance; and the harmony will be more fully appreciated if we put the faculties enumerated by Mr. Dugald Stewart to the test of a similar contrast. Mr. Stewart's "active and moral powers" are the following:—

I. APPETITES.—Hunger; thirst; appetite of sex.

II. DESIRES.—The desire of knowledge; of society; of esteem; of power; of superiority.

III. AFFECTIONS.—Parental and filial affection; affections of kindred; love; friendship; patriotism; universal benevolence; gratitude; piety.

Malevolent Affections.—"The names which are given to these in common discourse," says Mr. Stewart, "are various:—habit; jealousy; envy; revenge; misanthropy. But," continues he, "it may be doubted if there be *any* principle of this kind implanted by nature in the mind, excepting the principle of resentment; the others being grafted on this stock by our erroneous opinions and criminal habits."

IV. SELF-LOVE.

V. THE MORAL FACULTY.

VI. PRINCIPLES WHICH CO-OPERATE WITH OUR MORAL POWERS IN THEIR INFLUENCE ON CONDUCT: viz. decency, or regard to character; sympathy; the sense of the ridiculous; and taste.

These faculties, then, joined with intellect, compose the human mind, according to Mr. Stewart; and it will be found much more difficult to account, by means of his single malevolent affection of resentment, or the abuse of any of the other powers enumerated by him, for such actions as those mentioned in the quotation from St. Matthew, or as we see daily around us.

Secondly, Christ says, in the Gospel of St. Luke, that "every tree is known by its own fruit: for of thorns men do not gather figs, nor of a bramble-bush gather they grapes. A good man, out of the good treasure of his heart, bringeth forth that which is good; and an evil man, out of the evil treasure of his heart, bringeth forth that which is evil; for of the abundance of the heart his mouth speaketh." (Luke vi. 44, 45.) And in Matthew's gospel, he counsels his followers thus: "Let your light so shine before men, that they may see your good works, and glorify your Father which is in heaven;" and again, "I am not come to call the righteous, but sinners to

repentance." (Matt. v. 16; ix. 13.) Of Nathanael he said, "Behold an Israelite indeed, in whom is no guile." (John i. 47.) Explaining the parable of the sower, he uses the following words: "But that on the good ground are they which, in an honest and good heart, having heard the word, keep it, and bring forth fruit with patience." (Luke viii. 15.) And in the parable of the lost sheep,—“I say unto you, that likewise joy shall be in heaven over one sinner that repenteth, more than over ninety-and-nine just persons, which need no repentance.” (Luke xv. 7.) Of Zacharias and his wife Elizabeth we are told, that “they were both righteous before God, walking in all the commandments and ordinances of the Lord, blameless.” (Luke i. 6.) And the apostle says, “Follow righteousness, faith, charity, peace, with them that call on the Lord out of a pure heart.” (2 Tim. ii. 22.) And again: “Unto the pure, all things are pure.” (Titus i. 15.) Thus, also, the Psalmist says: “For thou, Lord, wilt bless the righteous; with favour wilt thou compass him as with a shield.” (v. 12.) “Oh let the wickedness of the wicked come to an end, but establish the just.” (vii. 9.) “With the merciful thou wilt show thyself merciful, with an upright man thou wilt show thyself upright. With the pure thou wilt show thyself pure, and with the froward thou wilt show thyself froward.” (xviii. 25, 26.) Finally: “Mark the perfect man, and behold the upright; for the end of that man is peace.” (xxxvii. 37.) See also Psalms i. 1, 2; xv.; xxxii. 11; xxxiii. 15; xxxvii. 16, 17; xcvi. 10–12; cxii.; cxxviii.

Thus it is abundantly evident, that while the human mind is represented in Scripture as liable to commit every species of wickedness, it is at the same time spoken of as possessing moral qualities of a pure and exalted description: “A good man,” we are expressly told, “*out of the good treasure of his heart, bringeth forth that which is good.*” Now, phrenology shows us that although the mind is endowed with strong animal propensities, which are, in the majority of individuals, prone to rush into abuse, yet it has received also various moral powers—Benevolence, Veneration, and Conscientiousness. This system of philosophy, therefore, in representing human nature as possessing excellent and amiable qualities, is also in harmony with Scripture.

In the third place, St. Paul, in his Epistle to the Romans, argues, that “when the Gentiles, which have not the law, do by nature the things contained in the law, these, having not the law, are a law unto themselves; which show the work of the law written in their hearts, their conscience also bearing witness, and their thoughts the meanwhile accusing, or else excusing, one another.” (Rom. ii. 14, 15.) It will be recollected that the two classes of faculties, the propensities

and moral sentiments, do not appear to the understanding to possess the same excellence and authority, but that we are instinctively conscious that the latter class is of a higher order, and has been framed by nature to govern the former; and that it is from the dictates of the moral sentiments that our natural notions of duty begin. Now this is precisely, out and out, the doctrine of St. Paul. The Gentiles were endowed by nature with Benevolence, Conscientiousness, Veneration, and intellect; their intellect, on comparing the irregular and excessive manifestations of the animal propensities with the dictates of the moral sentiments, perceived the opposition between them, and instantly their minds stood convicted of offending against a law of morality written in their hearts.

In the fourth place, we are taught in the Bible that God has given different talents to different individuals; to one five talents, to another two, and to another one, and that each shall be accountable only for that which he hath. (See Matt. xxv. 14-30; also, Rom. xii. 6, 7, 8; 1 Peter iv. 10, 11; 1 Cor. iv. 7; vii. 7.) It is impossible to look at the cerebral developements, either animal, moral, or intellectual, of any two individuals, and not be convinced that Scripture and phrenology precisely coincide in this view of human nature; and here, also, while phrenology accords with the Bible, many of the other systems of mental philosophy stand in opposition to it: for not a few philosophers maintain that all men are created with equal talents; and even those who admit a difference, merely state the fact, and do not point out the nature, the causes, or the extent of the variety apparent in the capacities and dispositions of individuals—which phrenology makes palpable even to the senses.

Finally, St. Paul observes, "I know that in me (that is, in my flesh) dwelleth no good thing: for to will is present with me; but how to perform that which is good, I find not. For the good that I would, I do not; but the evil which I would not, that I do. Now, if I do that I would not, it is no more I that do it, but sin that dwelleth in me. I find then a law that, when I would do good, evil is present with me. For I delight in the law of God after the inward man. But I see another law in my members warring against the law of my mind, and bringing me into captivity to the law of sin, which is in my members." (Rom. vii. 18-23.) And again, in the Epistle to the Galatians (v. 17): "For the flesh lusteth against the spirit, and the spirit against the flesh; and these are contrary the one to the other; so that ye cannot do the things that ye would. But if ye be led by the spirit, ye are not under the law. Now, the works of the flesh are manifest; which are these: adultery, fornication, uncleanness, lasciviousness, idolatry, witchcraft, hatred, variance, emula-

tions, wrath, strife, seditions, heresies, envyings, murders, drunkenness, revellings, and such like; of the which I tell you before, as I have also told you in time past, that they which do such things shall not inherit the kingdom of God. But the fruit of the spirit is love, joy, peace, long-suffering, gentleness, goodness, faith, meekness, temperance; against such there is no law." St. Paul is here speaking of his own experience as an individual; and his description of himself is exactly in accordance with that of one class of characters with which phrenology makes us acquainted—namely, those in whom large organs of the animal propensities are combined with large organs of the moral sentiments and an active temperament. The history of St. Paul's life shows that he belonged to this class. His original conduct in relation to Christianity was "breathing out threatenings and slaughter against the disciples of the Lord:" he "made havoc of the church, entering into every house, and hauling men and women, committed them to prison." (Acts vi. 3; ix. 1.) At this period the propensities held the ascendancy. After his conversion, he continued to feel the solicitations of those feelings in the manner forcibly described in the passages just quoted from his epistles; but he no longer yielded to their abuses. The moral sentiments, under the influence of altered views, had now assumed the supremacy. It will be remarked that he distinctly recognises the action of both sets of faculties within his own mind: "I delight," says he, "in the law of God, *after the inward man*; but I see *another law in my members warring against the law of my mind*, and bringing me into captivity to the law of sin, which is in my members." We are aware that some divines construe the "spirit" mentioned in the verses quoted from the Epistle to the Gallatians, to mean the spirit of God, as contradistinguished from human nature; but it appears to us that such an interpretation is not only unwarranted, but inconsistent with the words just cited in italics, where both "laws" are spoken of as equally inherent in Paul's nature; and that the apostle, in speaking of "the spirit" in opposition to "the flesh," allude to the moral and religious sentiments of the human mind, as contradistinguished from the animal propensities. The works of the flesh above described by St. Paul, are, without exception, abuses of one or several of the faculties. He describes, also, "the fruit of the spirit," which is "love, joy, peace, long-suffering, gentleness, goodness, faith, meekness, temperance;" and every one of these, it will be observed, is a legitimate action of the moral sentiments and intellect. He says, most truly, that "against such there is no law." Certainly none—because the moral sentiments are the

ruling powers, and their dictates, when enlightened by intellect, are supreme.

Similar views are eloquently expounded by Mr. Clarke, in the lectures of which the title is copied at the commencement of the present article. We are happy to see phrenology finding its way into the pulpit, and cannot entertain a doubt that, were clergyman in general to call in the aid of physical science and philosophy to illustrate and support the truths of religion, they would soon perceive a decided augmentation of the interest excited, and instruction communicated, by their discourses.

Mr. Clarke has prefixed to his lectures a table of the phrenological organs, divided into three columns: the first containing the names and uses of the organs; the second, their abuses; and the third, the effects of their deficiency. And he adds the remark, that "if the first column be read from top to bottom through the whole table, it will be seen that the uses of the organs are all good—highly important—absolutely necessary; but if the second column be read in the same manner, it will be perceived that the abuses of the organs produce all the crimes known among men; while reading the third column wholly by itself, will show that deficient organs, even those that may be most awfully misapplied, are by no means to be desired. The deficiency would not be an improvement. . . . By looking at the uses and abuses of Veneration, Hope, and Wonder, it will be found that they may either exalt to high-toned religion, or debase to grovelling superstition—belief in prodigies, magic, ghosts, and all kinds of absurdities; and even Conscientiousness may, when joined with these in its abused state, aid the delusion and swell the evils. The *abuses* of the organs only are sins; and from these sins the majority of human miseries flow. To use the organs aright, is of course to avoid transgression and to escape suffering; and this, again, is to be virtuous and happy."

In the first lecture, Mr. Clarke shows that Christ and his apostles teach that man has animal propensities, from which chiefly sin has its origin; that these are alluded to as powers in themselves, both necessary and good; that, according to the Christian Scriptures, they may be kept within the limits of virtue and religion; that man is to be rendered religious, not by their destruction, but by directing them aright; and that human nature is by no means the mass of unmingled degradation which it is so frequently represented to be.

"Both Christianity and phrenology," says he, "forbid us to view man's nature as a mixture of brute and demon. They who are become half brute half demon, are said to be 'without natural

affection,' and to be 'given up to vile affections.' 'As they did not like to retain God in their knowledge, God gave them over to a reprobate mind, to do those things which are not convenient; being filled with all unrighteousness.' They are 'men of corrupt minds.' They are in an unnatural state. They are degraded, debased, and 'gone out of the way.' But while we may point to them as melancholy proofs of what human beings may become, we must not point to them as evidences of what human nature, in its essence and constitution, is. We might as justly adduce Socrates, Newton, and Howard, as proofs that the nature of every man is wise, and good, and great, as hold up Nero, King Henry the Eighth, and Judge Jeffreys, as evidences that the nature of every man is base, cruel, and depraved. To place the crimes of men to the account of an uncontrollably sinful nature, is to exculpate them from blame. It is more: it is asserting that man is unimprovable. It is condemning all plans and attempts which aim at exalting the human mind. It is pronouncing all human means unavailing to elevate the human character. It is representing a human being as too worthless, despicable, and vile, to be the object of virtuous affection. Let man be the loathsome reptile that he is sometimes supposed, and he is unworthy of regard, undeserving of respect, and utterly destitute of any claims upon the laws of benevolence and truth. Then, duty to each other men cannot owe. Beings who were compounded of only brute propensities and demon hate, worked up to a nature radically and universally depraved, must invariably act as demon-brutes. But is this the case? Are our social, scientific, charitable, and religious institutions, proofs that we are demon-brutes? Whenever a man sincerely laments that the human race is nothing but beast and demon, his own lament demonstrates that his views are false. He is not himself a demon-beast; for if he were, no such lamentation could escape him.

"Does the tiger lament his own fierceness, or the serpent mourn over his degradation and poison? And as impossible would it be for man—for any man—to sigh for human nature, if the nature of every human being were brutified and demonised. The good man's sighs over sin, prove that he is not all sin. Man has, indeed, an animal nature, but he has also an intellectual nature. When the former absorbs the latter—when the mind, or soul, is swallowed up in mere sense—then truly man becomes an awful offender. His enormities are terrible. He would then disgrace the beasts, and perhaps even dishonour demons. But when the animal part of man is purified by man's moral sentiments, and absorbed by his intellectual faculties, then is it manifest that there is a noble 'spirit in man, and the

inspiration of the Almighty giveth him understanding.' 'His deeds then are wrought in the love of God and man.' 'He then evinceth the same mind which was also in Christ;' and then he gives forth evidence that 'God hath made him but a little lower than the angels, and hath crowned him with glory and honour.'"

The second lecture is devoted to the moral sentiments, regarding which the teachings of phrenology and Christianity are thus compared. "The one teaches that there are certain natural moral sentiments, which are elementary constituents of the human mind; the other appeals to these sentiments as to things which actually exist in man. By one it is asserted that these sentiments, rightly directed, will lead to the discharge of individual, relative, and religious duties; by the other it is affirmed that man must employ those powers to do as he would be done unto—to serve his God, and to work out his salvation. One system teaches that human beings are constituted moral agents; the other treats them as such. Every page of man's history proves his possession of those moral powers. Every page of the New Testament addresses itself to them. Too often have they been most wofully neglected, misapplied, enfeebled, and debased. But was there ever upon earth a people devoid of the sentiments of right and wrong, honour and dishonour? Did ever a people exist, who evinced no sentiments of wonder and veneration towards things stupendous, and a power superhuman? The religion of the most superstitious is evidence of some natural powers in man, which prompt to the adoration of superior objects; the grossest idolatry must be the effect of some mental cause. What is it? From the animal propensities alone it could not possibly proceed. Were man reduced to the condition of the ourang-outang, he would not then be a worshipper of even an idol. Paganism, under its most disgusting forms, still points up to mental powers, which in their nature must be good and noble, and in their designed use most salutary. The worshippers of Boodh, in India—of Foe, in China—and of Lama, in Thibet, evince the very same mental sentiments as those which are manifested by the worshippers of the only true God. Only change the object of worship, and the truth of this position will be demonstrated. The inhabitants of India, China, and Thibet, might worship the Christian's God without undergoing a change of nature; and any people might exchange an inferior code of morals and religion for one that was better, without exchanging a single power of the mind for some other."

Mr. Clarke has included among the moral sentiments, Self-esteem, Love of Approbation, and Cautiousness; "because," says he, "they have in their uses a decided moral tendency." Self-esteem he

regards as "the basis of all true honour, dignity, and moral greatness," and as "that which exalts the mind above meanness, servility, and baseness." We suspect that few of our readers will here concur with Mr. Clarke; for humility, which is the only result of deficient Self-esteem, is neither inconsistent with "true honour, dignity, and moral greatness," nor necessarily accompanied by "meanness, servility, and baseness." When directed by higher faculties, Self-esteem, Love of Approbation, and Cautiousness, have doubtless, like every other mental power, "a moral tendency;" but still, in themselves, they have no tincture of morality. Indeed, we have long been much inclined to the opinion that the received list of "moral sentiments" is far too extensive; and that Benevolence, Veneration, and Conscientiousness, are the only affective faculties which exercise a disinterested control over the animal powers. So far as we are able to perceive, neither Hope, nor Wonder, nor Wit, nor Firmness, nor Imitation, exercises any such control; and even Ideality can hardly be looked upon as a barrier in the way of selfish indulgence, at the expense, or to the annoyance or disregard of other men. Every one of the six faculties last named, may be so harmoniously leagued with the propensities, as to start no objection whatever to the performance of the most immoral acts.

In the third and concluding lecture, Mr. Clarke treats of the human intellect, and the necessity of cultivating and enlightening it before Christianity can be fully realised. "As the intellectual faculties," says he, "are the only media of access to the moral sentiments, and the moral sentiments are the only instruments by which the animal propensities can be duly restrained and beneficially directed, virtue, piety, and true religion, must be in proportion to the strength, activity, and harmonious co-operation of the intellect and moral powers. It has been said, that 'ignorance is the mother of devotion.' But of what devotion? Can ignorance produce the devotion of the wrapt-ennobled soul? Can it send forth the devotion of Christ? No. The devotion of ignorance is low, grovelling, superstitious; it is mere fear, tintured deeply with the dark colouring which the animal nature has given it. It is false devotion. That which is true, is ever brightened highly by the glowing tints that the combined energies of the intellect and moral powers have impressed upon it. There is no beauty in the devotion which is the offspring of ignorance; its parentage is base; the issue is of but little worth; too often has it proved worse than worthless. It has led men to fanaticism and persecution—to the commission of the most atrocious crimes, and the infliction upon themselves and others of the direst miseries. It has given the name of religion to that which

was positive madness. But such insanity was never produced by hearing the Word and understanding it, and receiving the good seed into the good ground of the mind. Thirty, sixty, or a hundred fold of bigotry, anger, wrath, and malice, are the very counterpart of those fruits of love, and joy, and peace, that the religion of Jesus is designed to produce; and 'by their fruits shall ye know them.' 'If a man hath not the spirit of Christ, he is none of his.' But to know what that spirit was, requires the exercise of both the perceiving and reflecting powers. The fundamental command, 'Learn of me,' cannot be obeyed without a vigorous use of the intellectual faculties; but the more carefully these are trained, and the more assiduously the moral sentiments are at the same time cultivated, the higher must the individual ascend in excellence, true religion, and positive enjoyment."

ARTICLE V.

REPORT OF AN OPERATION FOR THE REMOVAL OF A LARGE BONY TUMOUR, CALLED "SPINA VENTOSA OF THE SKULL."

BY GEORGE M'CLELLAN, M. D.

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[The following cut is introduced for the purpose of illustrating one of the most interesting cases that has ever occurred in the history of surgery. As it involves facts which have an important bearing upon a correct knowledge of the functions of the brain, we have taken some pains to obtain a full and accurate account of the particulars in the case. This engraving is carefully drawn from the bust of an individual who, about two years since, underwent, in this city, a most severe surgical operation for the removal of a large bony tumour upon the vertex of the head. The cut represents very correctly the cicatrix of this tumour, the operation for the removal of which was performed by Dr. George M'Clellan, whose skill and success in surgery is certainly not surpassed by any other surgeon in the United States. What is most interesting and important in this case, is the peculiar and marked change that occurred in the character of the individual soon after the operation. The following communication, describing clearly and minutely the facts in the case, has been kindly furnished us by Dr. M'Clellan, and cannot fail to interest every reader.—Ed.]



Early in the month of December, 1838, Thomas Richardson, a resident of the city of Pittsburg, called on me for surgical aid. He was then twenty-two years of age, and had been afflicted about three years with a tumour upon the vertex of his skull. About six months before the first appearance of the tumour, he received a severe blow from a missile on the affected region, after which he occasionally experienced tenderness and pain there. As the tumour gradually increased, it produced a determination of blood to the head, attended with a sense of fullness and a giddiness on stooping. But he was not deprived of any intellectual power; nor were any of his sensations or muscular actions disturbed.

The tumour was very hard and unyielding, and had been pronounced to be an *exostosis* by every surgeon who had examined it. It was oblong in shape, being four inches in the long, and three and one-fourth in the short diameter. It was raised in the centre about one and three-fourth inches above the surrounding portions of the outer table of the skull, and extended from about an inch beyond the sagittal suture on the right side obliquely to the left, and backwards over the adjacent portion of the left parietal bone. It occupied, phrenologically, the organs of Firmness, Self-esteem, Approbation, and a part of Caution, on the left side.

I was induced to undertake an operation for extirpating this tumour, chiefly because no symptoms of cerebral affection could be discovered other than those which a moderate determination of blood to the head might produce. Two long incisions were first made at right angles near the centre of the swelling, and afterwards the scalp was dissected up from the whole surface, and to some extent, around the sound bones. With a long narrow saw, held in a tangent to that portion of the circumference of the cranium, I then cut off the entire tumour, apparently at its base. The saw moved with difficulty while it was passing through the external table, but with great ease when it was acting upon the interior of the mass. This first led to the suspicion that the disease was not an *exostosis*; and when the prominence had been removed, it was made evident that a far worse state of things had to be encountered. The exposed surface presented perpendicular cells, or cavities, like those of a honeycomb, which were filled with a bloody, or pulpy and sanious matter. The case was at once decided to be a *spina ventosa* of the skull, and it was therefore deemed necessary to extract the whole mass from the surface of the dura-mater beneath. A long and tedious extension of the operation was then undertaken. The whole mass of the tumour was circumscribed by the circular edge of a small Hays's saw, and the mass was pried out in successive fragments by an elevator, occasionally aided by the bone nippers and forceps. This part of the operation proved exceedingly difficult, for the tumour extended inwards much deeper below the internal table, than its outer surface had risen above the external table of the skull. Finally, however, a removal of the whole morbid structure was effected, and the dura-mater was exposed, thin and livid in appearance, at the bottom of a deep cavity which the bystanders estimated to be capable of holding four and one-half ounces of water. There were no pulsations visible, although the circulation was strong and full. Some small spiculæ of bone adhered to the dura-mater, which were extracted by the aid of forceps. In extracting the last of these, which appeared to penetrate the dura-mater, a prodigious gush of venous blood issued, after which the patient fell into a convulsive syncope. The hemorrhage was supposed to proceed from the longitudinal sinus, and was therefore arrested by graduated compresses and a bandage. The angles of the wound were brought as near together as possible over the compresses, for the purpose of affording support to them while they were confined by the bandages. Very little irritation resulted from this operation.

In nine days, the compresses were loosened by suppuration, and on removing them, the whole of the exposed surface was found to

be granulating, and the orifice in the great sinus was closed. But the brain had not risen up to occupy the exposed cavity; and it was found impossible to place the flaps of the scalp in contact with the dura-mater in the usual way, so as to close the wound. Mild dressings of patent lint were applied over the surface, and confined with moderate pressure by means of a double-headed roller. On the twelfth day after the operation, the cavity below the bone was evidently diminished, and every day thereafter it continued to decrease, until, in the fourth week, the surface of the brain covered by the granulating dura-mater had risen up to the level of the inner table. The natural pulsatory motions did not appear, however, until the cavity was nearly filled; and, in the mean time, forcible pressure could be made on the surface of the brain without exciting any degree of stupor or inconvenience on the part of the patient. But as soon as the pulsations began to appear, every kind of pressure proved irritating to the brain. At the same time, a remarkable change took place in the character and bearing of the patient. He then became exceedingly timid and irresolute. It would render him pale and almost pulseless to approach him with a pair of scissors for the purpose of trimming away his hair from the margins of the wound; and the sight of a piece of lunar caustic, or a pair of forceps, in the surgeon's hands, would throw him into great trepidation. This state of his mental faculties continued for a long period after his complete recovery from the wound. He could not even go down into a cellar containing some plaster busts, without a sense of faintness and sinking; and the operation of taking a cast of his head in plaster, nearly prostrated all the functions of his mind and body. His carriage also became remarkably affected. Instead of maintaining his natural erect posture and bearing, he sunk his head and shoulders into an awkward stoop, and looked timidly and anxiously forward, as if he was afraid of blundering against a door-post.

At the time of the operation, and until the pulsations of the exposed portion of his brain returned, he was remarkable for his firmness of mind and resolution. No patient ever bore a severe and protracted operation with more intrepidity. He sat upright in a chair, without any confinement, until the blood-vessel gave way at the close of the operation; and during its performance, he repeatedly inquired of the bystanders if it was the brain which was coming out under the efforts of the surgeon. It has been, moreover, stated by those who have known him well for years, that previous to this injury he had always been distinguished for his firmness, courage, and independence.

He is now (two years after the operation) living in perfect health

at the Exchange Hotel, Pittsburg. He is engaged in active business, and is entirely exempt from any symptom of a return of the disease. His former firmness and intrepidity of mind have been gradually returning for a year past, and at present no departure from a healthy condition of mind or body can be discovered. A thickening or induration of the flaps of the scalp, which resulted from their long exposure and separation from the subjacent dura-mater, and which at one period gave origin to a report that the disease had reappeared, has become entirely softened down, and attenuated by the natural process of absorption.

As this case occurred during the period of Mr. Combe's first course of lectures in Philadelphia, it excited great attention among all phrenologists. One of the gentlemen who attended the operation, addressed a letter to Mr. Combe, stating that both organs of Firmness were lost or destroyed; and asked for an explanation of the apparent contradiction in the conduct of the patient to the principles of phrenology. Mr. Combe read this letter publicly to his class, and endeavoured to explain away the difficulty, by locating the position of the tumour posteriorly to the organs of Firmness. On a further, and subsequent examination of the wound, however, he decided that a great portion of the skull, over the region of Firmness, had been removed, together with that of several of the neighbouring organs, as I have enumerated them.

In no respect, however, does this case militate against the principles of phrenology. The organs, instead of being destroyed, were merely displaced or depressed by the growth of the tumour, in the same way that deformities are produced in some of the savage tribes by gradual pressure of the skull. Perhaps a better analogy may be drawn between the state of these organs and the parts of the brain pressed upon by internal effusions of blood, and depressed fractures, which do not produce the symptoms of compression. A compensation is then made for the space occupied by the effused blood or depressed bone, by a corresponding amount excluded from the cavity of the vessels, and retained in the general circulation.

A careful examination of this case will, I think, elicit observations in support of phrenology. The tone and excitement of the depressed region of the brain must probably have been increased by the invasion of the tumour, on the same principle that the muscles of labouring men are sometimes supported by leathern straps and bandages. On the other hand, the extirpation of the tumour must have had the same effect in removing the tension and mechanical support of the organs, as tapping for abdominal dropsy exerts upon the viscera of that great cavity. As soon as the depressed convolutions began to

be unfolded or distended by the pulsation of the blood-vessels, they experienced a want of that pressure which had before stimulated them into an increase of activity. Their tone then became enfeebled, and continued so until the scalp had contracted adhesions to the outer surface of the dura-mater, and the cicatrix became consolidated, so as to afford a firm and counteracting support to the pressure of the circulation below.

While Mr. Richardson was recovering from the operation, he was visited by several phrenologists, for the purpose of establishing the precise location of the wound. Although they differed in their opinions in regard to the degree in which the organ of Firmness was involved, they all agreed that Self-esteem was affected, and some thought the injury extended also to the organ of Concentrativeness. Inquiries were therefore directed by them to the manifestations of these faculties; and the patient did suggest some points of character in relation to which he conceived he had undergone an alteration. He asserted that he had for a long time previous to the operation lost his self-respect in the presence of company, and his power of confining his mind to any particular train of thought. But these peculiarities were not obvious to me, or to any of his familiar friends; and I have not thought it right to put them down in my estimate of his condition, as affected by the operation. Such affections may have been the result of that confusion in the mind which generally accompanies excessive determination of blood to the head. It has been suggested that they were produced by a paralysis of those organs which were most severely depressed by the deepest portion of the tumour; while, at the same time, the convolutions which lay under the edges of the tumour, and were only slightly pressed upon by it, were stimulated into increased activity of their functions. I will leave the decision of this point, however, to more experienced phrenologists, trusting that the facts which I have here given, will be judged of according to their merits.

ARTICLE VI.

STATISTICS OF PHRENOLOGY IN THE UNITED STATES.

An article with this title has just appeared in the "American Medical Almanac for 1841." This work is published annually in Boston, and is compiled by Dr. J. V. C. Smith, editor of the Boston

Medical and Surgical Journal. It is designed, as its name imports, more especially for members of the medical profession, and contains a great variety and amount of matter on subjects connected with this profession. It is particularly valuable, as a work of reference, for its numerous statistics of medical institutions and societies, as well as for its various notices and essays on medicine. Among other matters, there is an interesting article on the Statistics of Insanity and Institutions for the Insane in the United States, by Dr. S. B. Woodward, superintendent of the Massachusetts State Lunatic Hospital.

We are glad to find the subject of phrenology introduced into the Medical Almanac. If the principles of this science are designed, by their numerous and important applications, to interest and benefit any class of persons, it is certainly physicians. And as this annual circulates extensively among the members of this profession, the article on the Statistics of Phrenology is well calculated to give them some idea of the present state of the science in this country. Though many of the facts here stated may not be altogether new to our readers, yet we are induced to present the following extracts, under their several heads, as they appear in the Medical Almanac:—

History of the Science.—The two principal agencies by means of which phrenology was introduced into the United States were, first, the circulation of foreign periodicals and works; and, secondly, the reports and labours of some of our own countrymen who had made tours in Europe. It is probable, however, that even the influence of these means raised up more enemies than friends to the science. The number of intelligent believers and advocates of it, prior to 1830, was quite small, and those were mostly confined to members of the medical profession. Between the years of 1820 and '26, phrenological societies were formed in New York, Philadelphia, Baltimore, and Washington; this was effected chiefly through the instrumentality of Dr. Charles Caldwell.

The two other most important agencies in advancing phrenology, have been the writings, lectures, and personal influence of Dr. Spurzheim and George Combe, Esq. Dr. Spurzheim landed at New York in August, 1832, and died at Boston in November, three months after his arrival. And though he had scarcely entered upon his labours, yet he lived long enough amongst us to give a strong impulse to the science. While here, he made arrangements for publishing several of his works on phrenology, and delivered two courses of lectures; one in Boston, and the other at Harvard University, Cambridge. His early and unexpected death was greatly lamented. His remains now lie deposited in Mount Auburn Ceme-

tery, beneath a plain marble monument, on which is engraved, in large capital letters, the name of SPURZHEIM. This was deemed a sufficient epitaph. Dr. Spurzheim's visit to our country will ever constitute an important and interesting era in the history of the science. Mr. Combe arrived in September, 1838, and returned to Edinburgh in June, 1840. While here, he delivered full courses of lectures in Hartford, New Haven, Albany, New York, and Philadelphia. In the three cities last mentioned, he repeated them, besides giving one or two lectures in several other places. The average number that regularly attended, may be safely estimated at three hundred persons in each place. Dr. Andrew Boardman, of New York, has prepared a complete and accurate report of those discourses, which are now having an extensive circulation. The mission of Mr. Combe cannot fail to exert a very strong influence in advancing phrenology on this side of the Atlantic. Some idea of the present state and prospects of the science may be gathered from the following statistics.

Books on Phrenology.—Among these stand first the works of Drs. Gall and Spurzheim, which still continue to have a constant sale, and, wherever circulated, find attentive readers. These works are better calculated for careful study and useful instruction, than for mere reading and general popularity. The productions of Mr. George Combe and Dr. A. Combe are decidedly popular, as well as instructive, and have a very great circulation. The "Constitution of Man" has already passed through many editions, having been published in several different forms. It is thought that more than twenty thousand copies have been sold in the United States. Dr. A. Combe's work on the "Principles of Physiology, as applied to Health and Education," (a part of which is strictly phrenological,) has had an extensive sale. The Messrs. Harpers, of New York, have sold more than thirty thousand copies of it. American productions on phrenology are also beginning to multiply, and to meet with a ready sale. Several works of this character have recently been published: among which, are Warne's *Phrenology in the Family*; Dean's *Philosophy of Human Life*; Grimes's *Phrenology*; Haskin's *History of Phrenology*, &c. *Fowler's Practical Phrenology* has reached the fifth edition; nearly ten thousand copies have already been sold. This is, perhaps, the best work now extant on the elementary principles and practical part of the science.

Phrenological Almanac.—Mr. L. N. Fowler, of New York, published for 1840 an almanac, which, besides a calendar, embraced 32 octavo pages on phrenology. More than ten thousand copies were sold, and it is expected that more than double that number for 1841

will be disposed of during the present year. This annual, though small in itself, and seemingly unworthy of notice, is nevertheless calculated to make very strong impressions on the common mind.

Annals of Phrenology.—This was a quarterly publication, and conducted by a committee of the Boston Phrenological Society. It was commenced in 1834—circulated about three hundred copies annually, and continued only two years.

Dr. Charles Caldwell.—This gentleman has ever been a most able and efficient advocate of phrenology. His writings in its behalf have been very numerous; if they were all collected and published together, they would constitute three or four large octavo volumes. His labours and merits will be more appreciated, as well as held in greater respect, by posterity than by the present generation.

Crania Americana, by Dr. Samuel George Morton, of Philadelphia.—This magnificent work (recently published) is designed to present a comparative view of the skulls of various aboriginal nations of North and South America. It is printed on large fine letter paper, in folio form, and accompanied by seventy-eight plates, beautifully lithographed—each plate presenting the drawing of a skull of the natural size. An able and learned essay on the varieties of the human species, constitutes the introductory portion. It also contains, in the form of an appendix, an excellent essay by Mr. George Combe, on the relation between the Natural Talents and Dispositions of Nations, and the Development of their Brains. By means of this dissertation, together with the descriptions and measurements given in the body of the volume, its bearing on phrenology can readily be shown. The anatomical and phrenological measurements are very numerous and valuable. The number of distinct measurements in the phrenological tables, exceeds seven thousand five hundred. This work is one of the most important on the natural history of man that has ever been published, and will long remain an honour to the science of our country, as well as a monument of the labours and genius of its author. •

Phrenological Societies.—There have been formed at different times in the United States, between forty and fifty phrenological associations. Some of them have been conducted with much zeal and ability, and greatly promoted the interests of the science; while others have been merely nominal in their character, and proved quite inefficient in their labours. Past experience renders it doubtful whether societies can permanently flourish which are organised exclusively for the cultivation and advancement of phrenology.

Craniological Specimens.—The largest collection of crania in the United States, is possessed by Dr. S. G. Morton, of Philadelphia.

A part of his cabinet is deposited in the Academy of Natural Sciences. His whole number of specimens amounts to one thousand; there being over five hundred crania of animals, and nearly the same number of human skulls. This, with one or two exceptions, is the largest and most valuable collection of crania that can be found on the globe.

Cabinet of the Boston Phrenological Society.—This museum numbers about five hundred, and is made up mostly of the specimens which Dr. Spurzheim left in Boston. There are many rare and valuable phrenological specimens in this cabinet, though it is to be regretted that no better use or appropriation has been made of them for some years past. Mr. O. S. Fowler, of Philadelphia, and his brother, L. N. Fowler, of New York, have each large and valuable cabinets of skulls, casts, busts, &c. The whole number of their specimens will not fall much short of eight hundred. They have made some important improvements in the art of taking casts and busts. They are now able to take with ease and safety, fac-similes of the living head, as correct almost as life. These gentlemen have already taken the busts of more than two hundred of our leading and distinguished men. The specimens used by Mr. Combe, in his lectures on phrenology in this country, are deposited in the hall of the medical department of Yale College, and constitute a large collection. The Albany and Buffalo Phrenological Societies have each a very respectable cabinet of skulls, casts, busts, &c. There are also numerous other phrenological collections of less note, connected with institutions and societies, or owned by private individuals.

It is impossible to estimate the number of believers in phrenology in this country. They may be found in every state of the union. For a few years past, the science has been rapidly advancing, as well as gaining in character and popularity. Many of the leading periodicals of the day, particularly the medical journals, take a decided stand in its favour; while others generally allude to it, whenever occasion requires, with candour and respect. The science is now embraced by large numbers in the medical profession, especially among the younger portion. It is also favourably received by many members of the legal and clerical professions, and is beginning to be introduced and respectfully treated in our literary, scientific, and medical institutions. The day of its final triumph and general adoption cannot be far distant.

MISCELLANY.

Medico-Chirurgical Review and Phrenology.—This is one of the oldest and ablest medical periodicals in Great Britain. It is published at London, and conducted by Dr. James Johnson, whose name is well known as high authority in the medical profession. The Medico-Chirurgical Review has always taken a decided stand in favour of phrenology. The October number for 1840, contains a very able and elaborate review of Dr. Morton's *Crania Americana*, which is treated upon strictly phrenological principles, and is a masterly performance. This review extends over thirty pages, in fine type, and compliments the industry, research, and acquirements of Dr. Morton in the highest terms. There are several important points discussed, that we should be glad to notice, and may refer to hereafter; but, for the present, must satisfy ourselves with one or two brief quotations, which will convey to the reader some idea of the ground occupied by the writer in relation to phrenology. In speaking of the structure of the brain, and its relations to the skull, the reviewer remarks as follows:—"After the same manner, we retrace the mental characters through the shape, size, and other conditions of the brain, as indicated by the peripheral forms of the head and skull. We may fairly contemplate the brain as an aggregate of organic instruments, and the mind as an aggregate of powers or faculties; and assured are we, that the cerebral instruments and mental faculties are co-existent and severally co-operative—each individual of the latter naturally using its own peculiar one of the former, in the exercise of its appropriate functions. Hence, on these principles we may seek to trace the mental characters of disposition and capacity by inspection of the head, and the accuracy of the results is susceptible of trial by their correspondence with the mind's manifestation—in thought and feeling, discernible by reflection on consciousness; in speech and composition, in act and conduct, discernible by observation. We are desirous, in fine, of seeing the head and its constituent organs adopted, in their forms, relations, and conditions, as the source of elementary principles in the anthropological and psychological systems." Again: The reviewer, in referring to Dr. Morton's Introductory Essay, says—"We feel reluctantly obliged to limit our observations to a few cursory notes, selected from his pages with a view to elucidate that *natural correspondence which subsists between the shape of the head and the character of mind in actual life, which we regard physiologically as constituting the most important fundamental principle in mental science—not useless in education, government, and legislation, or moral, religious, and medical philosophy.*" We have here eight pages illustrative, and, in proof of the above principle, chiefly made up of notes from the *Crania Americana*, which is carrying out more fully and completely a proposition which we suggested, and actually commenced, in a review of the same work in this Journal last year.

De Ville's Phrenological Cabinet.—Mr. De Ville, of London, who was for a time associated with Dr. Spurzheim, has a very extensive collection of casts and busts, amounting to about twenty-four hundred specimens. At the late meeting of the British Phrenological Association, he gave the following description of his cabinet. He began by

stating the causes which led to the formation of such a large collection. When his attention was first drawn to phrenology, many of the organs were marked as *conjectural* only, and it was desirable to collect facts to prove or disprove the existence of them. About five hundred casts were collected for this special purpose. It was also desirable to obtain specimens of every organ, *very large* and *very small*, from persons living, and well known. About seventy are of this description. Another point was to obtain casts of youths, where difficulties occurred in educating them for particular occupations, and also where knowledge was easily acquired with little or no instruction. At least seventy were taken for this purpose, many of whom were interesting cases. About one hundred and fifty casts also were taken of pious persons, devoted to religion, several of whom had abandoned other occupations for theological pursuits. There are also forty casts of artists, painters, sculptors, &c. many of them of celebrity. Of navigators and travellers, there are about thirty casts. Of poets, authors, and literary characters, about eighty. Of musicians, composers, and amateurs of music, upwards of seventy. Of pugilists, there are twenty-five. There are also in the collection about one hundred and forty casts, showing change of form of the head to have taken place, corresponding to the altered studies and habits of the persons at various ages—many of the changes occurring after thirty and forty years of age. Besides all these, there are upwards of three hundred and fifty casts of distinguished persons, noblemen, legislators, judges, barristers, lawyers, astronomers, engineers, actors, &c. &c.

The second part of the collection consists of criminals, cases of diseased brain, and national crania. The criminals are not confined to the united kingdom, about one third being from foreign countries; some of them state criminals, and others of extraordinary character. The diseased cases are those of idiots, imbeciles, insane persons, and of malformations. This part comprises one hundred and twenty. The national crania consist of about five hundred; one hundred and fifty being real skulls, and the rest moulds and casts, of well authenticated persons. Said Mr. De Ville, I am much indebted to the late Baron Cuvier for permission to take casts from all the well authenticated skulls in his splendid museum. I have also made a large collection of busts of ancient philosophers and great men, taken from the marbles originally in the Louvre, Florentine, and Prussian galleries, and private collections; and it is surprising how their phrenological developements bear out the biographical accounts of them. In addition to all this, there is a large collection of the skulls of animals and birds. Mr. De Ville concluded his very interesting account by stating that the collection had always been accessible to phrenologists, and all literary and scientific men, as well as to all persons of eminence; and that he had the consolation of knowing, that the most distinguished individuals, both native and foreign, consider the collection as an extraordinary mass of evidence in support of the truth of a science which has already effected so much to mankind.

Dr. Morton's Collection of Skulls.—We have before us a catalogue of the skulls of man and the inferior animals in the collection of Dr. S. G. Morton, of this city. This is the most extensive collection of crania in the United States, and is not surpassed, in number and variety of specimens, by more than one in Europe, viz. that of the late Professor Blumenbach, of Göttingen; and even this exception is doubtful. There

are in Dr. Morton's cabinet more than *five hundred* human skulls, collected from all parts of the world. He has a very great variety of Indian skulls, and a large number of Mexicans and ancient Peruvians. There are about *one hundred* skulls of the ancient Egyptians, obtained from the catacombs of Thebes and Memphis, and are supposed to be more than four thousand years old; some of these possess great interest, in a phrenological point of view. There are also about the same number of skulls of native-born Africans, or negroes; these, in their cranial developments, present quite a contrast with the preceding class, and evidently show that their possessors must have belonged to an entirely different race, or at least had characters essentially different. At some future time, we may give a description of the more rare and valuable human crania in Dr. Morton's collection.

The number of animal skulls, including quadrupeds, birds, fishes, and reptiles, is equally extensive, exceeding five hundred specimens. The receptacle of such a collection may very appropriately be named "*Golgotha*," a "place of skulls." "The principal object," says Dr. Morton, "in making the following collection, has been to compare the characters of the skull in the different races of men, and then again with the skulls of the lower animals, and especially with reference to the internal capacity of the cranium, as indicative of the size of the brain." That magnificent work, the "*Crania Americana*," is already, in part, the fruit of Dr. Morton's researches in this department of science, and we are happy to learn that he is still prosecuting his inquiries with the view of farther contributions to the public.

Pathological Fact.—The May number of the American Journal of Medical Sciences, for 1840, contains an interesting pathological fact confirmatory of phrenology. "A young man accidentally fired his rifle when its muzzle was pointing towards his face; the bullet first entered the left nostril, and laid it open so far as the nasal bone; it then penetrated the skull at the *inner angle of the left superciliary ridge, and emerged from the cranial cavity, through the frontal bone, at a point about two inches above the place of entrance.*" "Particles of brain were found lying upon the floor." After proper medical treatment, he completely recovered, and appeared, at the time this account was written, to be in the full possession of all his faculties, says Dr. H. Janson, the attending physician, "*except, perhaps, a slight imperfection of those organs, phrenologically, ranged in the course of the ball.*"

Progress of Phrenology.—We are glad to learn that a series of letters from the pen of Mr. M. B. Sampson, on "Criminal Jurisprudence, in relation to Mental Organisation and Social Responsibility," are now in course of publication in the London Spectator. It is well known that this is one of the most influential of the English periodicals, and the insertion of these letters in its columns cannot fail very materially to accelerate the progress of our science.

English Phrenological Journal.—This journal, which has been published at London for the last three years, is transferred the present month back to Edinburgh.

THE
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ARTICLE I.

OBSERVATIONS UPON THE CHARACTER AND PHILOSOPHY OF LORD
BACON.

The first thing that arrests the eye of the phrenologist in the likeness of Bacon, is the extraordinary size of the head; and next, the great mass of brain which lies in the region of the intellectual faculties. Both the perceptive and reasoning organs are wonderfully developed. In the portraits of philosophers and other distinguished men, it is not unusual to find either large Comparison and Causality, or uncommon perception, but it is exceedingly rare that we see, as in this instance, both compartments of the forehead full, wide, and deep. This is that happy combination with which we as seldom meet, as with the master minds who are indebted to it for their greatness. It is the organisation that marks the universal genius, and may be observed to some extent in the likenesses of Shakspeare and the admirable Crichton. It is the very head the phrenologist would conceive, *à priori*, as best fitted to contain the capacious mind of Bacon, the ripe scholar, the profound lawyer, and father of the inductive philosophy. His most *active* organs were, probably, Individuality, Language, Comparison, and Causality. A greater or more harmonious development of all these faculties has never, perhaps, been seen. In the head of the distinguished German philosopher, Kant, we find extraordinary reflective intellect, but only moderate perception, and he was the greatest abstract thinker of his age. In that of Newton, wonderful perceptive faculties and good Causality and Comparison. In Bacon, all these organs unite and blend in harmonious proportions. Both observation and thought would here be vivid, clear, rapid, and comprehensive.

To a mind thus prodigally endowed, simple facts would not appear alone, or in an insulated light, but all their relations and remote

connections be seized almost at a glance. Perception and reflection would act harmoniously, the premises immediately suggest the conclusion, and the most intricate processes of thought be evolved with a clear celerity approaching intuition. In its profound speculations, so gifted an intelligence would neither incline too much to the practical or theoretical—neither despise the real importance of facts in philosophy, nor overrate their value—neither sink altogether into mere details, nor soar into transcendentalism. From the great size of the head as a whole, from the general developement, the favourable temperament, and the habitual mental exercise, the phrenologist is constrained, by the principles of his science, to infer that Bacon must have been one of those rare examples of almost universal genius of which the annals of history do not, perhaps, present a dozen instances. In this wonderful man, all the conditions of phrenology meet, all its requirements are fulfilled, and of course there is no chance for the slightest equivocation. He was therefore great and profound on all subjects to which he directed his gigantic energies, or the new scheme of mental science is little better than its predecessors, and must be abandoned as a dream, an ingenious theory, shadowy, and unsubstantial as the metaphysics of the schools. It is our purpose to show, by something better than declamation, or mere assertion, that phrenology sustains itself nobly in this severe test, and passes the ordeal in triumph.

We present Bacon to our readers in the threefold character of philosopher, lawyer, and orator; and in each shall show that he was eminent, and in two of them pre-eminent, in an age singularly distinguished for intellectual excellence. His claims to be esteemed the most profound philosopher of his day are now so seldom questioned, and the vast benefits which science has derived from adhering to the inductive system are so generally admitted, that any attempt to enlarge upon the peculiar merits of the *Novum Organum Scientiarum*, may perhaps appear to some entirely useless and supererogatory. But as an intimate knowledge of the merits of that great work are chiefly confined to the cultivators of science, and as it is comparatively little known to the general reader, we have thought that a few remarks upon this subject would not be out of place. In an able and learned lecture, delivered before the Manchester Phrenological Society, at the opening of the session, October 6th, 1835, by Daniel Noble, member of the Royal College of Surgeons in London, the superiority of the Baconian over all precoding systems is so clearly shewn, as well as its harmony with the phrenological method of investigation, that we prefer availing ourselves of some extracts from that production, instead of presenting to our readers an outline

of the *Novum Organum*, which we had ourselves prepared for this article. After a few appropriate remarks upon the advancement of true science in the last two hundred years, he thus proceeds:—

Before the true nature of the Baconian method can be properly appreciated, it becomes necessary to say a few words relative to the philosophy which formerly prevailed. In remote ages, and down to a very recent period, philosophers, in exercising their intellectual powers in the investigation of scientific truths, devoted themselves almost exclusively to the cultivation of their *reasoning or reflective* faculties, and this, in most cases, to the complete neglect of the powers of observation; and hence, when they applied themselves to the solution of any problem in physics or in metaphysics, they would run lightly over in their minds the few facts which accident, rather than design, had made them acquainted with; then, by the conception of some false analogy, they would invent a *theory*, and ultimately fashion their few facts to a fancied accordance with this theory, rather than modify the latter so as to agree with the facts. In this most imperfect and fallacious method was the human intellect exercised for centuries; general axioms being directly raised from a few ill-digested particulars; and these being rested upon as unshaken truths, intermediate axioms were attempted to be discovered from them, while facts in opposition, when absolutely forced upon the attention, were distorted and misinterpreted, so as to accord with preconceived notions, or they were rejected altogether:—it was declared that the illusive subtle character of the senses rendered them unsafe and incomplete helps to the human intellect; that the only sure guide to man was that exalted faculty which so nobly distinguished him from the rest of the visible creation, the *reasoning* faculty; that the senses were only to be regarded as the servants of the intellect; and that, as a *theory* was more particularly the offspring of *reason*, and the perception of a fact *only* that of *sense*, the daughters of sense must, with all submission, yield in humble prostration to the majesty of the daughter of reason. It was even held that an observation of nature should be doubted, rather than a theory of the human reason. Thus when there arose a philosopher of great intellectual strength, who, having taken a superficial survey of almost the whole range of science, invented numberless theories fallacious as plausible, and fashioned a comparatively small number of facts into a fancied accordance with these theories, the whole world was in admiration, and stood captivated by the charm; and thus, for at least two thousand years, the real advancement of science was entirely suspended, and philosopher and the multitude bowed alike with submission to the all but infallible authority of the

mighty Aristotle! When men like Galileo or Copernicus advanced their new doctrines, they were tested by an appeal not to nature, but to the works of the Grecian philosopher! In such a state of things the natural powers of mankind could not have their legitimate direction; and we find that the philosophy of the middle and more remote ages was almost altogether of the professorial and disputatious kind, a method utterly unfit for the investigation of truth.

The method of investigating nature by the previous formation of a general theory, Lord Bacon calls the *anticipation* of nature, and this he designates as rash and hasty, and as utterly inconsistent with natural ordinance; and the intellect, being duly exercised upon objects, he emphatically styles the *interpretation* of nature. And yet, when all these things are duly considered, it will not excite our surprise that mankind should for centuries have chosen to anticipate rather than to interpret nature, especially when we take into account the corresponding views which the metaphysicians took of the human mind itself. This, the grand instrument for obtaining, and reservoir for receiving, the possessions of all science, was almost universally regarded as though it existed only *within*, and not *united to*, the body; its dependence in this life upon organisation was but rarely hinted at; and to a great extent it was considered that the mind is first formed with certain fundamental notions of general principles, independent of all experience, or of knowledge gained by the senses: and hence, with such a preliminary view of the constitution of the thinking principle, it need excite no surprise that philosophers should have delighted to reflect upon, speculate from, and attempt to trace out, their general notions; and that, with their magnificent views and ideas of the ethereal transcendency of spirit, and the innate grossness of matter, they should have disdained, humbly, patiently, and unostentatiously to observe nature, and collect facts, applying the *bridle*, rather than the *spur*, to the bepraised and much vaunted faculty of reason.

It was reserved for the illustrious Bacon to dissipate and disperse this false system of philosophy. He it was, who, by an acuteness of perception and magnitude of judgment which have never been surpassed, and but rarely equaled, had not only the penetration to detect the causes of error and retardation in the labours of his predecessors, but also the sagacity at once, and unaided, to perceive the grounds on which a true interpretation of nature could alone be established. And it may with certainty be affirmed, that, although the discovery of printing must be allowed to have originally given the renewed momentum to the mental energies and labours of mankind, still the present condition of the sciences, as conducing to human

civilisation and improvement, is in a great measure owing to the propounding of Lord Bacon's new method of investigating the laws of nature, as systematically laid down and explained in his "*Novum Organum Scientiarum*." It is by the application of these doctrines, which have a true foundation in the nature of things, that every practical improvement in the arts and sciences has been achieved; and if one branch of science more than another may be regarded as the result of the application of the Baconian axioms, phrenology is most indubitably that branch, formed as it is on the sure basis of the inductive philosophy. The laws of the human mind in relation to external nature, the wonderful intellectual powers of Bacon had at once the grasp to comprehend; and when we observe (the mind itself having become a matter of science) how beautifully the method of induction, as laid down by Bacon, accords with the observed laws and aptitude of the human intellect, as demonstrated by phrenology, our wonder and admiration for the man who, unaided by phrenology, could do so much, need scarcely recognise any limits—so fine an example of the grandeur of the human intellect, in its most exalted condition, did this truly great man present, and so perseveringly and effectually to the improvement of the human race were his mighty energies applied.

We will now attempt, in a very few words, to give a general notion of the inductive philosophy, as propounded in the "*Novum Organum Scientiarum*." It is there laid down that, before an axiom is established, all the facts relative to any given subject, which can be collected, must be brought together, and every affirmation which they imply, embodied in a general proposition; that such parts of the proposition as individual facts in the series are found to negative, must be removed, and what is left as constantly affirmed, must be received as an axiom formed by experience, itself the director in the contriving of new experiments; and as, in the progress of experiment, some circumstance may transpire invalidating certain points of the axiom, so must it be modified as to recognise the exception. As an example, suppose the subject of inquiry to be the effect of cold, or deprivation of heat, upon the dimensions of liquid substances: let us suppose the collection of all the previously observed facts, and what is the general affirmation left, after a moderately inquisitorial examination of the series? This proposition may be supposed to stand as the axiom to lead to new observations—*As heat is withdrawn from liquids, their dimensions decrease.* This, then, is taken as the guide to further experiments; and in the progress of these, it is found that, whilst water obeys the supposed general law until the reduction of temperature is brought to 40° Fahrenheit, on its arrival

at that point, a slight and gradual increase in dimensions takes place, until the freezing point is attained, and this fact creates a necessity for revising the axiom; itself, in its renewed condition, continuing the ever faithful index, by the aid of which persevering observation and experiment must be conducted.

Now, on comparing the old and the new systems of philosophy, will there be a difference of opinion as to which is that one which leads to truth, in its immediate results, and to the advancement of human civilisation in its consequences? The outlines of the two systems need only be presented to the unbiased decisions of common sense, and the "method of induction" will at once be declared to be that whose true foundation is nature and natural ordinances. Speculation and hypothesis may amuse, delight, and surprise mankind; and in former days, fame and honour would have been their hand-maids: but the time is now gone by, and every one who would reap the reward, must be industrious at seed-time. And here we will again quote, from the "Novum Organum," an aphorism regarding the evidences of true philosophy:—"Signs are also to be taken from the progress and increase of philosophies and the sciences; for things planted in nature, will grow and enlarge; but things founded in opinion, will differ and not thrive. And, therefore, if the ancient doctrines had not been like plants plucked up and severed from their roots, but still adhered to the womb of nature, and were fed by her, that could not have happened which we see has happened for these two thousand years; the sciences still remaining where they are, and almost in the same condition, without any considerable improvement; nay, they rather flourish most in their original authors, and afterwards declined. On the contrary, the mechanic arts which are founded in nature and the light of experience, and remaining pregnant, as it were, with spirit, so long as they continue to please, are ever upon their increase and growth; being first rude, then fashioned, and, lastly, polished and perpetually improved."

So much for the merits of the philosopher, as presented by Mr. Noble. In this relation, we will merely add the following words of Professor Playfair:—"The power and compass of the mind which could form such a plan beforehand, and trace not merely the outline, but many of the most minute ramifications of sciences which did not yet exist, must be an object of admiration to all succeeding ages."

We are now to view him in his professional capacity, and estimate his legal acquirements. To show his excellence as a lawyer, we will content ourselves with the following extract from an authentic history:—"When a student at Gray's Inn, he divided his time between law and philosophy; and nothing can be more false than

the fustian of some of his biographers about his genius being too lofty for the dry and thorny paths of legal investigation. He was early a proficient in law ; and the knowledge which he attained, could only have been acquired by a bent of mind suited to its investigations. On the 27th of June, 1582, he was called to the bar. His practice soon became considerable. In 1586, four years after, he was made a bencher. In his 28th year he became counsel extraordinary to the queen. In 1588, he was appointed a reader to his Inn ; and again, in 1600, the lent double reader ; appointments which showed the opinions of his professional acquirements held by those who were best able to judge of them, since the duty of reader was generally discharged by men of eminence in the profession, and seldom by persons so young as Bacon, in years and practice, when he first received the honour. His double reading on the Statute of Uses has been republished several times, first in 1642 ; and in 1804 it was edited by William Henry Rowe, as a work of high authority on the difficult subject which it investigates." Such is the evidence of his legal abilities.

We will now endeavour to prove, what may appear rather more difficult, his *pre-eminence* as an orator. This would be in no small degree embarrassing, but that we are fortunately in possession of the opinions of two of his cotemporaries, equally distinguished for their great learning and general knowledge, critical acumen, taste, and judgment. We allude to the accomplished Sir Walter Raleigh and Ben Jonson. Sir Walter entertained the most exalted opinions of Bacon's oratorical powers. He thought him the only man of his day who equally excelled as a speaker and writer. Ben Jonson esteemed his eloquence of a much higher order still, and compared it with that of the great Grecian. But he has so graphically described in Bacon what we may imagine to have been the splendor and power of Demosthenes, and given so true a picture of the very highest order of oratory, that we will present it in his own words. "There happened in my time one noble speaker, who was full of gravity in his speaking. His language, when he could spare or pass by a jest, was nobly censorious. No man ever spake more neatly, more precisely, more weightily, or suffered less emptiness, less idleness in what he uttered ; no member of his speech but consisted of its own graces ; his hearers could not cough or look aside from him without loss. He commanded when he spoke ; and his judges were pleased or angry at his devotion. No man had their affections more in his power. The fear of every man that heard him was lest he should make an end. Cicero is said to be the only wit that the people of Rome had equaled in their empire. Ingenium par

imperia. We have had many, and in their several ages (to take in but the former age). Sir Thomas Moore, the Elder Wiat, Henry Earl of Surrey, Chaloner, Smith, Cliot, Bishop Gardiner, were for their times admirable, and the more because they began their eloquence with us. Sir Nicholas Bacon, (the father of Sir Francis Bacon,) singular and almost alone in the beginning of Queen Elizabeth's time. Sir Philip Sidney and Mr. Hooker, (in different matters,) grave, great masters of wit and language, and in whom all vigour of invention and strength of judgment met. The Earl of Essex, noble and high, and Sir Walter Raleigh, not to be contemned for judgment or style; Sir Henry Saville, grave and truly lettered; Sir Edward Sande, excellent in both; Lord Egerton, the chancellor, a grave and great orator, and best when he was provoked. But his learned and able, though unfortunate successor, is he who hath *filled up all numbers*; and performed that in our own tongue which may be compared or preferred either to insolent Greece or haughty Rome; in short, within his view, and about his time, were all the wits born that could honour a language or help a study. Now things daily fall; wits grow downwards, eloquence grows backward, so that he may be named and stand as the mark and *ακμή* of our language." The reader cannot require better testimony than this, coming as it does from one who had often listened to Bacon, and experienced the impressions which he describes, and who was an accomplished scholar, as well as one of the severest critics of his age.

But there is one organ very distinctly marked in the likeness of Bacon, and strongly manifested in his life and writings, to which we have not alluded. Will any professor, who still walks in the groves of old metaphysics, or affects the porch or lyceum, tell us what is that principle of humanity which adorns alike philosophy and poetry, and yet is strictly neither the one nor the other?—which cannot be resolved into either beauty of language, harmony of numbers, pathetic description, nor into any of the splendid results of scientific investigation? That charming quality of which, in spite of his rare judgment, choice expression, and a modulation sweet and harmonious even to cloying, we find so little in the poetry of Pope, and so much amid the rougher measures of Byron and Shelley—that nameless grace which enchains the study of Plato, and allures him on through long and obscure labyrinths of mystic speculation, heedless of the aim and drift, and only conscious of peculiar pleasure—which in the *Novum Organum* enlivens even the abstractions of logic, and gilds each link of the inductive chain? It is the chief source of the artist's pleasure, and of his most refined emotions. It irradiates all it touches, whether it be art or science, poetry or philosophy. It

delights the eye in the efforts of the old painters, and thrills us in the sublime outpouring of impassioned eloquence. It enchants the ear in the compositions of Mozart and Beethoven, charms us in the matchless grace and airy movements of Taglioni, and gleams with no fitful light in the page of inspired song. What can it be? We cannot find it in the classifications of Locke or Reid, nor very distinctly perceive it in those of Brown or Stewart. It cannot be imagination, in the common acceptation of the term, for this is known to be a mode of action of all the intellectual faculties. It must be an independent primitive power in man. Phrenology has discovered and analysed that power, distinguished it by a name alike descriptive and beautiful, and has called it *Ideality*. Of this quality, Bacon possessed an unusual endowment. The organ is nearly as large in his head as in that of Shakspeare. Compare his likeness, in this respect, with that of his great cotemporary, Coke, and then compare the "Advancement of Learning," or the *Novum Organum*, with the "Institutes of Law." Coke appears to have been no less deficient in taste and philosophical acumen, than he was profound in his favourite science. His want of all taste, is sufficiently evinced in his Commentaries upon Littleton, which is, indeed, a literary curiosity in the way of pedantry and scholastic affectation. He seems not to have understood or appreciated the *Novum Organum*; and in his copy of that great work which the author presented to him, he wrote the following insulting lines, expressive both of his spleen and envy, and of a mind that could perceive nothing worthy of attention beyond the pale of his own profession:—

"Auctori consilium
Instaurare paras veterum documenta sophorum
Instaura leges justiamque prius."

As Bacon's great work was variously estimated in his day, and by some utterly condemned, it may perhaps induce the reader to put more confidence in Ben Jonson's opinion, which we cited above to show his judgment upon a production concerning the merits of which there is now scarce any difference of opinion. "Though by the most of superficial men, who cannot get beyond the table of *nominals*, it is not penetrated nor understood, it really openeth all defects of learning whatsoever. My conceit of his person was never increased towards him by his place or honours. But I have, and do, reverence him for the greatness that was only proper in himself, and in that he seemed to me over, by his work, one of the greatest men, and most worthy of admiration, that has been in many ages." We have thus shown the very intimate connection between his phrenological conditions and

the manifestations of his mind, and his varied excellence in philosophy, law, and eloquence. Upon his moral character, we are loth to dwell. It is painful to contemplate the shade that tarnishes the lustre of genius. And when the stain is found blurring the escutcheon of one who consecrated to the advancement of his race in knowledge and wisdom all the choicest products of his wonderful and creative spirit, who pointed out the noblest heights of science and of truth, and led the way through the unexplored alps of new discoveries—a benefactor of mankind, in the highest sense of the word—we experience a painful revulsion of our best feelings, we are inexpressibly shocked, and fain would efface for ever the unsightly spot that stains and sullies his otherwise perfect and consistent beauty. But envy of intellectual greatness is quick and ready to see every thing that depreciates, while it often remains blind to what redeems or adorns. The records of genius are full to abundance with the most minute details of its weaknesses, its follies, and its vices. The chronicle which has so faithfully preserved the fact that Shakespeare was a deer stealer, and fled from his native place in disgrace, is enriched with very few of the delightful and instructive incidents of his youth for which we would now be so grateful, but for which we must search in vain. We want in biography more of what distinctly characterises men of brilliant and original powers, and less of that which they share in common with all their race. If genius be the theme, let us know, at least, something of its true attributes—something of its young hopes and fears, its impatient yearnings and wild aspirations—something of its apparent contradictions, but real consistency with its own ideals—of that modesty which falls abashed before its own unattainable standards, but becomes bold and daring amid the models of the world—of its constant wrestlings with its own mismanaged sensibilities—of the gradual unfolding of its hidden powers, and of its proud but slowly acquired consciousness of its own strength.

As Bacon's conduct towards his patron, Essex, has considerably increased the odium with which his name has been surrounded, and as every one must wish to see any charge against him mitigated, if it can be done with truth, we present the following passage from a work which appears to have derived its materials from the most authentic sources. "The friendship of Bacon for this nobleman was not one of mere interest. Bacon's zeal in attaching his elder brother to the interests of Essex, and braving the opposition of his own powerful relations in his cause, proves that, in this instance at least, selfish feelings did not influence his conduct. A coldness came over their friendship, owing to difference of policy and opinion. Bacon in

vain entreated Essex to desist from the proceedings which caused his ruin. They parted on bad terms in consequence. Bacon reckoned the last act of Essex no better than madness. When ruin closed around him, *Bacon did not desert him*. Risking and encountering the displeasure of the queen on behalf of a friend of whose conduct he did not approve, Bacon did every thing that ingenious remonstrance and affectionate entreaty could do with her majesty, in behalf of the ill-advised earl. It is true that, at the command of her majesty, Bacon appeared as one of her majesty's counsel against his former friend. But not to mention the compulsion laid upon him by the duties of his office, and the risk of implication in the treasons of his patron, consequent upon refusal, the opportunity which it gave him of mitigating the severity of accusation—of more effectually securing the interests of his friend at court—viewed as these things ought to be, in connection with the mildness of his manner of conducting the case, his choice of a part the least prominent possible, and the disinterestedness and dexterity with which he urged the queen for the pardon and restoration of Essex, appear to place his conduct on this occasion in a light less equivocal than that in which it has been generally displayed by many of those who have narrated the circumstances. When commanded by the queen and her council to draw up a declaration of the treasons of Robert Earl of Essex, it was found necessary to alter and embitter it considerably, the attachment of Bacon having softened down his statement so much, that it was reckoned too mild for the nature of the case, and her majesty remarked on first reading it, 'I see old love is not easily forgotten.'

Bacon's moral organs are not equal in size to his intellectual. Although not particularly deficient in this respect, as compared with average brains, his head is rather deep and broad, than high and elevated. A phrenologist would not select him as an illustration of great moral or religious endowments. He would not compare him with a Fenelon or a Melancthon, nor ascribe to him the sublime virtues of a Howard or a Washington. Neither would he liken him to the moral monsters of the race—to a Vitellius, a Caligula, or a Pope Alexander VI. He would suppose that, under the influence of very great temptation, such an individual might fall, but could not believe that there existed in him any inherent love of vice. In short, he would not pronounce him remarkably vicious or virtuous. And especially he would not, through any love of antithesis, call him "The wisest, brightest, meanest of mankind." For without great injustice he could not thus denominate him. In no sense, indeed, can Bacon be called a mean man. A mean man is one that passes through life, absorbed in grovelling and selfish pursuits, without an

elevated aim or object. But we see Bacon, from his youth upwards, from the hour, when a boy of sixteen, he detected the errors of the Aristotelean philosophy and resolved to dissipate them, throughout his whole life, cherishing the sublimest thoughts, studious and meditative, and devoted to one great purpose—a student of law, resisting the allurements of pleasure, and bestowing his leisure hours upon that wonderful work from the publication of which he could anticipate no accession to his fame or fortune during his own life—at the pinnacle of political greatness, seizing the favourable moment, though at some risk to his worldly prospects, to enlist the prejudices of man in the cause of truth; and again, when the storm burst round him, and every selfish interest in life was for ever cut off—his fair fame blurred and blighted—himself poor and deserted—the same devotion to truth, the same desire to serve mankind, entirely possesses him, and he dedicates the remainder of his days to that posterity in whose service he had employed the vigour of his profound and brilliant mind. To that posterity he left his name and deeds, as if confident that the glorious disinterestedness which had in so great a degree marked the one, might perhaps wipe away the stain from the other, or at least cover it with the broad mantle of an enlightened charity.

ARTICLE II.

A REMARKABLE INSTANCE OF MUSICAL POWERS IN A CHILD.

[Extracted from the Report of the British Phrenological Association, held at Glasgow.]

Monday, Sept. 21, 1840.—The Hall was crowded with ladies and gentlemen.

Mr. Atkinson read a communication from Mr. R. Cull, of London, detailing a case of precocious musical talent, in the history of the *Infant Sappho*, Louisa Vinning. She was born at Kingsbridge, Devonshire, in November, 1836, being now (Sept. 1840) three years and ten months old. Her father, John Vinning, is a good musician: he sings, and plays well on the piano forte and violin, and, having also exhibited his musical talent at a very early period, he was educated for a musician, at the expense of Mr. Garrow. Mr. Vinning has two brothers, of considerable musical talent, who have left their business to make music their occupation. One is a violinist,

the other an organist. Mr. Vinning's father possesses a natural talent for music, which he manifested by playing the flute, in the band of a volunteer regiment, for several years. He knows nothing of the technical language of music—he played entirely by ear, and he kept tune and time well.

Louisa Vinning, surnamed by Mr. Parry the Infant Sappho, enjoyed music at a very early age. "She was only nine months old," her father states, "when I first observed the intense delight she derived from music: when crying, the sounds of a musical instrument immediately soothed her, her whole frame moving in unison with the measure, and her face beaming with enjoyment. I played to her occasionally on the violin. I took the opinion of several medical men on the propriety of indulging her in this kind of amusement, lest she should be injured by too early excitement. Their advice was, to give her gentle exercise in singing, and to guard against late hours." She sang before she could speak. Her passion for music increased, until she seemed to require an atmosphere of music to exist.

In the early part of 1839, she was discovered to have walked in her sleep, and to prevent accidents, she was afterwards put to sleep on a sofa in the sitting-room until the family retired to rest; she frequently sang in her sleep, and one evening, when only two years and eight months old, she sang, sweetly and distinctly, a melody perfectly new to her father, and repeated it several times, so that he wrote it down, gave it to Mr. Blockley, who arranged it, wrote the poetry, symphonies, and accompaniments, and called it the *Infant's Dream*. Mr. Thalberg, the celebrated musician, in a letter dated 11th December, 1839, speaks of her astonishingly correct singing, and her pleasing voice. Sir George Smart, in a letter dated 3d April, says, "I beg leave to state that I consider her a most wonderful child, possessing strong feeling for music, with an extraordinary correct ear both for time and tune; her singing is perfectly natural, without effort, and her infantine manners and childish appearance prove her extreme youth." Mr. Moschelles says, in a letter dated 29th March, 1840, "She appears to me, not only to be most liberally gifted with a voice of unusual compass, but also with a sensitiveness of organisation, whether as concerns the power of correctly retaining melodies, or of reproducing intervals, very remarkable, being only three years and a half old."

She sung before the queen and court at Buckingham Palace, on the 3d of August, 1840, and received substantial proofs of the queen's delight at her talent. She is now singing three nights a week in the Lecture Theatre of the Polytechnic Institution. She

sings the musical *sounds* of the melodies without words; and repeats any Italian air, after hearing it only three or four times. Her style of singing is very remarkable for similarity to our first opera singers. It is appropriately supported by the adoption of the natural language, gesture, &c. to express the sentiment of the air she sings. In her graceful, though infantine action, she is often very expressive; but, like most public singers, there is commonly a redundancy of action, and that, too, of an exaggerated nature. Her public singing at the Polytechnic Institution commonly comprises the following:—

1. An Italian air.
2. The Infant's Dream.
3. The proof of her power to sing passages struck on the piano on the instant, which frequently terminates in some Italian air.
4. Her power of changing the style and key of music, without the usual preparation, in which she passes at once from some Italian to an English, thence to a Scottish, and finally to an Irish air.
5. An Italian air.
6. Finale, part of a harmony in the National Anthem of God save the Queen.

All her talent is natural, for hitherto she has received no technical instruction in music. Her voice is two octaves in compass; the lower notes are very sweet in quality, and she possesses great power of voice. She can introduce occasional sharps and flats with great precision and elegance. When false notes were purposely played to try her, she invariably ceased, and evinced some anger.

She is an engaging child, and, from her elegant movements, is much admired. She has a great talent for dancing, also. She is very energetic, her general activity is great, her feelings powerful, and very exciteable. She is self-willed, destructive, very ready to talk, and very arch.

The essay then stated the phrenological measurements of the head, all of which were very large for a child of her age. She is of dark complexion, dark brown eyes, brown hair, slender form, restless movement of body and eyes, and rapidity of action, which denote great cerebral activity. The temperament is *bilio-nervous*. The basilar region of the brain is large, but the coronal predominates. The lateral is very large at Destructiveness and Secretiveness. The anterior is also large. The profile much resembles the profile portrait of Clara Fisher. In so large a sized head there are no small organs. Those very large, are *Secretiveness*, *Destructiveness*, *Benevolence*, *Firmness*, *Love of Applause*, *Imitation*, *Melody*, *Tune*, *Comparison*; the others are large.

This head is interesting, musically, as an example of the energetic

manifestation of musical talent. It is also interesting, as it so nearly corresponds, in its present powers, with the infantine powers of Mozart, Crotch, and Kellner, as quoted in the *Phrenological Journal*, new series. The case is interesting, as pointing towards a circumstance in the production of precocious talent. Mozart, Crotch, Kellner, and this child, are each offspring of musical fathers; and the two latter, of musical paternal grandfathers. Other circumstances also operate as causes, for the offspring of all musicians are not musical, and but few are precocious musicians.

After the reading of the case, some interesting remarks were made by Mr. Atkinson, Dr. Gregory, Mr. De Ville, Mr. Simpson, and Mr. Combe, and several other cases of precocious talent were alluded to by the different speakers. Dr. Gregory said it was a great pity that this child should be subjected to such increased activity of brain, which, it was well known to phrenologists, was very liable to produce disease, and lead to premature death; and Mr. De Ville stated that he had intimated to the parents of the infant Lyra, another musical child, that the exertion of brain to which she was subjected, in consequence of her public exhibitions, would infallibly bring on premature decay; and, as her parents did not listen to his advice, which was agreeable to the phrenological doctrines, the child, by the continued and severe exercise of her brain, fell into disease and died at an early age.

ARTICLE III.

REMARKS ON THE CEREBRAL ORGANISATION OF THE AMERICAN INDIANS AND ANCIENT PERUVIANS.

The origin, character, and destiny of the aborigines of this country, have always excited great interest and inquiry. Various have been the means resorted to by historians and philosophers, in order to understand their history, modes of living, and peculiar mental characteristics. With what success these inquiries and researches have been attended, it is unnecessary here to speak. It may, however, suffice to state that one of the most important means of understanding the true nature and character of the American Indians, has been entirely neglected till within a few years. We refer to a knowledge of their *physiology* and *phrenology*. This mode of investigation is calculated to throw new light on their habits, customs, and mental

manifestations, as well as explain many curious phenomena in their history, which have been hitherto inexplicable.

The publication of the "*Crania Americana*" constitutes a noble commencement in this department of inquiry. In a review of this great work, in the *Western Journal of Medicine and Surgery*, for July, 1840, may be found some extremely interesting remarks on this subject. The review referred to, is from the pen of Dr. Charles Caldwell, and, like all that gentleman's productions, is characterised by great perspicuity and nervousness of style as well as power and force of reasoning. These remarks are so peculiarly interesting and valuable, that we are induced to transfer a part of them to this Journal. Dr. Caldwell, after making some reference to the splendid plates in the *Crania Americana*, proceeds to remark as follows:—

Are we asked on what particular mental attributes of their owners those figures of skulls are calculated to throw light? We reply, on every attribute, provided they are thoroughly understood; but more especially on every leading attribute, fitted for the elevation or depression of a people, by giving them more or less of animal propensity, and of general mental power and character. They disclose, for example, the comparative amount of *native* intellect possessed by those who wore them; the comparative amount of native morality, sociability, and domesticity; the comparative amount of native pride, independence, and love of liberty, self-government, and sway over others; and also the native amount of animality and passion, manifested in sensual appetite, vindictiveness, cruelty, bloodshed, and war. Nor is this all.

The configuration of the skull and brain discloses likewise something of the different modes in which different tribes and individuals wreak their personal vengeance, or conduct themselves in war—whether by a bold and open attack by day, or by ambush and skulking stratagem in the night. And when two tribes or nations nearly equal in numbers engage in war, the comparative size and figure of their skulls foretell in language sufficiently intelligible, and which ought not to be listened to with incredulity or disregard, to which side victory and conquest are likely to incline. They are evidences of the possession or destitution of warlike qualities.

That these sentiments will be received with distrust by many, and perhaps entirely rejected by more of our readers, we are prepared to believe. Nor is the cause of this unknown to us. It is the want of an acquaintance with the principles of the new scheme of mental philosophy. For with those principles, the sentiments just uttered are in perfect accordance. They are in harmony with the admitted physiological fact, that the brain and nerves are the master tissue in

the organisation of our bodies; that they control, strengthen, and direct the other tissues; and that, other things being equal, the greater the amount of cerebral matter individuals possess, they will, whether acting alone, or in union with their fellows, prove the more powerful, efficient, and successful in their enterprises. And the more likely they will be to become civil rulers in peace, and temporary victors and permanent conquerors in periods of strife. Of course, on the contrary, a tribe or nation whose skulls and brains are comparatively diminutive, are, in consequence of that defect, the less able to defend themselves, and the more liable to be vanquished and enslaved, or exterminated, in war.

Such, we say, are the grounds on which the sentiments just expressed are founded. And not only are they in unison with the science of phrenology, but by many of the plates in the "*Crania Americana*" they are abundantly sustained. And of the following points respecting human character, those plates furnish also, in equal abundance, matter of satisfactory illustration and proof. Other things being alike, the more the animal organs of the brain predominate in a tribe or community over the moral, religious, and reflecting ones, the more ignorant and vindictive, blood-thirsty and cruel in war, and other forms of conflict and punishment, whether public or private, will that community show itself. The larger in a tribe or nation the organs of Self-esteem, Love of Approbation, Conscientiousness, and Firmness are, other things being equal, the more difficult of conquest will that tribe be found, and the more certainly will it prefer extermination to slavery. Once more: Other things being the same, large moral, religious, and reflective organs facilitate the civilisation of a people—and the reverse; and when the moral and religious organs are large in a community, and the intellectual, animal, and semi-animal ones small, that community will submit to bondage rather than to extermination, and perhaps even rather than to banishment from its native soil. To illustrate and prove these positions, by materials derived from our author's "*Crania*:"

Those plates demonstrate, that in the brains of what the writer calls the "*American family*," which constitutes chiefly the aboriginal people of *North America*, the reflecting, moral, and religious organs are comparatively small, and the animal and semi-animal ones proportionably large. And the experience of more than two centuries has abundantly evinced, that that "*family*," as a body, can be neither civilised nor actually conquered and enslaved; but that their ultimate extinction is an event which is approaching, and whose accomplishment nothing earthly can prevent. This is true of the entire family, on account of the general similarity of their organisa-

tion, the animal and semi-animal portions of their brains being preponderant. But in some branches of the family this is more signally the case than in others. And their propensities and characters correspond, with great exactness, to their cerebral developments. Thus the animality and semi-animality of the Charibs are immense, while their moral, religious, and reflecting organs are correspondingly small. And they are, beyond all other tribes, wild and indomitable, ferocious and sanguinary. Fierce, warlike, and unyielding, rather than submit to conquest and slavery, or to any form of civil restraint, they covet extermination, which is nearly accomplished. Of the Huron tribe, whose cerebral developments are in no small degree analogous, the same may be said. They have refused to yield, have fought desperately, and practised every form of cruelty, and are nearly extinct. With an organisation and development of brain, and a condition of mind not dissimilar, the Seminoles are pursuing at present a course of warfare, which, if not abandoned, must lead in the end to a like result.

Possessed of brains, as appears from their skulls, more liberally supplied with moral, religious, and intellectual organs, the Creeks, Choctaws, and Cherokees, though brave, warlike, and proverbially artful, have shown themselves less inexorably cruel, and less brutally devoted to havoc and blood. They are even reported by a few persons, and believed by many, to exhibit faint glimmerings of an approach to civilisation. This, however, is but groundless rumour. Even of the Cherokees, believed to be the more cultivated of the three tribes, this may be affirmed. The "*full-bloods*" among them are degraded savages. It is the "*half-bloods*" alone, and other mixtures, more or less approaching full Caucasianism, (and their number is small,) that exhibit any positive traits of civilisation and improvement. The chieftain Ross was almost white; Opotheoholo had also much Caucasian blood in him; and the inventor of the celebrated Cherokee alphabet was the son of a Scotsman. And the cerebral developments of the two first named of these, whom we saw in Washington, corresponded sufficiently with their talents and characters. Nor, indeed, can the "Scottish-Cherokee" be correctly pronounced the inventor of the alphabet in question. He was only the fortunate receiver, from a Caucasian, of a plain and practical suggestion, of which the alphabet was ultimately the product. The stories so widely and zealously circulated, proclaiming the Cherokees an industrious, civilised, agricultural *people*, are rank fabrications, designed no doubt for selfish and party purposes. Considered as a tribe or nation, nineteen out of twenty of them, and perhaps even a larger proportion, are indolent, degraded, and miserable savages.

And, instead of having property, as they are asserted to have, a majority of them, probably not much less than that just stated, are penniless wretches, in a much worse condition than Caucasian paupers.

Another tribe well worthy of being noticed in this place, on account of the light it sheds on the connection between cerebral development, mind, and character, is the *Araucanian*. That people inhabit one of the Chilian provinces, toward the southern extreme of South America, and in the excellent development of their brain, as well as in their amount of native intellect, improvability, vigour, and general efficiency of character, stand at the head of the American "RACE," the Mexicans and Peruvians, of former times, in some respects excepted.

In size and shape, the skull of the Araucanian makes a nearer approach to the skull of the Caucasian, than that of any other variety of the aborigines of America. And so does the individual himself, in quickness, strength, and compass of mind, and in the energy, firmness, and efficiency of his action, whether he be engaged in hunting or war, or in any other less exciting and perilous pursuit. In the organs especially of Self-esteem, Firmness, Conscientiousness, Combativeness, and Love of Approbation, his developments are large. Hence his lofty pride and spirit of independence, with his devotedness to a life of liberty, and his resolution to maintain those privileges at every hazard and every cost, have never yielded under any form of adversity, or degree of suffering. For perhaps a century and a half, his unconquerable daring, and determination to be free, have led him to sustain a ceaseless war with the Spaniards on his borders; and his resources of intellect, but little inferior to those of his foe, and disciplined into skill by trial and experience, have enabled him to do so with uniform success. Still, however, does his boundless pride, and his reckless and ungovernable aversion from the slightest check on his licentious freedom, coupled with a deficiency of reflectiveness and moral feeling, prevent him from submitting to the mild and salutary restraint of civilisation. With all his qualifications, therefore, for a different state of life, he is still a savage. And he is so, as the result of his cerebral development, which renders him intolerant of the control of law, and makes him resolve, like Christian, in Byron's "Island," "to live and die, the fearless and the free."

When attentively studied, and thoroughly understood in their nature and relations, the whole case and condition of the Mexicans and Peruvians, ancient and modern (for *they* have their ancient and modern epochs as distinctly marked, and contrasted in as broad and

bold relief, as the Europeans and Asiatics)—the case and condition of these nations, when fully and correctly comprehended, present one of the most extraordinary spectacles in the history of man. And, as a moral problem, its solution is as difficult, not to say impracticable, as its aspect as a phenomenon is singular and interesting. Though reiterated attempts to that effect have been made by philosophers, the most distinguished for their general knowledge and powers of research, no approach that can be called even *seemingly* successful, has yet been made toward causes competent to the disentanglement of the *knot*. True; efforts have been tried to sever it by the sword—not of *reason* and *science*, but of *fancy* and *conjecture*; and the blows have but rebounded on the feeble pretenders and aspirants who unskillfully dealt them.

Somewhat more, we believe, than three centuries ago, Mexico and Peru were found by two bands of European rovers, in the singular, not to call it the *marvellous*, condition to which we have referred. They were two populous and apparently powerful empires, under the restraint of discipline and law, and not a little advanced in civilisation, wealth and science, luxury and the arts. Yet they had but little, if any, intercourse with one another, and none with any other civilised people, and were situated like two vast islands in a trackless and unexplored ocean, or two mighty oases in the midst of a boundless desert of ignorance and savagism, degradation and poverty. Nor could there be discovered, we repeat, by the ablest scheme of research that could be instituted, any adequate causes of the immense difference, in matters of mind, between them and the various nations around them. In most respects the phenomenon was unique—no parallel to it then existing, or having previously existed, within the purview of history.

Greece received much of her civilisation, science, and arts, from Egypt; Rome, from Greece; and other parts of Europe, from the Italian repositories of intellect and science, literature and taste. But for Egypt, no extraneous source of instruction has yet been found—nor perhaps even fancied. Like an electron, *per se*, she seems to have been to herself, from her own native endowments, the source of her own pre-eminence and grandeur. Of Mexico and Peru, the same may be affirmed. They stood alone, instructed without instructors, civilised without the influence of examples to that effect, and splendid and mighty from the working of causes inherent in themselves. Like Egypt, therefore, they seem to have been *originals*; not imitators, copyists, or dependents on others, instead of themselves.

Such were some of the peculiarities of the Mexicans and Peru-

vians. But not the whole of them—nor even, perhaps, the most striking and unexpected. Though constituting great and independent nations, they were *no warriors*, and became the victims and slaves of a mere handful of freebooters, visiting them from a distant portion of the globe. At the head of less than two hundred Spaniards, Pizarro overthrew, and reduced to the most servile condition, the empire of Peru, with a population of several millions of subjects, affectionately attached to the person of their chief, and enthusiastically devoted to their religion and government. And with a Spanish band of less than five hundred, aided by auxiliaries from some of the surrounding nations, Cortez conquered and enslaved the more populous and powerful empire of Mexico—two events which, as already intimated, are uninterrupted enigmas in the history of man. To what cause, or combination of causes, shall we look for an explanation of the fact, that victory bound her chaplets on the brows of a few, in conflicts where their adversaries outnumbered them in the ratio of *ten thousand to one*? In such a case, had not the Mexicans and Peruvians been essentially deficient in some high qualities indispensable to success, they could, with perfect ease, have thrown themselves on their foes in numbers so overwhelming, and with a force so irresistible, as literally to tear them into fragments, or trample them under foot, and crush them in mass. Nor could any form of armour, or mode of battle, have saved the invaders from such an issue. It is a question, then, in anthropology, of no common interest, what were the qualities in which the South Americans were so fatally deficient? It was not in abstract personal courage. In conflicts with each other, and in wars with the surrounding nations, they not only manifested ordinary bravery, but had become the conquerors and masters of the land. It was not in personal strength and activity. In those qualities they were but little, if at all, inferior to their invaders. And the prize for which they fought was of the highest value, and the most inspiring character, including all that is dearest in life. It was their firesides and their families, their altars, and the hallowed ashes of their ancestors. It was every thing that enters into the all-absorbing thoughts, and the soul-inspiring sentiments of the man and the patriot, which should render him invincible when doing battle for his *home* and his *native land*.

Nor was it, as most writers and pretended wise ones on the subject have contended, their vast superiority in military discipline and skill, acquired by more abundant experience in war, that rendered the few Europeans so easily triumphant over the almost innumerable hosts of Americans. Far from it. The difference in military tactics, as far as experience was concerned, between the two contending parties

in Mexico and Peru, was not greater, perhaps not so great, as that which existed between the legions of Cæsar and the barbarous hordes with which he contended in Germany, Gaul, and Britain. Yet the issue of war in the two hemispheres was widely different. Notwithstanding his skill and invincible hardihood, as a soldier, and his boundless resources of mind, as a chieftain, Cæsar rarely won a cheap or an easy victory, even when the numbers he led to battle were but little surpassed by those of his enemy.

Others have attributed the easy conquest of the Mexicans and Peruvians to the superstitious veneration in which they held their ruthless assailants, regarding them as beings of a superior nature, who had descended to them from the skies, to become their rulers and benefactors. But that a delusion of this kind took possession of the Americans, seems highly improbable. And it is still more improbable, even admitting its occurrence at the first moment of the arrival of the roving marauders, that it should have been of long duration. The inhabitants of the New World must have very soon discovered that the emigrants from the Old were as subject as themselves to bodily injuries, sickness, and other misfortunes and infirmities, and to death itself from wounds and diseases. It is even probable, if not certain, that, from some of these sources of calamity, especially from that of *seasoning* sickness, the strangers must have suffered much more than the natives. And if our recollection fail us not, such was actually the case. Many of the Spaniards sickened, and not a few of them died, while those whom they had reduced to bondage remained healthy. From the notion of their *divinityship*, therefore, admitting it to have had an existence, the "Iberian freebooters" derived in the end but little advantage. There is reason to believe that such advantage was more than counterbalanced by the scorn which their mean cupidity, and the detestation and abhorrence which their cruelty and revolting profligacy engendered.

Still, then, does the question, "Why were the Americans so easily subdued?" remain unanswered. And the correct answer, virtually but silently rendered in the "*Crania Americana*," is derived from the science of phrenology alone. They were engaged in war with a race of men *superior to themselves*—though not descended immediately from the skies. *For the Spaniards were Caucasians.* And whenever, or wherever, that race, which stands at the head of the great community of man, (as the nervous and cerebral tissue takes rank of the other tissues of the body,) comes into collision, whether belligerent or pacific, with either of the other races, it never fails in the end to gain and maintain a decided ascendancy. To this position, we confidently believe that no solid exception can be adduced from either

fact or philosophy—the examples of the present, or the history of the past. Nor is it from occurrences in the New World alone that it receives at once illustration and proof. By a phenomenon of equal moment, notoriety, and interest, or rather perhaps of much greater, in the Old World, it is further and no less substantially maintained. We allude to the degraded condition in which Hindostan, and several neighbouring principalities, are held by a British army, which, from its incredible inferiority in numbers to the almost boundless amount of population it controls, might well be deemed infinitely incompetent to the mightiness of the task. That army, containing less than *eighty thousand* rank and file, not a moiety of them, we think, being natives of Europe, has already conquered, now holds in check, and virtually consigns to a degrading vassalage, one hundred and twenty millions of human beings!

To what cause or causes is this astonishing issue ascribable? The answer we think plain. The Asiatics, though not all of a really different *race* from the Europeans who enslave them, are a *degenerate*, perhaps a mongrel, branch of the same race. They are not genuine Caucasians; while a large portion of their conquerors and masters are Anglo-Saxons—that variety which stands decidedly at the head of the Caucasians, and is their highest caste.

Are we asked to specify the actual difference between the Anglo-Saxon and the Hindostanic varieties of man, which gives to the former such a marked superiority over the latter? We reply that it consists in the different size and form of the brain in those varieties, which are fully disclosed by corresponding difference in the size and form of their “crania.” Not only is the *entire* brain of the Anglo-Saxon considerably larger than the brain of the Hindoo; the superior and truly governing organs of it are larger in a still greater proportion. Are we again asked to name those ruling and power-bestowing organs? They are, we reply, more especially *Combateness*, *Destructiveness*, *Self-esteem*, *Approbativeness*, *Firmness*, and the *reflecting* organs. All the organs calculated to give greater strength and energy of character, and greater scope and vigour of thought, are larger. Hence the native and necessary superiority of the Caucasians, especially of the Anglo-Saxon branch, in war, as well as in the higher walks of science, literature, and the arts.

For the easy conquests of Mexico and Peru, similar causes may be correctly assigned. Those events were attributable not to any superiority of civilisation and education on the part of the *invaders*. In these points the *invaded* were nearly, if not quite, on an equality with them. The cause was to be found exclusively in the superiority of native strength and compass of mind on the part of the Europeans.

And those qualities arose from the greater size, and better development and configuration of their brains.

The Spaniards were a branch of the Caucasian race. And though they did not belong to the most highly gifted and most efficient branch, they were greatly superior to the American race, with whom they were in conflict. And that superiority was indicated by the greater size, and better development and shape of their crania and brains. They had, in their cerebral organisation, a larger endowment of ground for intellectual qualifications, and comparatively a less preponderance of that forming the seat of mere animality. And these native advantages of brain bestowed on them a range and measure of mental compass and power, which the inferiorly organised, and weaker-minded Americans were unable to resist. Those comparative *imbeciles* stood related to their *vigorous assailants*, as boys do to men, idiots to sound-minded persons, or as inferior animals to the human race. Hence the amazing suddenness and completion of their overthrow and degradation!

Groundless and visionary as this position will no doubt appear to those who have *never made the subject of it a matter of study*, it will present itself in that light to *such persons only*. Individuals sufficiently acquainted with it will view it very differently. They will regard it as one of the most grand and impressive physiological truths that has ever been disclosed. For physiological the phenomena it relates to are—as clearly and decidedly so, as the digestion of food, the secretion of bile, or the circulation of the blood. Yet was it never dreamed of as such until the discoveries of Gall, which will yet be acknowledged to constitute themselves one of the chief scientific triumphs of the nineteenth century; while their fruits will be deposited in the temple of philosophy, among the most glorious and invaluable trophies her ministers have won.

Nor is it alone the so deemed mysterious events of the conquest of Mexico, Peru, and Hindostan, that the discoveries of the great German are destined to illuminate and make intelligible and useful. They will render to mankind a similar service, as relates to many other enigmas that have confounded the anthropologist, and eluded his scrutiny. In truth, they will yet be referred to, by the students and masters of mental and moral science, as the great expounders of the philosophy of history. They will shed on the deeds and characters of the ancient Greeks a light which the world has never yet enjoyed. They will disclose the causes of the ambition, wars, and conquests of Philip and Alexander. They will tell why Cæsar first glorified and then enslaved his country, and ultimately fell by the dagger of Brutus; why the Roman empire, after having become, and continued for cen-

turies, a marvel of power and greatness, injustice and crime, was reduced at length to a mighty ruin by barbarian invaders; why Palestine was inundated by the mingled blood of the Crusaders and the Saracens; why the clouds of the dark ages, brought down on the world by the disasters of the sword, were ultimately dispersed by the return of the sun of literature and science; why Napoleon first astonished the world by the miracles of his greatness and power, and then ended his career in captivity and exile; and why our own country was rendered independent and glorious, by Washington and his compatriots; and has increased in wealth and renown, and their concomitants, with a rapidity and steadiness altogether unprecedented in the annals of nations.

These were all physiological events, produced through the functions of the human brain, and will hereafter be universally acknowledged as such, by those who shall become competent judges of the subject. And for this great result, the world will be indebted to the genius and labours of the founders of phrenology. Physiologists and philosophers will learn and acknowledge, that man, to be studied correctly, as a being to be acted on mentally himself, or to act by mind on others, whether for elevation or degradation, for good or for evil, *must be studied through his brain*. And that in all their manifestations and conditions, his moral and intellectual natures, instead of being any longer investigated by or through the laws, supposed to regulate abstract spirit, must be approached and comprehended (if comprehended at all) through the instrumentality of the material machinery on which his spirit immediately acts. In other words; that all the events and phenomena in which man is concerned, either as agent or subject, and whether they be peaceful or belligerent, scientific or literary, instead of being regarded, as heretofore, as the *immediate* products of mind, will be considered, in time to come, as referable to mind only through the attributes of the nervous system. Thus will anatomy and physiology be justly ranked among the most elevated branches of human knowledge, and be received and recognised as the true foundation of anthropology and mental philosophy.

ARTICLE IV.

Physiology for Schools. By REYNELL COATES, M. D. 12mo.
pp. 382.

This is a new work on the Elements of Physiology, recently issued from the press of Messrs. Marshall, Williams & Butler, in this city. It has been prepared with the design of being introduced as a class-book into schools and institutions of learning generally, and from a careful examination of its contents, we are fully satisfied, that in style, matter, and execution, it is decidedly better adapted for this purpose than any other work now extant. We could point out its excellences more in detail, but this is not our present object. In a work which professes to be an exposition of the functions of the animal economy, and which will doubtless be not only *read*, but *studied*, by some thousands of the rising generation, our first inquiry as phrenologists is to know what sentiments it inculcates respecting the structure and offices of the brain.

Dr. Coates, the author of the work now before us, is well known as an able and popular writer on medicine; and his opinions on such subjects are certainly worthy of great confidence and respect. Phrenology, being strictly a part of physiology, could not consistently be passed by unnoticed in a work like the present; and we are glad to find that Dr. Coates has not only made respectful mention of the science, but has discussed at some length the functions of the brain, in perfect accordance with its fundamental principles. It is true, he speaks in somewhat unfavourable terms of craniology, or rather intimates that the difficulties in the way of its application are so great, that it can never be rendered of much practical utility. In this opinion, however, we think he is greatly mistaken; and that a more thorough knowledge of the details of the science, as well as of the success with which some of its advocates are able to apply it, would fully convince him of the fact. It is here, in its *practical applications*, where phrenology claims so great superiority over all other systems of mental philosophy.

But there is one feature in Dr. Coates's remarks on this subject, with which we must express our decided disapprobation. It is in those instances where, without sufficient cause or discrimination, he casts *certain reflections* on the advocates of phrenology as a body. We regret to be obliged to make this stricture, but a sense of duty to ourselves, as well as to the cause of truth, require it. We might go into particulars on this point, but prefer to fill these pages with more

valuable and instructive information, than with matters of mere criticism and controversy. Dr. Coates offers some excellent remarks near the close of his work on the functions of the nerves and brain, from which we make the following extract:—

The brain, then, may be regarded as a great collection of large ganglia, collected together into one mass, and connected by numerous fibres unprotected by neurilema. Soft and pulpy as these fibres are, we can sometimes distinguish bundles of them passing from one mass of cineritious matter to another, throughout the substance of the brain; thus forming regular naked nerves, pursuing a different course from the fibres constituting the great bulk of the medullary matter, in which they are embedded. Each of these bundles must possess its own peculiar class of functions, for each is a distinct part of the nervous system. Such nerves are generally termed *commissures*, and they are supposed to form connections between corresponding portions of the two hemispheres, in order to cause them to act in concert. Many modern discoveries, which you are not prepared to understand, are calculated to add probability to this conclusion.

As the health and perfection of the brain—the principal instrument of the mind—is necessary to the full display of what we commonly call the mental faculties, you would naturally suspect that the more complex the structure of the brain of an animal, the greater will be the vigour of its mental faculties. Now, so far as human research has yet penetrated with accuracy, such is the general result.

When we cast a broad glance over the whole chain of animated nature, we observe that the nerves of organic life seem to make their appearance before the spinal marrow, and that this organ is completed before the brain presents more than a mere rude button on its summit. Even this button appears to compose chiefly the rudiment of the cerebellum; and this lesser brain reaches a high degree of developement and complexity of structure, even while the cerebrum continues a simple smooth mass of nervous matter, with scarcely a trace of the convolutions to be seen. As we advance towards the higher classes of animals, the cerebrum becomes more and more involved in structure, and the closest of observers are of opinion that this progress of developement answers very nearly to the order in which the apparent intelligence of the animal increases.

In ascending the series of vertebrate animals, from the simpler tribes to man, it appears that the cerebellum is first brought to perfection; that the posterior lobes, and the base of the cerebrum, are next in progress; that the upper portions of the middle and anterior lobes are superadded in the more lofty creatures, but do not reach their ultimate condition until we arrive at man.

The progress of the brain, from infancy to manhood, is well known to be in most respects similar to this. The base of the brain, and the posterior lobes, are first developed, the middle lobes claim the ascendancy in youth, and the anterior lobes hardly acquire their full relative size and firmness before the age of thirty years.

The observations mentioned in the four last paragraphs, have induced a very general and natural belief among physiologists, that the organisation of these several portions of the brain has something to do with the display of the faculties which distinguish the various classes of animals; but, in the hands of a modern sect of philosophers—the *phrenologists*—this opinion has been carried out in detail, as I shall presently have occasion to state.

Infancy is governed, like the animals, mainly by the instinctive feelings; for it is yet asleep to its responsibilities, and has not acquired more than the rudiments of its rational faculties. The base of the brain being, then, much farther developed than the upper part, is it not reasonable to conclude, that the nervous fibres which convey to the mind the impressions which awaken the instinctive emotions, are located in that part of the brain?

Childhood and youth are governed mainly by the moral sentiments and loftier affections; and in those states of being, the upper portions of the middle lobes gradually approach their highest perfection. *If, then, the mind requires material instruments to call these faculties into play—if the proper organisation of the brain be necessary for their display—are we not warranted in locating their proper tools in the middle lobes of the cerebrum?*

Manhood is distinguished by the perfection of the reasoning faculties, and it is that portion of the brain which fills the cavity of the superior part of the forehead—the upper portion of the anterior lobes—that then, for the first time, acquires its full dimensions, and completes the structure of the nervous system. *If there be any part of the brain necessary to the exercise of the reasoning faculties, where are we so likely to find it as in the anterior lobes?*

If you acknowledge the force of these remarks, you grant all the fundamental principles of that highest branch of physiology, called *phrenology*, which is simply *the science that treats of the functions of the brain*. But phrenology, like all novel subjects of human research, has been loaded with empirical pretension on the one hand, and ignorant attack upon the other, till its rational cultivators can scarcely recognise its features as drawn either by its professed friends or foes in general society.

ARTICLE V.

MR. GEORGE COMBE AND THE PHILOSOPHY OF PHRENOLOGY.*

"Till the advocates of Christianity shall have become universally much better acquainted with the true character of their religion than, universally, they have ever yet been, we must always expect that every branch of study, every scientific theory that is brought into notice, will be assailed on religious grounds by those who either have not studied the subject, or who are incompetent judges of it; or again, who are addressing themselves to such persons as are so circumstanced, and wish to excite and to take advantage of the passions of the ignorant.

"It is not a sign of faith—on the contrary, it indicates rather a want of faith, or else a culpable indolence—to decline meeting any theorist on his own ground, and to cut short the controversy by an appeal to the authority of Scripture."—*Dr. Richard Whateley, Archbishop of Dublin.*

It is satisfactory to know, that of late years the opponents of phrenology have not only seen a rapid diminution of their numbers, but that those who still resist its progress have been driven from the first position which they so boldly occupied, and that, no longer relying on the innate strength of their cause, they are now chiefly intent upon taking shelter behind the solid walls of prejudice, whence, if they cannot hope for a final victory, they may at least retain the power of annoying their assailants.

It has been observed, that almost all of the reputable opponents of phrenology have one by one quietly withdrawn from any direct attacks upon the primary truths of the science. Contenting themselves with an occasional sneer, or the distortion or suppression of some simple fact, they now admit its anatomy and its physiology to be unexceptionable, and they admire the skilful demonstrations of its supporters. With phrenology, "so long as it continues harmless," that is, so long as no attempt is made to apply its truths to the advancement of society, they have no quarrel; but the moment this is attempted, they are prepared to raise their standard in the sacred, although unfortunate, cause of "old opinions."

These remarks have been suggested by the perusal of the leading article in *Fraser's Magazine* (London) for November last. This article is not directed against phrenology, (of any knowledge of which the writer, as we shall show, is perfectly guiltless,) but against the application to which the science has been put by Mr. Combe in his "Constitution of Man." The reviewer professes to regard that work

* For the above article, we are indebted to a London correspondent, by whose pen the pages of the Journal have been more than once enriched.—*Ed.*

as an agent of evil, fixed and settled under the boughs of the tree of knowledge, and while expressing his regret at the success which has rewarded the energy and zeal displayed by Mr. Combe in the diffusion of his views, recommends his readers to show, by their active opposition to them, that they are willing to follow the quaint advice given on a certain occasion by Bishop Latimer to his clergy, and to make the *devil* their model in the important qualities of industry and perseverance.

Having delivered this charitable charge, the reviewer expressly states that he is addressing those only who believe in the genuineness of the Holy Scriptures. He acknowledges that Mr. Combe and his disciples assert that their philosophy in no way interferes with a belief in the truths of the Gospel, and he seems to be aware that Mr. Combe, whom he describes as an able, moral, and amiable man, is himself a professor of Christianity, although throughout the rest of his remarks he complacently distinguishes himself and his readers from that gentleman and his disciples, by the patent title of "we Christians"—thereby intimating that Mr. Combe and his disciples falsely profess Christianity, thus affording to the world a sample of the strict ideas which the reviewer is accustomed to form of a "moral" man!

The object of the article, which is solely addressed to "religious readers," is to convict Mr. Combe, in his works, of the fullest extent of deism. It will be our province to inquire how far the critic is competent either to understand the principles of that author, or the nature of the Christian revelation, and we promise to show that although he has grievously misrepresented the first, he has still more fatally attempted to misrepresent the latter. To such an extent, indeed, has the misrepresentation of Christianity been carried, as to induce us to fear that his religious readers may be disposed to characterise it as the result of culpable ignorance or wanton impiety.

And first, with regard to his knowledge of the principles upon which the philosophy of Mr. Combe is founded. Although the author of the Constitution of Man, in adopting the phrenological system as the basis of his reasoning, admits that his views may be understood, to a certain extent, by those who are not conversant with the principles of that science, it will be admitted to be quite necessary that any person who undertakes a public criticism of the work in question, should have prepared himself for the task by an examination into the truth of the principles upon which it is founded; since, if this be neglected, although a general idea of Mr. Combe's views may be attained, it is to be expected that the style and illustrations of that gentleman may sometimes appear to be obscure and mystical. A fact which must render the duties of criticism extremely difficult, since,

unless he possesses a disposition so happily constituted as to lead him to believe that the obscurity and mysticism in which he is involved, arises rather from the defects of the author than from ignorance on his own part, it must impress the reviewer with a constant sense of his incompetency to perform the task which he has undertaken.

The experience of phrenology to which Mr. Combe's critic has attained, is very candidly stated to consist as follows:—

“ We perfectly remember to have met in the street one day, some few years ago, a physician, a firm believer in the theories of Dr. Spurzheim, who proposed that we should accompany him to the apartment of an artist in the neighbourhood, for the purpose of having our scepticism on the subject of phrenology removed by the evidence of the skull of a murderer who had just been executed, and of which a cast had been taken. We consented to the proposal; on condition that the phrenologist should read the man's *character* from the cast, and that we, the party to be converted, should compare it with the general tenor of his *actions*. Arriving at the place, we desired the two philosophers to determine—for the artist was likewise a professor—what might be the most *remarkable* developement which the skull of the malefactor presented? It was carefully inspected, and the examiners agreed that “*Secretiveness*” was the quality of all others most strongly indicated. Our reply was, that in such case we must dissent more tenaciously than ever; since it was manifest, from the evidence on his trial, that the fellow could never have been convicted, and in all probability never would have been even suspected, if he had only kept his own counsel! The crime itself had grown out of some strange and unnatural intimacy between the slayer and the slain, and was not accompanied by robbery. Yet even that unholy secret this wretch, upon whose skull *Secretiveness* was the most remarkable developement, (and, observe, without any thing of remorse or penitence to account for it, without any direct confession,) betrayed by his own garrulity! We then requested the parties to allege *any thing* the man had *ever done* to balance these strange acts, of so very opposite a nature to that which, on the principles of phrenology, ought to have marked his conduct. They were driven to the miserable expedient, that he had stuck the blade of his murderous knife into the sod, so as to conceal it tolerably well; whereas, the act of having done it in the very neighbourhood of the corpse might have betrayed the murderer, had any one—which was not the case—identified the weapon.

“ Another instance we can vouch for, which shows a second signal failure in this pretended art or science. A gentleman was expressing his disbelief in the professions of phrenology, and was answered by

one, who, if he might himself be credited, was no inconsiderable adept. It was agreed that the skull of the sceptic himself should be examined in evidence; and the phrenologist confidently announced a taste and organ for music, as forming a characteristic of the individual. 'Why, said the latter party, after this annunciation had been made, 'we may expect you to make a fortunate guess now and then.' 'I beg your pardon,' answered the other, 'but you agreed to abide by the experiment.' 'Well,' replied the opponent, 'and so I will; for I can assure you' [we ourselves can vouch that it is the truth as to our friend's musical taste] 'I would not positively say whether I could distinguish God Save the King from the 104th Psalm or not.'

"We have *no hesitation, therefore,*" continues the reviewer, "in saying that our own experience—where the phrenologist has made the prognosis, and we have ourselves compared it with the conduct of the party—has been unfavourable."

To any person accustomed to follow out scientific inquiries, the plan thus adopted for testing the truth of phrenology must appear absolutely ludicrous. We believe that in these days it would be difficult to find a schoolboy of a year's standing, who could be ignorant of the necessity of collecting a vast number of clear and well attested facts before he might, "without hesitation," pronounce an opinion upon any matter, the proofs of which are entirely of an inductive kind. On the two cases above mentioned, our reviewer pronounces phrenology to be a "pretended art or science." Let us see what they are worth.

In Case No. 1, we are not furnished with any names. Two "professors," of whose experience or qualifications we can form no estimate, pronounce "Secretiveness" to be the largest organ in the head of a murderer, between whom and his victim *some* strange and unnatural intimacy had subsisted, but who never would have been suspected of the crime if he had kept his own counsel. Now, to a careless-minded person, to whom a few superficial observations would have all the weight which would only by others be attached to a long chain of careful experiments, the above combination may appear to be utterly impossible, and he may expect that his relation of this anonymous case may be sufficient to overturn the hundreds of facts attested by a full detail of names, dates, and correlative circumstances, which have been collected by phrenologists up to the present time. But, unfortunately, it will appear to all persons, (whether phrenologists or not,) who have given any attention to mental phenomena, that the combination of the secretive propensity, with a willingness to confess to certain atrocious crimes, is extremely frequent, and by no means difficult of explanation. We have not space here to enter into

the philosophy of the point, and as it has been fully examined elsewhere, it is unnecessary that we should do so.* We will therefore content ourselves by expressing our regret that, owing to the secretiveness of the reviewer, we are destined to remain in ignorance of the nature of the "*strange* and unnatural intimacy" alluded to in the above case; or, if this would not admit of publication, of the means by which it had been concealed, since it is possible that a full knowledge of the case might show that the unnamed professors had no occasion, in their defence, to resort to the "*miserable subterfuge*" of the knife. In order, however, to relieve all future professors who may hereafter be placed in circumstances of similar difficulty, we will mention the following cases, to show that the coincidence of the secretive and self-convicting tendencies is by no means impossible.

On the 27th of March, 1835, Maria Jaeger was condemned at Mayence for having poisoned, at various intervals, her uncle, mother, father, husband, her three daughters, and another person. She had done all this with so much caution, that no suspicion whatever was excited, and she was at last condemned upon her own voluntary confession! Cook, the murderer of Mr. Paas, at Leicester, whose case excited such a strong sensation, on account of the means adopted for concealment, when apprehended at Liverpool, at once confessed the murder. In the former case, it is proper to remark that the culprit stated that she had had a dream, which induced her to confess; and our reviewer, with much simplicity, seems disposed to infer that, in the case which he has quoted, the man confessed without any motive. Most of our readers are sufficiently acquainted with mental science to know that no act was ever yet committed without a motive; and even our critic would doubtless allow that, if the confession could have taken place without a motive, it must have been the result of insanity; and if such was the fact, as he gives us no pathological account of the criminal's brain, the case, as he relates it, is utterly worthless.

In Case No. 2, we are not furnished with any names. A gentleman, a friend of the reviewer's, or probably a friend's friend, for we have no precise information, being in company with some indiscreet believer in his own powers of manipulation, submits his head to be examined, and the examiner commits an egregious blunder; both parties being of that rash or playful turn of mind which would induce them to test the truth of a science which has agitated Europe during a

* A consideration of the causes which most frequently induce confessions, both of a direct and an indirect character, in homicidal cases, will be found in a series of articles on Criminal Jurisprudence, which lately appeared in the *Spectator*, London newspaper.

period of forty years, by this empirical procedure, and render them willing to abide by the result. This anecdote being retailed to our reviewer, is immediately coupled by him with his own personal experience, (as related in case No. 1,) and both together form such a mass of evidence as to induce him, "without hesitation," to pronounce phrenology to be nothing more than a "pretence." When, apart from the want of all identification of the case, we observe that he had not even taken the pains, before he alludes to it in evidence, to procure either measurement or cast of his friend's friend's head, in which the extraordinary development of the organ of 'Tune is unaccompanied by the power of recognising "God save the King," we feel entitled to complain of his indifference to a public duty, and to the true interests of science. When, in addition to this, we take into consideration that, notwithstanding the fact that Mr. Deville's collection of between two and three thousand *authenticated* casts is open to any individual inquirer, we find our reviewer willing to take up an opinion or impression upon a matter of such grave importance as he admits phrenology to be, upon the loose and gossiping pair of cases to which he has limited his inquiries, we think that he will not accuse us of judging unfairly if we express a suspicion that he must want that mental discipline which is the result of severe training, and that, carrying more sail than ballast, he must be one of those who are apt to give implicit credence to matters at five-and-twenty or thirty, which they may discover at fifty to be erroneous, and will probably look back upon, at seventy, with the bitterest regret.

Thus it is that, in attempting to upset a system of philosophy, our reviewer completely exposes his ignorance of the principles upon which the system rests. There can be no doubt that the study of phrenology presents the only true method of dealing with Mr. Combe's works, because if these works administer to deism, and phrenology nevertheless prove to be founded on truth, it would, as the Christian religion is truth itself, be a very easy task to show that Mr. Combe's philosophy is disproved even by phrenology; and if phrenology be not true, it cannot be an impossible task to prove its falsehood, and thus, by sweeping away the foundation of Mr. Combe's philosophy, to destroy altogether the structure which he has raised. This would have been the simplest and most philosophical mode of dealing with the matter, and would have saved the writer from the impiety of making the truth of the Christian religion a subject of discussion, when the question at issue admitted of satisfactory settlement by other means.

Having exposed the unfitness of our reviewer for the task which he has assumed, as far as scientific knowledge is concerned, we will pro-

ceed to examine his fitness as evinced by his knowledge and interpretation of the chief points of the Christian doctrine. His sole view, as stated by himself, is to prove that Mr. Combe's work is deistical in its tendency, and with this intention, he says,

"It may be well to define our own notion of deism; for on this head we are determined to avoid all hair-drawn distinctions. We consider the deist to be a person who believes in the existence of a Supreme Being, or great first cause of all things, but who does *not* believe in any revelation whatever of his will unto mankind. He believes God to have created this universe, and to have given to mind and matter definite laws; but he believes those laws, when they are discovered, to be the *only* revelations of His will unto mankind."

Now, we have never been able to gather from Mr. Combe's works, any denial of specific revelations having been made to man; nor does the reviewer, although he professes his intention to abide by the above definition, either convict, or attempt to convict, Mr. Combe of *any* thing of the sort. If the reviewer means to assert that any act ever proceeded from the Creator, which was not the result of laws established by him, and consistent with his eternal mind, we suspect that he will not only find himself at issue with Mr. Combe, but with all the rest of the world. All that Mr. Combe implies is, that the Creator having given to man a certain organisation, has in all his dealings with him reference to that organisation. No man can see God and live—hence, whenever the Creator has revealed himself to the race, it has always been through means adapted to their constitution; our Saviour took upon himself the form of man in obedience to this necessity, and, in earlier days, the revelations of the Divine Spirit were received by the patriarchs, not through the medium of an altered existence, but through their natural powers, by the material agencies of light and sound. The Divine Ruler having thus always communicated with man as a being manifesting his powers in this life only through the instrumentality of a definite and material organisation, it is difficult to conceive whence arises the disinclination which exists in the minds of some persons to contemplate this fact, or to entertain any system of philosophy that may be based upon it. It is owing to this disinclination that there has always been, as our reviewer observes, "not only in our country, but universally in the history of mankind, a conflict between the material and the spiritual schools of philosophy," and it is as a disciple of the latter school that he enters into opposition to Mr. Combe. "We must grapple," he says, "with that gentleman's exposition of the case between these antagonising principles, and in order to do it fairly, we shall do it in his own language:—

“‘The one (principle) is that the world, including both the physical and moral departments, contains within itself the elements of improvement, which time will evolve and bring to maturity; it having been constituted by the Creator on the principle of a progressive system, like the acorn in reference to the oak. This hypothesis ascribed to the power and wisdom of the Divine Being the whole phenomena which nature, animate or inanimate, exhibits; because in conferring on each part the specific qualities and constitution which belong to it, and in placing it in the circumstances in which it is found, he is assumed to have designed from the first, the whole results which these qualities, constitution, and circumstances are calculated in time to produce.’”

In reference to this paragraph, the reviewer observes, “We are of opinion that almost any jury of intelligent Christians will, on this evidence alone, convict the theory of Mr. Combe to the full extent of deism; since it admits the existence of a great first cause, but distinctly asserts the uselessness of any *Scriptural* revelation, or, indeed, of any revelation at all, beyond that which is to be found in the analysis of nature’s laws and operations.”^a Now, we question if any person but the reviewer himself could find in the above extract, “a distinct assertion of the uselessness of any *Scriptural* revelation.” Mr. Combe is devoting his life to the exposition of a system of moral philosophy, which he believes to be in harmony with the moral precepts of the New Testament, and this very fact must be sufficient to prove that he cannot entertain any idea of asserting that in eighteen centuries back the exposition of such views must have been *useless* to mankind! The reviewer proceeds in the following way to refute the doctrines of perfectibility, which, for some reasons of his own, he is determined to fix upon Mr. Combe, although that gentleman states in his *Constitution of Man*, “I do not intend to predicate any thing concerning the absolute perfectibility of man, by obedience to the laws of nature.”

“Of all the confutations of perfectibility, it has always been our own opinion that the one brought by Malthus (we think) against Condorcet is the happiest. The latter entertained no doubt that, by continually studying to diminish the ignorance and weakness of man, and the evils of society, we shall eventually arrive at absolute perfection.

^a I do not intend to teach that the natural laws, discernible by unassisted reason, are sufficient for the *salvation* of man without revelation. Human interests regard this world and the next. My object is to investigate the natural constitution of the human body and mind, their relation to external objects and beings in this world, and the courses of action that, in consequence, appear to be beneficial or hurtful in this life.—*Constitution of Man, People’s Edition*, page 10.

'The desideratum,' observes the philosopher of *de* population, 'of a Leicestershire breeder of sheep, is to produce those with *small* heads and *small* legs. *Ergo*: when they arrive at perfection, they will have *no heads* and *no legs* at all!' They will then, however, cease to be sheep; and, in the same manner, if man were to become perfect, he would cease to be a man—a consummation at which, in the present world, he never can arrive, and still retain his being."

The reviewer has here made an unhappy use of a very good joke. He is not, we presume, prepared to deny that Adam was created perfect. What, then, does he mean, when he says that if man were to become perfect, he would cease to be a man? He seems to deny that Adam was a man, since he asserts that if the human race could regain the state that Adam lost, (and which it was the avowed object of our Saviour's mission to enable them to do,) they would cease to be men. It is vain to contend that the first of our kind could have been any thing else than a perfect man, because, as he was the model of his race, he formed the type of his perfection, and if he had been created by his Maker without arms or legs, or in any other way differently from what he now is, he must, as he was the first of his race called by his Maker *man*, have been perfect as a man, and upon any departure from that formation he would, strictly speaking, have ceased to be a man. It will therefore be seen that, in attempting a very fine-drawn distinction, the critic has fallen into a very amusing absurdity. Adam was a perfect specimen of a being called man; his descendants, through his and their own disobedience, have fallen from the type by which he was first characterised, and we think that few persons will be prepared to give credit to the assertion of our reviewer, that it is *impossible* for the race by repentance (shown in a return to obedience, as enforced in the doctrines of our Saviour) to achieve their restoration.

It will further be seen, that the attempted refutation of the doctrine of perfectibility involves a denial of the human attributes of the founder of Christianity. Christ upon earth was "perfect man." Our reviewer says that this is impossible, because "if he was perfect, he ceased to be a man;" and although the Divine Teacher, in his most impressive discourse, exhorts the human race to "be perfect as their Father in heaven is perfect," we are told, upon the strength of a witticism from the writings of Mr. Malthus, that such an injunction is useless, and that it would be vain to look for its fulfilment.

"But let us now observe," continues the reviewer, "how Mr. Combe states the opposite principle:—

"'The other hypothesis,' he informs us, 'is that the world was perfect at first, but fell into derangement, continues in disorder, and does not contain within itself the elements of its own rectification.'"

The writer appears to be exceedingly angry at the words, "the other hypothesis," but does not condescend to inform us of the nature of the words which he considers would be more respectful or expressive. We believe that it is, as Mr. Combe says, "the other hypothesis;" and as these words really present to our eye no offensive properties whatever, it appears to us that the pettish and trifling tone adopted by our reviewer with regard to them, is more characteristic of the touchy and unreasoning dignity of an offended girl, than of the style of argument which should be adopted in a philosophical discussion.

"The other hypothesis," he says, "is *not exactly* what Mr. Combe has here been pleased to affirm. We Christians certainly believe the world, after its creation, 'to have fallen into derangement;' but the doctrine which Mr. Combe is pleased to term the spiritual hypothesis, is most imperfectly described in this infelicitous arrangement of words.

"The narrative of the Jewish law giver and historian, Moses, instructs us, that when the Almighty had created the world, he 'saw that it was good.' This is what is meant by Mr. Combe, when he speaks of its being 'perfect.' But the same authority also tells us, that God having placed man in this paradise, was pleased to constitute him a responsible being. Under the position in which man was found by the tempter, there does not appear to have been any test to which he could have been subjected, excepting only that of obedience. At all events, this was the actual test by which he was tried: an express command was laid upon him; he failed in his obedience, and thus sorrow entered into the world as the punishment of sin. This, however, is a different account of the matter from that of Mr. Combe, who only tells us that 'the world fell into derangement.'"

Now this may appear to the reviewer to be a more felicitous arrangement of words, inasmuch as it is certainly a more diffuse arrangement, but at the end of the paragraph we arrive at no other idea than that which Mr. Combe has more appropriately, because more concisely, expressed. Nevertheless, we should be quite willing to accept the more elaborate statement of the reviewer, if he had not himself placed it out of our power to do so; for, having just asserted that "he certainly believes the world, after its creation, to have fallen into derangement," he goes on to exhibit, in his own style, a singularly "infelicitous arrangement of words" or *ideas*, in the following extraordinary statement:—

"*We do not believe the world to have fallen into derangement, but we believe it to have been visited with a curse. We do not believe it to contain within itself no element of rectification, but, on the contrary, that with the curse was united the promise of an*

'atonement.' Let us, then, cast away the almost barbarous language of Mr. Combe, and permit the Christian hypothesis to use its own. The real distinction between us is, that Mr. Combe considers man to be capable of arriving, through the medium of philosophy, and more particularly the new branch of it, phrenology, at the perfection of wisdom in *this world*; whilst the Scriptures tell us to look for no perfection until we arise from the dead, in that purer and more exalted state of being which is promised in the revelations of our God unto mankind."

It thus appears that, upon second thoughts, the reviewer "does not believe that the world fell into derangement, but that it was visited with a curse." This will startle such of his readers as have been accustomed to entertain the common belief that the curse was not inflicted upon the world in its state of primal innocence, but that it was justly inflicted as a *consequence* of derangement; but waiving this point, and taking him upon his own ground, will he permit us to ask him, to what did the curse lead, even if, as he asserts, it was inflicted without a cause? Did it effect any change in man's original condition? If so, that change was a derangement. Did it effect no change? If so, it was a curse only in imagination. Until these questions can be more satisfactorily answered, we really do not see any necessity for casting away the so-called barbarous language of Mr. Combe, to substitute the puzzling no-meanings of the reviewer. He next asserts that the Scriptures tell us to look for no perfection in this world. How then does he interpret the injunction of Christ to mankind, that they should strive after perfection? It surely means that they should strive after it in this life, because at death our fate will be sealed, and our destiny will not be dependent then upon any efforts of our own.

It is, then, intimated that because all previous systems of moral philosophy have proved bewildering and contradictory, there can be little doubt that the system of Mr. Combe must share that fate; and in order to deter men from inquiring after truth, by following out observations on the laws of our constitution, independently of any connection with revealed religion, the reviewer shuts the door, as he imagines, upon all philosophic induction, by the enunciation of the following dogma, "Follow the revealed commandments of Almighty God."

It is upon this point that "religious readers" must bring against our reviewer the charge of worldly self-confidence and irreverent rashness. If he, without the key which natural philosophy affords, could tell us what the revealed commandments of Almighty God actually are, and *how* they are to be carried out, the advice which he has uttered would

be all-sufficient; but it is the presumptuous error of those who make religion subservient to uncharitableness and pride, to suppose that they understand, in their entire purity, the doctrines of the Gospel. Let them remember with humility, that before men can thoroughly understand the doctrines of Christ, they must attain to his perfection. No man can thoroughly understand the duties of charity who is not himself charitable; we should not ask a felon for a disquisition upon honesty; and it is too much to require that we should accept from any man, or set of men, as the world is at present constituted, their interpretation of the principles of perfect and eternal wisdom. It seems to us far better that we should entertain the belief that, with our present imperfect knowledge of our own nature, and of the nature of the external world, we can but faintly interpret or trace the beauty of those *principles* which have been imparted by revelation, but that every step of our moral and intellectual progress will be found to harmonise with such of them as we already appear to understand, and will advance us towards a conception of the beauty of the whole.

It has been at all times from the arrogant assumption of men that they fully understood the principles which Christ laid down, that the fearful crimes committed in the name of his religion have resulted. If we look back to an early period after the establishment of Christianity, we see the barbarous invaders of Rome following what they conceived to be "the revealed commandments of God," by blending their superstitious extravagances with the dogmas and ceremonies of the Christian—producing that absurd compound of devotion and folly which marks the middle ages. At a later day, we see the Christian church following what it conceived to be "the revealed commandments of God," by extending its temporal power and usurping an authority over all the crowns of Europe. Again we find "the revealed commandments of God" quoted as an unanswerable authority, when the natives of the newly discovered west were tortured and plundered by the invaders of their soil. Again we find the same text issuing from lips that were accustomed to hail with shouts the last struggles of a drowning witch; and although, at the present day, it is considered that "the revealed commandments of God" do not authorise the burning of heretics, or the drowning of witches, they are asserted to give full sanction to the public strangling of unhappy criminals, or to the butchering of a defenceless people, for "insolently" refusing to permit the importation of a noxious drug!

But our reviewer, whose theological flights must, we think, appear by this time to some of his religious readers to be of the boldest kind, may be further convicted of denying that the advent and atonement of our Saviour is sufficient in itself to operate as a means by which man

may be restored to the state from which he fell. The Christian theologians have taught that man fell through want of experience, that the first fruit of the tree of knowledge brought death into the world, but that the advent of our Saviour gave to man the means of regaining his position. The *general* knowledge of the way in which this is to be achieved, was expounded by our Saviour upon earth. Man has now to work out the principles which were thus imparted. That this restoration can ever be effected, our reviewer, in the name of his "religious readers" and "Christian theologians," expressly denies. He refuses to believe that with the death of Christ, and his immediate disciples, all miraculous agency in the affairs of man terminated, and that the human race, having been put in possession of the full means of regeneration, were then left to work it out. He regards the efforts which man may make as altogether ineffectual, unless the laws of nature shall again in each case be subverted to effect his salvation. Spiritual aid, or in other words, miraculous aid, (for our reviewer contends that the natural constitution of man is insufficient, and by the word "spirit," intimates an unusual and external influence, and not merely the soul, which every man possesses,) must always be afforded to him for this purpose—he must receive powers which are not peculiar to all men—not common to the race—and must therefore become an angel or superior being, and cease to be a man. He denies, therefore, that by the simple atonement of our Saviour all *mankind* may be saved, but asserts that, instead of this, a portion of mankind may be converted, while on earth, into angels or superior beings, and then, *as angels*, may be saved; and that Mr. Combe's philosophy, which would lead us to believe that the race may now work out its regeneration by a proper application of the powers of its own inherent constitution, is altogether false.

We must here leave the reviewer—there is scarcely a line in his article which we have not marked for refutation and exposure, but we cannot afford the space, and it would be needless, if we could. Our object was not to defend the theological views of Mr. Combe, because we are ignorant of their nature; Mr. Combe having, in his *Constitution of Man*, merely stated two theories which have long been agitated respecting the prospects of man in this world, and then endeavoured to trace how far these theories are respectively borne out by a careful observation of facts. He has himself remarked that theological views should never be brought forward in opposition to any points of philosophical inquiry, and it is only by rash and irreverent persons that such a course would be adopted. The folly (not to use a harsher term) of bringing religious doctrines to bear against the experiments or the theories of scientific students, has often been illustrated, and is

almost universally acknowledged. To show that our reviewer has fallen into his share of the absurdities and self-contradictions to which such a course inevitably leads, has been our only intention.

We cannot part from him, however, without distinctly reprobating his pharisaical use of the term, "We Christians," which he applies throughout the whole of his paper to himself, and to those who entertain views similar to his own. Notwithstanding his new readings of revelation, there exist a vast number of persons—probably amounting, in England and the United States, to upwards of a million—whose views harmonise with the philosophy of Mr. Combe, and who still retain a faith (a faith so strong, that they do not *fear* to examine abstract truths) in the Christian religion. The writer of the review is evidently unacquainted with the fact, that some large editions of Mr. Combe's *Constitution of Man* have been sold in America, with a treatise appended to them on the "Harmony between Phrenology and Religion," and that this treatise has also, in a pamphlet form, had an extraordinary sale, both in England and in the United States. The author is an appointed teacher of the Gospel, and as such, enjoys a high reputation and an extensive influence, and we have no doubt he will be surprised to find that a patent-right to the title of "Christians" has been claimed by his opponents, and that a decree of excommunication has been promulgated in a London magazine against all those who may listen to his views.

It may also be proper to remark, that in addition to many attempts to fix upon Mr. Combe, by dishonest implication, views which that gentleman never promulgated, there are two or three distinct untruths sprinkled through the review: viz. "Mr. Combe asks us, without inquiry, to resign the Holy Scriptures," &c. &c. &c.

In his short quotations, interwoven with his text, the reviewer *omits* words and *adds* words, all within inverted commas, at his own discretion. Thus Mr. Combe is made to say, that those who entertain the second hypothesis, "believe the world to contain within itself no element of rectification;" here the words should be, "no element of *its own* rectification," and if the passage had been thus quoted, the remarks which the reviewer makes upon it would have been not only unnecessary, but absolutely ridiculous. Again he says, "We think no one can doubt that Mr. Combe is arraying his own philosophy against that of revelation. He tells us that our 'fundamental error' is, that we hold this world to have *lost* the purity and beauty in which it was first created." Mr. Combe's words respecting the fundamental error in question, really are, "Their minds have been infected with the first great error that this world is *irremediably defective* in its constitution." In this place, a more conscientious

quotation would not have answered the purpose of the reviewer. He soon exhibits his motive for perverting Mr. Combe's words, since he goes on to assert, upon the strength of his misrepresentation, that Mr. Combe "tells us that a faith in the myterious and spiritual doctrines of the Holy Scriptures is a fundamental error." Furthermore, the reviewer, in his own rash and unscrupulous way, says,

"Mr. Combe," in his remarks on the second hypothesis, "is pleased in this passage to cite something less than half the spiritual hypothesis—thus completely disguising it to suit his own purpose. He mentions the part of our faith which asserts the corruption of human nature, and the curse on nature in general, but makes not the slightest allusion here to the eternal prospects of mankind. This is very uncandid. We can scarcely stretch our own candor so far as to deem it honest."

Every reader of the *Constitution of Man* will be aware that Mr. Combe, from first to last, deals with his subject only as a branch of scientific inquiry, considering man solely in his adaptation to the present life, and to the material world in which he dwells. Moreover, if the reviewer had not been so impatient as to skip over the third page from that in which Mr. Combe is represented to have omitted all allusion to the eternal prospects of mankind, his mind would have been relieved by the following passage:—

"It is objected that, by omitting the sanction of future reward and punishment, this treatise leaves out the highest, best, and most efficacious class of motives to virtuous conduct. This objection is founded on a misapprehension of the object of the book. It is my purpose to show, that the rewards and punishments of human actions are infinitely more complete, certain, and efficacious in this life, than is generally believed; but by no means to interfere with the sanctions to virtue, afforded by the prospect of future retribution. It appears to me, that every action which is morally wrong in reference to a future life, is equally wrong and inexpedient with relation to this world."

We are sorry to have dwelt at so much length in exposing an article thus loosely written; more especially, since it involved the necessity of entering into matters connected with the highest points of religious belief; but it became proper, from the presumptuous tone of the reviewer, that we should show to his readers, in the clearest light, that, in irreverently bringing such matters into a contest with the results of practical reason, and assuming to himself the idea that he perfectly understands the mysteries of revelation, and is able positively to say what will and what will not harmonise therewith, he has not only grossly perverted the simplest truths of the religion which he professes to defend, but that, in grappling with a subject to which he

has evidently only given the lowest degree of thought, he has absolutely attempted to prove that some of the most obvious doctrines both of the Bible and the New Testament are altogether false.

We hope that the example which he has set, will prevent other opponents of phrenology from the impiety of bringing religion into a discussion which can be settled by other means. In this case, the efforts of our reviewer will have caused much real good, and he will be able to congratulate himself that his own indiscretion has, at least, been the means of preventing others from rushing recklessly into a ground where angels would fear to tread!

ARTICLE VI.

Lectures on Phrenology by George Combe, Esq., including its application to the present and prospective condition of the United States; with Notes, an Introductory Essay, and an Historical Sketch. By ANDREW BOARDMAN, M. D. Second edition, with corrections and additions. New York: J. P. Giffing. 12mo. pp. 390.

The lectures of Mr. Combe on phrenology, as reported by Dr. Boardman, of New York, have met with a very favourable reception. They have been republished in Great Britain, where we learn they are now having an extensive circulation; and it speaks well for the merits of the work, as well as for the progress of the science, that a new edition should be so soon called for in our own country. In the preface to the second edition, Dr. Boardman remarks that, "since the publication of the first edition, Mr. Combe has left our shores, but the fruits of his labours remain with us. His footsteps can be traced in beneficent results. The phrenologists of America return to him their sincere and hearty thanks; and the first in science, philosophy, and philanthropy, remember him with unfeigned respect and admiration. His visit has been highly efficacious in correcting prevalent errors concerning the foundation, scope, and utility of phrenology, and in attracting more closely to it the attention of many of the best minds in the country. I have endeavoured, among other things, to render the following work a monument of his labours in the United States."

This is truly a noble monument of Mr. Combe's labours among us; more valuable than the treasured spoils of wealth, and far more durable than the most splendid achievements of art. It consists in a defence and exposition of *principles* which are destined to elevate and improve

the human mind, and when properly applied, their fruits will be seen in the advancement of the health, happiness, and prosperity of individuals as well as communities. *Such* an application of these principles we hope, and believe, will yet be made in our own country. We admit that it must be the *work of time*; but that their application will eventually take place, and produce the most happy and beneficial results, may be predicted with as much assurance and certainty, as the continued existence and unchangeableness of God himself. For these principles are an essential part of his moral government; they are no less than the laws which God has ordained for the government of the mind in this world, and which can never be extinguished or suspended, until the great object is accomplished for which man was created and placed in this probationary state of existence.

The work before us contains not only a full and accurate report of Mr. Combe's lectures, but also an account of his reception in Boston, New York, and Philadelphia, as well as of the various resolutions which were passed at the close of his lectures in those cities. The "Essay on the Phrenological Mode of Investigation," and the "Sketch of the Rise, Progress, and Present Condition of Phrenology," by Dr. Boardman, are both well written articles, and constitute a very appropriate introduction to the work. We are much gratified to find a material alteration in the Appendix to the present edition, as in noticing the previous one, we felt it our duty to dissent from some remarks there made in reference to *practical phrenology*. "*To what extent mental character can be ascertained from external development alone,*" is an interesting and important inquiry, and one which Dr. Boardman has very clearly and ably discussed in the present Appendix. As it is our intention soon to present an article in the Journal on *Practical Phrenology*, we shall then have occasion to recur to this subject again.

ARTICLE VII.

APPLICATION OF PHRENOLOGY IN A DEAF AND DUMB ASYLUM.

In the last number (January, 1841) of the Edinburgh Phrenological Journal, we find the following interesting account. Two practical phrenologists, while delivering lectures on the science at Exeter, visited the Deaf and Dumb Asylum at that place, and examined some of the lads belonging to the institution, in presence of several ladies and gentlemen. It appears that a Journal, or Log-book, is regularly

kept by the lads, noting down daily whatever of interest transpires in the institution. The following extract is copied from this Log-book, of November 10, 1840, as kept by the pupils. It is proper to state, that Mr. Gordon, (the teacher,) whose name is mentioned, is *not* a phrenologist, and had no agency or hand in making the record:—

“A mild fine day. Two gentlemen came here and felt our heads; they were both phrenologists. Mr. Gordon spoke to them. He asked them what boy has a large imagination? They felt our heads, and pointed to Coyle. Their judgments are correct; Coyle has a powerful imagination, and delights in similes and deep thoughts. Mr. Gordon again asked them to point out a boy of fine and generous dispositions, and who is fond of imitating others. One felt our heads, and pointed to Tom, and said he was fond of imitating others. He also said he possessed many fine qualities of the mind. He said, also, he is timid, and he is always frightened at pain, and, again, he is frightened at difficulties in his study. What boy is talented in mechanics? He felt our heads, and pointed to Cooke. We said his judgment was correct, because G. Cooke was a great mechanic, and can make any thing he sees, and he invents many curious things. One of the phrenologists felt our heads, and pointed to Aubin, and spoke to Mr. Gordon, and Mr. Gordon told us the gentleman says Aubin is fond of drawing. We know he is so, because his faculty of drawing is admirable. The phrenologists felt another of our schoolfellows’ heads: we must not name him, because it would pain his heart; and the phrenologist said he is a vain and sly fellow, and is forgetful of kindness. We cannot say ’tis not true, but we pray it is not so. The phrenologists felt another of our schoolfellows’ heads, and said he is a subtle and artful fellow; he always sets cunning schemes, and thinks himself successful, but he always fails in his deceitful designs. That is very true; we know it is true. They felt B.’s head, and spoke to Mr. Gordon, and said he is sluggish. We said, their opinions are right, because we have often observed that boy does not love to write or learn of himself, but we are obliged often to remind him of his duties. The phrenologists felt E.’s head, and spoke to Mr. Gordon and said, That boy is passionate, and when his temper is excited, his features appear frowning and furrowed with rage. We said, it is true, and it is very true. The phrenologists felt P.’s head, and spoke to Mr. Gordon and said, he was a cunning little fellow, but his habits are changing, and he is becoming more open. We said it is true; we know it is true. We do not say these things are true, because the phrenologists say they are true; but we say these things are true, because we know they are so by experience and observation of our schoolfellows.”

MISCELLANY.

A Lecture on Temperance, Physiologically and Phrenologically considered. By O. S. FOWLER.

As it is our intention ere long to present an article in the Journal on this subject, we will for the present only avail ourselves of the following notice of the above performance, which appeared in a late number of the Boston Medical and Surgical Journal:—"Mr. O. S. Fowler has constructed a pamphlet of twenty-four pages, in which he has discussed, phrenologically, ten propositions—showing, first, the laws which govern the relations existing between certain states of the body and those of the mind; next, the penalties attached to their violation, and the effects of alcoholic drinks of every kind and degree upon the physical and mental economy. In the first proposition, Mr. Fowler assumes that there exists reciprocal relations between the conditions of the body and the states of the mind—each influencing and being influenced by the other. As a whole, we view the undertaking as an ingenious contribution to the cause of temperance, logically, phrenologically, and medically considered. It may touch a string that no other argument has reached, and its circulation should, therefore, be encouraged by the temperance reformers. If phrenology supplies cogent reasons for living temperate lives, it is turning the science to a practical account at a momentous period. With these remarks, we recommend our friend Fowler's contribution to the cause of morals, health, and happiness—to all who feel their accountability to society for the manner in which they exert their influence."

Western Athenæum and Journal of Phrenology, published at Andersontown, Ia., and edited by Thomas Sim, M. D.

This is a weekly newspaper, devoted partly to phrenology. Sixteen numbers have already been issued; and we learn, from a recent editorial notice, that the work has met with so good encouragement, that it may be considered as "now firmly established." There is in course of publication in this journal, *A Text Book on Phrenology*, by the editor, appearing in successive chapters in each paper, which promises to be a valuable treatise on the science. We hail the publication of this journal as a harbinger of good for phrenology in the "far west," and hope that it will prove a valuable auxiliary in diffusing more generally the principles of the science.

A Phrenological Chart and Table of Combinations. By W. FELCH.

Mr. Felch belongs to Massachusetts, and is favourably known to the public as the author of a new system of grammar, in which he has made an application of the principles of phrenology. In the chart before us, we find an extended series (numbering over one thousand) of phrenological combinations—the faculties, and their combined tendencies, being expressed in an abbreviated form—showing that every possible trait and shade of character can be clearly and fully explained on the principles of this science. Says Mr. Felch, in his prefatory remarks "the natural laws of mind, so far as we can discover or comprehend them, are but the laws of organic structure. To the study and observance of these laws, the Creator has bound us, by amazing rewards and amazing

penalties, of which 'the third and fourth generation' are not unusually the heirs. 'Know ye not,' says an apostle, 'that your body is the temple of the Holy Ghost?' If this remark applies to the whole corporeal frame, more emphatically does it apply to that portion of it called the brain, which all admit to be the immediate organ or organs of the mind."

Bulwer a Phrenologist.—In a recent work by this celebrated writer—viz. "*Timon, but not of Athens*"—we find the principles of phrenology repeatedly and distinctly recognised. The author has gone so far as to make his leading and favourite character a phrenologist, and represents him as holding an extended dialogue on the subject, from which we make the following extract:—

"You are, then," said I, "a believer in the system of Gall and Spurzheim?"

"Yes; there was a time when I had no faith in the science of phrenology. It was through a conversation that I one day had with an intelligent German, that my attention was first turned to it as a science. I began to study it perseveringly; and the result was, my complete conviction that all the faculties of the mind, and all those manifestations of it which make up the moral nature of man, depend on the organisation of the brain."

Phrenological Bequest.—We learn, from a late number of the Boston Medical and Surgical Journal, that Dr. Robertson, of Paris, an intimate friend and disciple of Dr. Spurzheim, in his last will and testament, made the following bequest: viz. to the Boston Phrenological Society, the whole of his extensive phrenological cabinet, which is represented to be unrivaled in any country; and with his own skull, and 1000 francs, to pay the expense of transportation to the United States. A copy of the Will was forwarded to Dr. Howe, the president of the society, by Mr. George Combe. This is a noble donation, and we hope it will prove the means of creating new life and activity among the members of the Boston Phrenological Society.

Case of Idiocy.—Mr. Bally, of Manchester, presented to the Phrenological Association, at its late meeting, the cast of the head and brain of an idiot, who died April 7th, 1840, aged twenty-eight years. The head measured in circumference $14\frac{1}{2}$ inches (average of adult head, 22); from ear to ear, over the crown, $6\frac{1}{2}$ inches (average, 13 to 14 inches). The brain weighed $13\frac{1}{2}$ ounces (average, 3 pounds and upwards). Mr. Bally gave a particular account of the dispositions and mental endowments of this idiot, which, of course, were of a very low grade, and corresponded to the great diminution in the size of the brain, affording a very good illustration of the phrenological principle, that the brain is the organ of the mind, or the instrument through which the mind acts in this world.

We learn from the Boston papers, that Rev. Dr. Walker, Professor of Moral Philosophy in Harvard University, is now delivering a course of lectures on *Natural Religion* before the Lowell Institute of that city. Dr. W. advocates the theory that man is, by nature, endowed with a sentiment of *religious worship*, but, at the same time, discards all the positive demonstrations furnished in proof of this position by phrenology, because, forsooth, *Voltaire* had *large Veneration*!

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ARTICLE I.

MENTAL PHILOSOPHY—ITS CONNECTION WITH MEDICINE.

(Presented to the Faculty of Pennsylvania Medical College as an Inaugural Thesis for the degree of Doctor of Medicine, by a member of the graduating class, March 1, 1841.)

The celebrated Dr. Rush, in enumerating the causes that retarded the progress of medicine, adduces as one of the principal, the neglect of cultivating those branches of science which are most intimately connected with medicine. These are, says he, chiefly "natural history and metaphysics." The former term he used in its widest sense, comprising both the animal and vegetable kingdom; but by the term metaphysics, he intended to include only that field of inquiry which relates to a knowledge of the operations and faculties of the human mind.

Though the above remark of Dr. Rush was made nearly a half century since, yet it may apply, if we mistake not, with equal force and propriety to the present state of medical science. While every other branch of knowledge connected with medicine has been rapidly progressing, that styled here metaphysics, has, to a very great extent, been treated with entire neglect by a large majority of this profession. Perhaps it may be safely stated, that in no other department of human improvement has there been a greater advancement for the last fifty years, than in that of medicine. Every year has witnessed some important developement of new truths, as well as a more safe and correct application of those already discovered. Anatomy, physiology, and surgery, have each within this period been enriched by many splendid discoveries and improvements. Pathology, which then was scarcely known or recognised as a distinct branch of medical study, has since received great attention, and has shed a vast amount of light upon the causes, symptoms, and treatment

of disease. The departments of *materia medica* and therapeutics have also been greatly improved by many new discoveries in chemistry and pharmacy. Add to these the experience and observations of many able and skilful physicians, and we have medicine in its present highly cultivated and improved state. But the same cause which Dr. Rush mentions as retarding the progress of this noble science, still exists. While every other branch of medical knowledge has been constantly advancing, a knowledge of *mind*, as far as medicine is concerned, has remained almost stationary for centuries. Dr. Southwood Smith very correctly observes, that "the degree in which the science of mind is neglected in our age and country—and may it not be justly added, in our profession—is truly deplorable." There must be some cause or reason for this state of things, and the writer proposes in the present essay to inquire—

I. *Why* the cultivation of metaphysics is so generally neglected by medical men; and

II. To point out the intimate connection of mental philosophy with medicine; and

III. To offer some remarks upon the importance of a knowledge of this science to the physician.

In the first place, it cannot be adduced as a reason why mental science is no more successfully cultivated, that not sufficient talent, learning, and research, have been devoted to the subject. Some of the best minds that the world ever produced have laboured most assiduously in this field of study, and their productions bear the stamp of unwearied industry and profound attainments. Again: this neglect cannot be accounted for by any reasons deduced from the nature and unimportance of the subject. All writers on the philosophy of mind have borne their united testimony that a knowledge of the principles and applications of this science is of the highest possible importance. But the great and most efficient cause of this neglect, as we apprehend, remains to be stated—it is the *erroneous mode of investigation* that has been hitherto employed; the leading defects of which may be summed up under the following heads.

1st, The cultivators of metaphysics have omitted in their investigations almost entirely the intimate and necessary connection that exists between the mind and the body. In all their researches, they have viewed the mind as an *abstract essence*—as existing, and performing all its operations, independent of any material instrument or influences. They have treated not only with neglect, but with disrespect, that great law established by an all-wise Creator—viz. that *mind, in this world, should be dependent on physical organisation for its manifestations*. This law constitutes the only true foundation upon

which any correct system of mental philosophy can possibly be based; and the consequence of overlooking this condition, has had the most disastrous effects on the cultivation of metaphysics. The very term itself has become a by-word, and those who are devoted to its pursuits, are not unfrequently made the subject of remark and ridicule. To call a man (observes a popular writer) a metaphysician, at the present day, is a delicate mode of recommending him to a lunatic asylum; and Dr. Armstrong, the well known writer on medicine, has wittily defined metaphysics to be "the art of talking grave nonsense upon subjects beyond the reach of the human understanding." And Dr. Bartlett, one of our countrymen, very justly remarks, that "almost the whole history of metaphysics is a record of absurdities, inconsistencies, and contradictions. The very name has become, almost by common consent, only another name for intellectual harlequinism and jugglery. Never has the human mind been guilty of playing more fantastic tricks, than when attempting, by misdirected and impotent efforts, to unriddle the mystery of its own constitution."

2dly, Writers on this subject have not only based their systems of philosophy on *reflection* and *consciousness* in general, but they have erected their own individual consciousness into a universal standard. Says Dugald Stewart, in his philosophical essays, "all our knowledge of the *human mind* rests ultimately on facts for which we have the evidence of consciousness. And accordingly, in my inquiries, I have aimed at nothing more than to ascertain the laws of our constitution, *as far as they can be discovered by attention to the subjects of our consciousness.*" This remark of Stewart will apply to nearly all the writers of the metaphysical school. But instead of consciousness being a true guide in mental investigations, it is decidedly unsafe and erroneous. In the first place, consciousness affords no positive evidence of the existence and functions of the cerebral organs, by means of which alone the mind acts in this life. It simply takes cognisance of mental operations in general, and throws comparatively but little light on the nature or number of the distinct faculties of the mind. Again: it is impossible to base evidence on this source alone, without one individual's considering *his own* consciousness as a standard for *all others*. This constitutes one of the most radical errors of the metaphysicians. They have taken their own minds as a standard, or type, for the whole human race; and, accordingly, each has begun to erect a system or theory of his own, by demolishing that of his predecessor. Now, the consciousness of no two individuals in the world are alike, any more than the features of their bodies; and it is utterly erroneous, as well as absurd, to consider such a guide or rule as susceptible of universal application. The great variety of

systems, theories, and speculations in mental philosophy have arisen, in no small degree, from this source. Hence, too, the great diversity of opinions, as well as contradictions in conclusions, on the part of its cultivators. This very fact affords *prima facie* evidence that their premises were false; and, consequently, that their systems were not founded in nature, whose laws, when correctly interpreted, are always harmonious and every where the same. Truth, like its author, is ever consistent with itself.

3dly, Another radical defect in past methods of investigating mental phenomena, consists in an almost entire reversal of the true mode of studying nature. *Observation* and *experiment* are the only sources by means of which we can derive any positive evidence for the establishment of principles in science. Facts must first be observed, and properly classified; and when a sufficient number have been collected, or none of a contradictory nature can be found, general principles may safely be deduced from these, and be considered as permanently established. But instead of pursuing this slow and tedious process, as marked out by the immortal founder of the inductive philosophy, metaphysicians have first commenced by forming visionary hypotheses and assuming certain premises, and afterwards have attempted to reconcile facts with these. They have retired to their cloisters and speculated by the light of their own consciousness, when they should have studied by observation and experiment the great book of nature. They have capriciously allotted faculties to man, and arbitrarily dictated laws to nature; and the consequence is, there has been but little of truth mingled in their researches. Some have denied to the mind all *innateness* of disposition or character, and have maintained that it was precisely like a piece of white paper, capable only of being acted upon, and moulded by, outward impressions. Others have assumed that all minds were by nature *alike* as to capacity, and that the great diversity in the talents of different men, was solely occasioned by external circumstances. In fact, no two leading metaphysical writers can be found who agree as to the nature or number of the faculties of the human mind.

4thly, Another serious defect in past investigations on this subject, is a complete failure to account for many mental phenomena. It is to be presumed of every true science, that it will afford some rational explanation of the principal causes and relations of the various phenomena of which it treats. But it is far otherwise with the one under discussion. Many facts in this science, as far as the labours of metaphysicians are concerned, now for more than two thousand years, remain to this day entirely inexplicable. They afford no rational explanation whatever of the following topics: *nature of genius*;

causes of diversity in talent and moral feeling among different individuals; effects on the mind of opium, and other intoxicating substances taken into the stomach; difference between the sexes; the process of gradual developement of the mental faculties; the causes of idiocy; the phenomena of dreaming, somnambulism, insanity, monomania, &c. Moreover, the philosophy of the *will*, the laws of *free agency*, and the different degrees of *human responsibility*, have never yet been satisfactorily expounded by any system of metaphysics. Other instances of failure might be adduced; but certainly the facts and phenomena already mentioned, among the most important in life, should be clearly and rationally accounted for by a system of mental philosophy. Again: it is fair to infer that a science which should give a correct exposition of the faculties of the mind, and the laws which govern their developement, would be fraught with the highest practical benefit to mankind. But how directly the reverse of this are all the labours of metaphysicians, when examined by such a test. Their researches have been altogether too speculative and ethereal to be reduced to any practical purposes. The subject itself has not only fallen into general disrepute, but, as a branch of study, receives scarce any attention, at the present day, in our seminaries and institutions of learning. In view of these facts, it is not surprising that the study of mental philosophy should have been neglected by medical men. Its principles, as hitherto taught, have had too little to do with physical organisation, in order to come under their cognisance. But when the true mode of investigating the subject is correctly understood and admitted, it must devolve on the members of this profession to *take the lead* in its cultivation; and they can then no longer continue to neglect it without violating the most sacred duties which they owe to medicine, as well as sacrificing the best interests of the public. This brings us to a consideration of our second general head.

II. *The connection of Mental Science with Medicine.*—Before entering directly upon an examination of this question, it will be necessary to decide, or settle in some measure, what are the *true* principles of mental science. It will be seen, from the preceding observations, that we cannot rely upon the mode of investigation adopted by metaphysicians, neither can we obtain from this source a correct knowledge of the philosophy of the human mind. This fact must be admitted, we think, by all candid and competent judges. What, then, is the true foundation of mental science? What are its principles, and the nature and amount of evidence in support of them?

First, then, we have no positive knowledge whatever of mind as an abstract essence or entity. Though we believe it to be of an immaterial and spiritual nature, destined to immortality, yet God has never

endowed us with faculties capable of comprehending or taking cognizance of any such existence. It is therefore useless to indulge in any speculations about its *nature* or *essence*, and folly to predicate a system of mental philosophy upon such a basis. All we can possibly know of mind, as manifested in this world, is through its material instrument. That the brain is the organ of the mind, has been the united testimony of the best writers on anatomy for centuries, and is, moreover, confirmed by the opinions of the highest living authorities on the subject. Here, then, is the first principle—the foundation of mental science. In the second place, the brain is composed of a congeries of organs, corresponding in number to the faculties of the mind. This is proved by analogy, observation, and experiment. The brain, as its anatomy shows on dissection, is a complex viscus or body, and is made up of distinct parts or organs. Now, according to a law pervading all organic matter, where distinct organs are found, however similar in structure, or nearly connected in their relations, they perform entirely different functions. The brain cannot be an exception to this universal law. Again: the mind consists of a plurality of faculties, and, in accordance with the counterpart of the law just stated, it must necessarily have a plurality of instruments. And both observation, as well as experiment, prove that these instruments are distinct organs in the brain. Thousands, who have made accurate and extensive observations, and whose testimony cannot be called in question, agree on this point. They have, moreover, collected such an amount of facts in confirmation of it, as to afford positive and irresistible evidence of its truth to every unprejudiced and well-disciplined mind. It has also been found, by actual experiment in a multitude of instances, that whenever particular parts or organs of the brain suffered serious injury, the corresponding faculties of the mind have invariably been more or less impaired in their manifestations. No person can candidly and thoroughly investigate this proposition, without being absolutely compelled to admit its truth.

The third great principle in this science may be thus stated—the size of the organ, other things being equal, is a measure of the power of its corresponding faculty. This law is also one of general application. The conditions involved in the phrase, “other things being equal,” will of course vary in character under different circumstances; but when properly considered, size is strictly a measure of power, and there cannot be found an exception to this law throughout the universe. It is unnecessary here to accumulate facts either for the purpose of illustrating or proving this principle.

Our next inquiry is, can we ascertain accurately the size of these several organs in the living head? And, secondly, can we, by making

proper allowance for the influence of these other conditions on size, judge correctly of the strength of the different faculties of the mind? These questions must be settled by matters of fact and actual experiment. They afford no chance for speculation or sophistry, and none but those who have carefully examined the subject, are qualified to give testimony in the decision. First, then, can the size of the brain and its various parts be ascertained? Says Magendie, "the only way of estimating the volume of the brain in a living person, is to measure the dimensions of the skull." Sir Charles Bell also observes, 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." Blumenbach, Cuvier, Monro, and other distinguished anatomists, have expressed similar sentiments. Thus by various measurements of the skull, then, externally, we can ascertain the size of the different organs of the brain. It is true there may be certain exceptions to this principle, as in the case of disease or old age, but these by no means invalidate its truth, or the practicability of its application. Some difficulty may also occasionally be experienced from the extreme thickness or irregularity of certain parts of the cranium, but the precise nature or amount of this difficulty can generally be understood—proper allowance can be made for it, and very correct inferences drawn as to cerebral development.

Being able, then, to ascertain the size of the several organs of the brain, can we judge correctly of those conditions which influence or modify its functions? These are chiefly, constitution, temperament, health, and education, a knowledge of which may certainly be ascertained, both from the appearance and organisation of an individual, as well as from his own statements concerning his history and circumstances. This remark is not mere assertion—it is supported by a multitude of facts, and did the occasion require, we might furnish an amount of evidence in confirmation of its truth that could be neither disputed nor denied; but, for the present, must content ourselves by referring the reader to such works as treat particularly of those points. It may be asked, if we consider the above propositions sufficiently proved and established to be regarded as settled principles in mental science? We reply in the affirmative. This question is not to be decided by our individual knowledge on the subject, nor by the ignorance of the community generally. All the great principles in physical science have been discovered, proved, and established by a few original minds; and the truth of such discoveries are always to be admitted, not by the extent to which they have been propagated, nor by the mere number who publicly advocate them, but from the positive evidence furnished by their original discoverers and expounders.

It is thus we judge in relation to the truths of chemistry, geology, and natural philosophy; and it is unfair, as well as unjust, not to apply the same rule to mental science. For its principles are based on precisely the same kind of evidence, appealing directly to the senses, observation, and experiment; and we venture to hazard the opinion that its leading professors are as competent judges in this matter, as the teachers of any other great department of science. Did space permit, we might adduce many incontrovertible facts and arguments in proof of a system of mental philosophy based on these principles—we might show how beautifully and perfectly it accounts for all mental phenomena, and how vastly superior it is, in practical utility, to all other systems; but our more immediate object is to point out its connection with the distinct departments of medicine.

Anatomy.—The dissection of the brain has been hitherto conducted on strictly mechanical principles, and that, too, in violation of a fundamental law in anatomy. It is a rule, laid down and invariably adopted by the best anatomists, that all parts or organs of the body should be dissected in harmony with their functions. And, in accordance with this rule, whenever an organ of a very complicated structure is to be dissected, its various parts and relations should be exposed in the best possible manner, to display the offices which it performs in the animal economy. It is only by pursuing this course, that we can ever arrive at a correct knowledge of the structure of any organic substance. But the brain—the most important viscus in the human body—has been, and is still, dissected by a majority of anatomists without the least reference whatever to its functions. They proceed to cut it up into slices, like a ham or a cabbage-head, beginning the work of destruction upon its upper surface and proceeding downward, cut directly across its tissues just as chance or accident may happen to direct; whereas they should commence the dissection at the base of the brain—where all the nerves and commissures centre—unfold their several structures in regular order, and trace out their distinct relations with a particular reference to their functions. As a consequence of this mechanical course of dissection, the various parts of the brain have been designated by names entirely inappropriate and unphilosophical. We cannot refrain from quoting some remarks on this point by Dr. Conolly, formerly Professor of Medicine in the London University, which appeared in the ninety-fourth number of the *Edinburgh Review*. Says Dr. C.—“Up to this day, our memory is pained by the recollection of the barbarous names and regular sections of what was then the dullest part of anatomical study, which, although often repeated, left no trace but of its obscurity or absurdity. Here, an oval space of a white colour, and there a line of gray, or

curve of red, were displayed; here a cineritious, there a medullary, mass; here a portion white without and gray within, there a portion white within and gray without; here a gland patuitary, and there a gland like grains of sand; here a ventricle, there a cul-de-sac, with endless fibres, and lines, and globules, and simple marks, with appellations no less fanciful than devoid of meaning." We regret to acknowledge that this is a true description of the manner in which the anatomy of the brain is studied, even at the present day, in most of our medical institutions. It is, emphatically, "the dullest part of anatomical study," and must certainly continue so, until its structure as a whole, and the relations of its several parts, are examined with a special reference to the important functions which they perform. When this is done, the study of the brain will become the most interesting department of anatomy, and it will then be found that mental philosophy sustains, in this respect, a very intimate and necessary connection with medicine.

Physiology.—This term literally signifies the *doctrine of nature*; but in its more general and popular acceptation, it is that science whose object is to investigate the functions of all organic existences, including both those of the animal as well as the vegetable kingdom. It is, however, as a branch of study, chiefly confined to the organs of the human body. These have now been made the subjects of special study for centuries, and there remains only two or three organs whose uses are not generally understood. Of these, the brain is the only organ of any consequence. From its texture, position, and anatomical relations, it might be inferred, *a priori*, that this viscus performed very important functions in the animal economy. This inference is rendered still more probable from the great amount of blood it receives—being nearly one seventh part of the whole circulation. But, notwithstanding this presumptive evidence as to the importance of the functions of the brain, and the various means that had been employed for ascertaining them, they remained enveloped in profound mystery till near the close of the last century. Dr. Gall—whose name, however much it may be derided at the present day, posterity will place beside those of Galileo, Harvey, and Newton—has the honour of discovering the true functions of the brain. This he effected by observation, which is the only safe and correct guide in such inquiries. Some anatomists have pretended that the *structure* of an organ revealed its *functions*; but this position is false and untenable. For instance, no anatomist, by dissecting the optic nerve, could predicate that its function is to minister to vision; nor by dissecting the tongue, could discover that it is the organ of taste. There is not a single organ in the human body, whose offices have

been disclosed by mere dissection. Again: this knowledge cannot be obtained by means of experiments on living animals, or by pathological researches. These methods have been more especially adopted by the French, who, by their varied and multiplied experiments, have made many valuable contributions to the science of physiology. But a knowledge of the uses of such an intricate and complex viscus as the brain could never first be ascertained by any such modes of investigation, though they might throw much light on various points after its primary functions had once been discovered by observation. Did our limits permit, we might give the most satisfactory and conclusive reasons in proof of this statement, but can merely remark that it perfectly accords with the whole history of such inquiries in physiology and pathology.

It is now admitted, by all who have carefully examined the subject, (and no others are competent judges in the case,) that the functions of the brain partake of a three-fold nature—viz. *motion, sensation, and mental operations*. The powers of motion and sensation depend principally upon the central and basilar portions of the brain, which are more immediately connected with the spinal cord. This part of physiology is very imperfectly understood, and much, doubtless, remains yet to be discovered. The mental powers depend for their manifestations on the cerebral organs composing the middle, posterior, and anterior lobes of the brain. These powers, when examined and classified according to their manifestations, are divided into the *affective* and *intellectual* faculties. These are again subdivided into the *animal feelings, selfish propensities, moral sentiments, and perceptive and reflective intellect*. We have thus a cerebral organ for every distinct faculty of the mind, and consequently as many organs as faculties. If such, then, are the functions of the brain, mental philosophy sustains a most important relation to medicine.

Surgery.—All injuries or diseases involving the brain, and requiring surgical aid, have universally excited great interest. A majority of the operations for such injuries have always been regarded as among the most difficult in surgery, as well as dangerous and uncertain in result. The cause of this arises from two sources:—first, the importance of the brain, as being the seat of life; and, secondly, from our imperfect knowledge of its functions. It is impossible to treat a disease, or operate for an injury, with any certainty of success, without correctly understanding the difficulties involved. The two principal means of obtaining this information are—first, *change in organic structure*; and, secondly, *functional derangement*. Now, as many injuries happen to the head which neither lacerate the integuments, nor in

any visible manner affect the skull, and as the brain itself cannot be examined, the surgeon must found his diagnosis chiefly upon those symptoms which grow out of functional derangement. But where the true functions of an organ are not understood, how can he judge accurately of the *kind* or *degree* of derangement that may exist? The whole history of surgery shows that many operations for injuries and diseases of the head, have been a matter of mere *experiment*, guided, perhaps, by some experience, but not by any well established principles. The consequence is, there has been less advancement in this department of surgery than in any other. It is true, there has been a great improvement in the treatment of those affections connected with the external senses, though none, comparatively, in cases where the brain was concerned. But when the offices of this organ are clearly and fully understood, we anticipate the most important improvement in this department of surgery. Our limits will permit us to notice only a few of the advantages to be derived from this source.

1st, It will enable the surgeon to judge more accurately of the precise character of an injury or disease of the head. It is now admitted, by the best physiologists and pathologists, that the peripheral part of the brain is the seat of mental operations, while the more central portions are connected with the powers of sensation and motion. Therefore, whenever the faculties of the mind are deranged or impaired in their manifestation, it is certain that the exterior parts of the brain are affected; but when we have convulsions, paralysis, &c. of the body, it is equally certain that the more central portions are involved. To such an extent may this mode of diagnosis be perfected by future discoveries, that, from a long and critical examination of mental manifestations, the surgeon can determine the precise convolution injured; also, by carefully observing the *kind* of convulsion or paralysis, he may be able to decide what particular ganglion or commissure of the brain is affected.

2dly, There are sometimes extravasations of blood between the skull and dura mater, or within the membranes enclosing the brain, and it becomes necessary to trepan the skull for its removal. The chief difficulty that surgeons have hitherto encountered in such operations, was to ascertain its exact location. Now, by a thorough knowledge of the faculties of the mind, both in a healthy and deranged state, the surgeon will be able to select the precise seat of this effusion.

3dly, It is well known that the state of the mind has a most powerful influence over the body, especially when in a morbid or diseased condition. In no instance is this reciprocal influence more powerful,

either for good or ill, than in severe and unexpected injuries; and under no circumstances whatever can it be brought to bear more efficiently than in surgical operations, which are attended with great difficulty and danger. There are undoubtedly many cases where the success of an operation, as well as the life of the patient, depends almost entirely on the state of mind or feelings at the time and afterwards. Now, a system of mental philosophy, based upon the functions of the brain, will afford the most essential aid in such cases. It will enable the surgeon to detect at once the strong and weak faculties of his patient, and thus assist in presenting such motives, and making just such appeals, as will operate most beneficially on his feelings and spirits. Says Dr. Rush, speaking in relation to medicine in general, "the advantage to be derived from this source (i. e. a knowledge of mind) might be a hundred times greater, were they properly directed by well-educated physicians."

Pathology.—This is comparatively a new light in medical science, as but little attention was given to the subject till within a few years. Its object is to investigate the changes which have taken place in the functional derangement or structure of an organic body, either as the cause or effects of disease. This mode of investigation has been prosecuted with great zeal, talent, and industry, by many of the most distinguished men in the profession, and it is to this source, more than to any other, that we are recently indebted for some of the most valuable discoveries and improvements in medicine. Among other inquiries, the morbid conditions of the brain have by no means escaped the notice of pathologists. At the same time, we venture to affirm that there is not another organ in the human system which has received an equal amount of attention as to its pathology, but what has been attended with more definite and satisfactory results. The cause of this arises from three sources:—viz. first, from the extreme delicate texture of the brain; secondly, from the very complicated structure and intimate relations of its several parts; and, thirdly, from our imperfect knowledge of its functions. The last, as we apprehend, is by far the most fruitful source of difficulty in itself, besides being, to a considerable extent, the occasion of the two former.

Pathology, as a science, is based on physiology. For an examination into the causes and effects of disease, whether it be functional derangement or change in organisation, presupposes necessarily a knowledge of the healthy state and functions of an organ. Otherwise, we could not judge accurately of the deviations from health, neither could we understand the changes which have been occasioned by disease. And never can pathological researches, as to the brain, be carried out and perfected, till the physiology of all its parts is thoroughly

comprehended. This knowledge is indispensable, in order to make proper observations, and to establish general principles in pathology. *First*, If we were perfectly acquainted with the functions of every distinct portion of the brain, we should then know precisely what parts to examine in case of disease, and would thus be far more likely to discover the morbid derangements in function, or the nice changes in structure, that may exist. *Secondly*, The various parts of the brain sustain very intimate and important relations to each other in the performance of their functions, including muscular motion, sensation, and mental operations. Now, these several relations and connections must first be understood in a *healthy* state, before we can clearly perceive the causes or effects of disease in all the parts of such a complicated viscus. *Thirdly*, The brain is subject to a great variety of affections where no indications or traces of change in organisation have ever yet been discovered by the best pathologists. Whether this difficulty arises most from the extreme delicacy of its texture, or the want of more perfect instruments for making the examination, it is unnecessary here to decide. But it frequently happens, as is rendered evident by external symptoms, that very great functional derangement actually exists, and, according to all analogy, there is every reason to believe that some change in physical structure must either have preceded, or been occasioned by this derangement. Now, a thorough knowledge of the functions of the brain, embracing the various kinds of motion and sensation, as well as mental manifestations, will not only incite, but enable us to recognise far more accurately the *kind* and *degree* of deviations in these, from a state of health. We may thus, by continuing this mode of inquiry and examination, be able to detect changes in organisation which have hitherto entirely escaped the closest scrutiny of pathologists. Hence we see that a knowledge of physiology must precede that of pathology, and that mental philosophy sustains, in this respect, also a most intimate and important relation to medicine.

Practice of Medicine.—Aside from good natural abilities, two things are indispensably requisite to constitute any individual a successful practitioner of medicine. *First*, He must be thoroughly and practically acquainted with the causes and symptoms of disease: and, *secondly*, with the nature and application of the most appropriate remedies. And the more complicated the disease and difficult its treatment, the more important that his knowledge should be accurate, extensive, and well grounded. This is emphatically true, in reference to nervous diseases. It is admitted in the *Library of Practical Medicine*—the most recent and popular work on the subject—that “the

diseases of the brain are, at the present moment, more obscure than any other great class in the nosology."

While there has been a constant improvement in the diagnosis and treatment of diseases affecting every other part of the human system, there has been comparatively but little advancement in respect to those of the brain. Dr. Stokes, in his valuable lectures on the Theory and Practice of Physic, has very correctly adduced the following circumstances as causes for such a state of things. "*First*, The great obscurity of the symptoms; *secondly*, The want of correspondence between symptoms and known organic changes; and, *thirdly*, The necessarily imperfect nature of our classification of nervous diseases." Let us briefly examine these points. Now symptoms, according to this same author, consist "in certain changes produced in functions." But we have already seen that large numbers in the medical profession are wholly unacquainted with the real *functions* of the brain, and therefore they cannot judge clearly and rationally of the *kind* or *degree* of functional derangement; and hence the great obscurity attending the symptoms of diseases of this organ. We have, moreover, seen that *mental operations* constitute one of the most important functions of the brain—that the exercise of every individual faculty of the mind depends on a distinct cerebral organ—but how little is definitely and practically known concerning the healthy or morbid manifestations of these faculties? The knowledge that is already possessed on the subject is altogether too vague, indefinite, and speculative, to be applied to any practical or useful purposes in medicine.

The fact is, the study of mental science, as based on the functions of the brain, must, and will, in the process of time, constitute one of the most important features in the diagnosis and treatment of the diseases of this organ. As to the "want of correspondence between the symptoms and known organic changes," this is easily explained. It is more apparent than real; for nature never contradicts herself. It originates chiefly from a false view or classification of symptoms, and this, consequently, from an imperfect knowledge of functions. There may be, we admit, more than usual difficulty in ascertaining and settling this correspondence in the pathology of the brain, but a certain connection must necessarily exist between its functional derangement, and change in physical structure, according to all the known laws which govern organic matter; and we have not the least doubt, but the precise kind and extent of this correspondence will yet be discovered and established.

The third difficulty in the way of understanding nervous diseases—viz. their imperfect classification—grows out of the two former, and

can be rectified only in proportion as the functions of the brain become clearly and fully understood. The classification of no science whatever can be correct or perfect, unless it is based on a true interpretation of all the facts and phenomena in nature appertaining to it. That the physician should be well acquainted with the most appropriate remedies in the practice of medicine, requires no argument to prove or enforce.

III. *The importance of a knowledge of mental science to the physician.*—This subject may be viewed under two general aspects:—*first*, as connected with the duties which he owes to his profession; and, *secondly*, in the relations which he sustains to the public. It will be seen from the preceding observations, that neither the anatomy, physiology, nor pathology of the brain, can be clearly and fully understood without a knowledge of its functions, or, in other words, of mental philosophy; moreover, that such knowledge is an indispensable requisition, in order to understand correctly the diseases of the brain, as well as to perform successfully many operations in surgery for injuries of the head. This knowledge is especially important, inasmuch as the principal and almost the only means we have of ascertaining the affections of this organ, is through the *kind* and *degree* of its functional derangement. We have no stethoscope to examine the state of the brain; neither can we form or correct our diagnosis by the physical signs of auscultation and percussion; neither is the brain, like most other parts of the body, susceptible of much pain from disease. Hence the great importance of understanding the functions of this organ, particularly of those portions connected with mental operations; for the morbid or deranged manifestation of these will constitute the surest and most unequivocal symptoms of disease. To speak of mental excitement or depression in general terms, is not sufficient. We must know what *particular* faculty is involved, and *how much* it is affected. We might by such a course of diagnosis anticipate the very first intimations of nervous diseases, and thus employ remedial agents to much more advantage. It is not at all improbable but that a better knowledge of the functions and diseases of the brain will enable us to apply certain articles in the materia medica with far greater efficacy and success; new medicines may in this way yet be discovered, or different combinations made of those already in use.

Again: A knowledge of mental philosophy cannot fail to be of great advantage to the physician in the treatment of disease. That the state of the mind has a powerful influence over the body, either for good or for ill, has been universally acknowledged. It was remarked by Dr. Rush, that “consumptions, fevers, convulsions, diseases of the stomach and bowels, visceral obstructions, apoplexy, palsy, madness, with a

numerous and melancholy train of mental diseases, are frequently brought on by the undue action of the passions upon the body." All must admit that the faculties of the mind operate as most powerful agents, either as causes or remedies of disease. A multitude of facts might be cited, where the exercise of certain mental faculties has proved entirely effectual in preventing or curing various affections. In this way, a salutary and healing influence has been exerted upon the body when all other medicinal agents have been found utterly useless. It is to this source that quackery and empiricism in medicine is chiefly indebted for success. It is by operating upon the *feelings* of patients, that quacks perform so many wonderful cures, and infuse such a magic charm into their patent drugs. How important, then, that the regular bred physician should be thoroughly familiar with the nature and application of an agency so efficient and powerful in the treatment of disease? But it is not enough to be acquainted with the powers or faculties of the mind, in a vague, abstract, and general manner—such as love, hope, joy, grief, fear, sorrow, anger, &c. &c. We must know what *particular* organ in the brain is called into exercise at the same time—what is the precise character and strength of its mental faculty, and what are the most appropriate motives to be addressed to it. We must understand the nature and operation of those great laws which every where invariably regulate mental manifestations, and be able also to explain every fact and phenomenon connected with individual minds. The physician, of all others, should be competent to do this to his patient, and a system of mental science, based on the functions of the brain, places within his power the means of obtaining such information. He would be able, in this way, to recognise at once the peculiar temperament or idiosyncrasy of every individual patient, and could thus take the advantage of a multitude of circumstances of which he would otherwise be wholly ignorant. It is by pursuing such a course, that a knowledge of mind can be rendered, in its applications, a "hundred fold greater," in the practice of the healing art, than the world has ever yet witnessed.

Again: The cultivation of mental philosophy is calculated to exert a most beneficial influence upon the progress of medicine. Our present limits will permit us to notice only a few of the advantages derived from this source.

1st, It will tend to do away with many groundless theories, hypotheses, and speculations, which, more than any thing else, have retarded the progress of this science. A large number of the works on medicine are comparatively worthless, because they are, in a great measure, filled with the mere rubbish of theory, controversy, and the opinions of men who cannot be considered as competent judges or

safe guides. These theories are partly of ancient, and partly of modern origin. The cultivation of medicine formerly partook very much of the manner and spirit in which metaphysics were studied—dealing in abstractions and generalities, without sufficient regard to facts, or the nature of the evidence upon which they were professedly based. The inductive philosophy, introduced by Lord Bacon, produced quite a revolution in the study of medicine, and pointed out the true mode in which every department of this science should be cultivated; and by means of which, most of its discoveries and improvements, for the last fifty years, have been effected. Now, a system of mental philosophy, based on the functions of the brain, is founded upon the most extensive induction of facts, and enforces at every step the absolute necessity of observation and experiment. It will, moreover, tend to bring into constant exercise the *observing faculties* of the medical student, and render him exceedingly cautious that his conclusions are always founded upon correct data. It will thus prevent too hasty generalisation in medicine, and eventually become a standard to test the truth or falsehood of every new doctrine which claims to be based upon the great laws of physical organisation.

2dly, Such a system of mental philosophy will enable us to test the real merits of the *opinions* of men, and decide how much weight should be given, in matters of science, to mere human authority. There are four classes of persons whose opinions in medicine should always be scrupulously examined, and on certain subjects they should be entirely set aside, no matter how extensive their experience or profound their attainments; the difficulty arises from the *peculiar constitution* of their minds. The first class may be characterised as possessing very strong observing faculties, with quite deficient reflective intellect; these may observe, collect, and understand facts to any amount, but can never perceive or comprehend the force of *principles*, because they are *naturally* deficient in the powers of analysis and ratiocination. This class are not, therefore, competent judges wherever *general principles* are concerned. The second class of persons possess minds of a directly opposite character, having strong reflective faculties, but weak perceptive intellect; such individuals are not much given to observation themselves, neither can they appreciate the importance, or see the bearing, of *facts* in reasoning. They are inclined to dwell almost exclusively upon *general principles* and *abstract relations*, and not unfrequently become very speculative and visionary in their views. Consequently, their opinions on all *practical* subjects must be received with much caution. The third class may be described as possessing, naturally, such an inordinate degree of self-conceit and firmness, as to render them blindly obstinate, and

willfully set in their own way. They are always self-opinionated, and unwilling to examine new subjects, or alter any views which have long been entertained; and when their minds are once made up, no force of argument, or amount of evidence, will induce them to change or modify their opinions, simply because they *will not* be convinced. In the fourth class we would include those who are considerably advanced in life, and whose habits and modes of thinking have become so fixed and settled, as to run almost necessarily in one circle or channel. Such is the nature and organisation of the brain, on which the exercise of every mental faculty depends, that it is very difficult, if not impossible, for persons past the age of fifty to canvass properly and rationally the merits of new discoveries and improvements. We yield to none in our respect for age, as well as our confidence in the judgment of those of long and successful experience; yet we do say, that the opinions of men passed the middle age of life, should have comparatively but little weight in settling the claims of new discoveries and improvements. We verily believe that not only medicine, but that the progress of civilisation, as well as of the arts and sciences generally, have been seriously retarded by giving an undue importance to the mere authority or opinions of such men.

3dly, The study of mental philosophy will eventually rectify or counteract the injurious effects of *nosology* on medicine. It has been a most unfortunate thing for this science, that its cultivators should ever have laid so much stress upon the mere nomenclature and verbal descriptions of diseases. In the first place, in order for such a course to be correct, it presupposes that the nature, causes, and symptoms of disease are already clearly and fully understood; and in the second place, that no change can be effected in these, either by time, climate, or other circumstances; and, lastly, that all individuals will look at these facts through the same medium, and arrive at precisely the same results; either of which conditions is absolutely impossible as well as absurd. Now, a nosological classification of disease, based on premises so false and erroneous, could not fail to have a most disastrous effect on medicine, and such has actually been the case. It has always operated as a great barrier to any change or improvement; it has filled volumes on medicine with words comparatively destitute of ideas; it has cultivated the memory and fostered the credulity of the student at the expense of his judgment and independence, and led him as a physician to prescribe for the *names*, rather than the symptoms of disease. Now, a system of mental science, whose invariable motto is, "*res non verba quæso*," will lead to a more correct use and interpretation of language. It will teach us that words are the mere exponents of ideas, and should never be employed without clearly

expressing some idea or stating some fact. It will show the absurdity of attaching fixed names and stereotyped descriptions to phenomena, the features of which are constantly changing, and so blend with each other that no distinct lines of demarcation can possibly be drawn between them. It will constrain the student to observe and think for himself, and not rely so much on the opinions of others; it will compel him to study the great book of nature, rather than the productions of men. The immortal Hunter used to exclaim to his class, while pointing at the human body, "I never read—this is the book that I study; and it is the work which you must study, if you ever wish to become eminent in your profession."

That a knowledge of mental science is important to the physician in his relations to the public, may be rendered obvious by numerous other considerations, aside from its bearings directly on his professional duties. We have already seen that such knowledge is not only necessary, but absolutely indispensable, in order to understand correctly many diseases to which the human body is subject; moreover, that it is of the highest importance in the treatment of disease that the physician should be thoroughly acquainted with the faculties of the mind, and the laws which regulate their developement, as connected with the brain. Now, as the lives and the health of the community—objects, the dearest and most sacred to every human being—are frequently entrusted to the care of the physician, not only the dictates of philanthropy, but the claims of justice, require that he should make himself fully acquainted with all the remedial helps and agents in his power, which are calculated either to restore health or prolong life. It is also a duty which he owes to his individual patients, and the public generally, to employ his medical knowledge and exert his personal influence to *prevent*, as well as cure disease. But in order to do this successfully, the community must be made far better acquainted with the laws of the animal economy, and the means of preserving health, than they now are. Formerly, it was supposed that man had but little control over the causes of pain, disease, and death; some considered these afflictions as the mere results of chance or accident, while others viewed them as the visitations of a "mysterious Providence," and all apparently thought little, and practically cared less, about informing themselves on the subject. Now, it is found that disease and premature death are the penalties of violated laws—laws which it is the duty as well as the interest of *all* to study and obey. There can be no possible doubt but that disease in a multitude of instances might be prevented—that a vast amount of health might be saved, and the lives of many individuals be very much prolonged, by a more general diffusion, among all classes, of a knowledge of phy-

siology and hygiene. But before mankind will ever pay that attention to the laws of the animal economy which their nature and importance absolutely demand, they must see and realise *the entire dependence of all mental manifestations upon physical organisation*. The omission of this fact, whether it has been through ignorance or neglect, is one of the principal causes why these laws have hitherto been so little appreciated or applied, both by the learned and the unlearned. Now, a system of mental science, based on the functions of the brain, is calculated more than any thing else to impress upon individuals, and the public generally, the importance of attending to those subjects which will vastly augment human happiness, by the prevention of disease and the promotion of health. And just in proportion as the principles of this science become understood, in the same proportion will individuals be induced to study the nature of their own constitutions, and yield obedience to the laws which govern them. For it will be found, by taking this view of the subject, that all possess within their own power the means of self-preservation and improvement, to a far greater extent than what has ever been considered in past ages, or is even now conceived of by the great mass of the public. When we come to consider that *all the manifestations of the mind depend on the brain*, it becomes an inquiry of the highest moment to know what are the causes or instruments operating to affect its developement, and what may be the degree of influence which we can personally exert over these agencies. It will then be made to appear how powerfully the character of every human being is affected by physical organisation—that the degree of his adaptation to the enjoyment of the social and domestic relations, his desire and capacity of elevation as a moral and religious being, and also the amount of his intellectual ability, depend in a great measure on the brain; then, and not till then, will the attention of the public be suitably waked up to the importance of this subject. And of all others, it is the peculiar province, and may we not add the imperative duty, of the physician to be foremost in imparting this knowledge, and to take the lead in effecting a result so desirable and philanthropic.

But these principles have a wider range, and embrace far higher objects, than mere physical health or individual enjoyment. They have an important bearing on every thing which affects the interests of the human mind in this world, as well as its preparation for an endless state of existence beyond the grave. We can here allude to only a few other topics connected with this science: it would require volumes to unfold all its numerous and varied applications. It should be remembered that these principles, though they had their origin with the creation of man, have but recently been brought to light, and

made evident to the human intellect; and notwithstanding they are considered as fully proved and established as the facts of chemistry or geology, by all who have thoroughly and impartially examined them, yet the extent to which their truth is admitted, or that an application of them has actually been made, is very limited. A great work, therefore, remains yet to be done, and no small share of the labour belongs appropriately and necessarily to members of the medical profession. For the studies and pursuits of no other profession, or class of persons, are so nearly and intimately connected with mental science; this fact must be obvious from the exposition which we have already given of its principles. But aside from the superior advantages which the physician enjoys of studying the physiology of the brain, and understanding the various conditions that influence or modify its functions, the peculiar duties of his profession places him in the most favourable circumstances possible for acquiring a knowledge of human nature. In the language of Dr. Spurzheim, "No one has such opportunities of observing men at all times, and in all situations. He alone is present during the night and the day, to witness the most intimate concerns, and the most secret events of domestic life. Good and bad men, when sick, with difficulty conceal from him their true sentiments. To such a man, as knowing all that belongs to our nature, we unfold the most secret thoughts, and we acknowledge our frailties and our errors, in order that he may judge truly concerning our situations. There is, consequently, no man more called upon, no man more necessitated to study mankind, than the physician." Says Dr. Rush, "it is the *duty* of physicians to assert their prerogative, and to rescue mental science from the usurpations of schoolmen and divines."

But it is when we consider the great variety and extent of the applications of this science, that its cultivation becomes so important, and urges its claims on our attention in a manner superior to all other sciences or subjects of human research. It points out the only true mode of education (physical, intellectual, and moral) that deserves the name. It has already shed a vast deal of light on the nature and treatment of insanity, thus bringing "joy and gladness" to multitudes whose situation for ages has been considered hopeless and irremediable. It is destined also to reform and perfect our present systems of medical jurisprudence, criminal legislation, and political economy, as well as our social, civil, and religious institutions. It lays the only foundation for a system of ethics and morals—being the true exposition of the faculties and laws of the human mind. It is the "handmaid of religion"—the "elder revelation of God," and will eventually become "THE *philosophy* which the world for centuries had had only in expectation."

ARTICLE II.

CHANGES IN THE FORM OF THE HEAD, WITH CORRESPONDING CHANGES IN CHARACTER.

(Being the substance of Mr. Deville's statements before the meeting of the British Phrenological Association, at Glasgow, as reported in the 66th number of the Edinburgh Phrenological Journal.)

Mr. Deville read an account of a number of cases in which a change had been produced in the form of the head by education and moral training; in illustration of which, he exhibited the principal casts referred to in his paper. He set out by explaining that, although his facts were of a very striking kind, he did not wish to be understood as affirming that dispositions could in all cases be remodeled, or new talents conferred. The brain and its parts have their limits of power; and endeavours to make them work beyond their strength must weaken the functions, and may even, if pushed too far, lead to imbecility and structural derangement. By judicious management, however, beneficial changes can seldom fail to be produced. In educating children, parents and teachers often err in assuming their own minds as a type of that of the species; so that, in the end, much toil is often found to have been thrown away. Phrenology is useful here, and also in enabling parents to see the propriety of not overworking the cerebral organs of their children. In the head of a young gentleman, eight years old, brought to Mr. Deville fifteen years ago for examination, he found a fine coronal region, with large Ideality, Constructiveness, Comparison, Causality, and Eventuality, fine perceptive organs, and an extraordinary large organ of Language; and the inference was, that with a little study he would be a fine linguist, and that he might cultivate with success the highest branches of literature. Mr. D. recommended repose from study for two, three, or four years, as otherwise mental weakness might be the result. The advice was neglected, and the youth is now little better than an idiot. Another case is that of G—— N——, a mentally calculating boy, who, at the age of six years, was engaged, through the introduction of a friend of Mr. Deville's, by the late Mr. P——, of Liverpool, to perform a series of calculations. Mr. D. suggested the propriety of not overworking the boy's organ of Number, but the hint was not taken. The consequence was, that although the boy, when he went to Liverpool, could give the square or cube of two, three, or more numbers, in a few minutes, and perform other kinds of complicated calculation, at present, as Mr. D. was informed by himself a few weeks ago, he cannot give the square or cube of numbers, and has not sufficient arithmetical ability even to

fit him for the place of a first-rate counting-house clerk. In his head, the organ of Number is now evidently smaller than in casts taken at four and six years of age. Innumerable instances of a like nature have fallen under Mr. Deville's observation. After detailing that of an idiot endowed with the talent for drawing, he proceeded to illustrate, by the following cases, the position that change of cerebral development frequently follows change of training and pursuits.

1. Casts of the head of Mary Street were taken at twelve and fifteen years of age. From eight to twelve, she displayed alternately two phases of character. Her memory was very extraordinary with regard to the Scriptures and history. When only six years old, she followed popular preachers about the eastern parts of London, whose sermons she would afterwards repeat to the neighbours, and criticise; quoting Scripture, and illustrating her views in a most singular way. Thus she would go on, conducting herself morally, for six or eight months at a time; but then she would turn round, and for two or three weeks would pilfer, destroy, lie, and perpetrate all kinds of mischief; after which the activity of the propensities ceased. She was brought to Mr. Deville, who predicated from her head the opposite qualities in her disposition, which would render her, though generally under the influence of the moral sentiments, liable to display extraordinary freaks of the propensities, some of which he described. He counseled her parents to divert her attention in a kind manner from subjects calculated to over-excite the sentiments; and to keep out of view whatever tended to gratify the propensities. This course was followed: after the first cast was taken, she exhibited but one slight freak of the propensities; and at the time of taking the second, her whole conduct was highly moral. A comparison of the casts shows a great increase of the organs of the moral sentiments in the second. This improvement of the brain rendered abstinence from vice more easy than before; and the case teaches us, that the moral and intellectual organs are, like the limbs, fatigued and weakened by too much exertion.

2. Casts of the head of a young man were taken at seventeen and a quarter and nineteen years of age. From the commencement of his education, about the age of seven, till eleven and a half years old, he went on tolerably well; he then became sullen, indolent, discontented, selfish, and unsocial. He would take no trouble to relieve distress or avoid giving pain; but was not inclined to go out of his way to inflict it. Having left home in order to get his own living, he met with no success; upon which, following Mr. Deville's advice, he began to study intensely, and a great amelioration of his conduct ensued. To acquire knowledge, it appeared necessary for him only to read; and

so completely altered was his behaviour, that he became highly loved and respected. He wrote some poetry in a correspondence with a young friend—much of it relating to his former behaviour. A comparison of the casts shows that, in the animal region of the brain, little or no alteration had taken place; whereas, in the coronal and intellectual regions the increase, measured from the ear, is from a half to three quarters of an inch.

3. The next case is that of Mr. George Bidder, who, in early life, was the celebrated Devonshire calculating boy, and is now the engineer to the Blackwall railway, and other great public works. Casts of his head were taken at the ages of 8, 13, 16, 19, 22½, and 28. In the first, the forehead is nearly upright, but in the second, and still more in the third, its upper part has receded; the knowing organs, however, have expanded in width. Now, during the interval from eight to sixteen years of age, no education was given him;—his father taking him about, exhibiting his wonderful calculating power, and in general putting up at public-houses, where little culture of the reflective faculties was to be obtained. At length he arrived in Edinburgh, was patronised and placed at school, and from that time mixed in good society for about three and a half years, when he removed to London, and the fourth cast, showing a growth of the upper part of the forehead, was taken by Mr. Deville. After this, he was frequently thrown into high moral and intellectual society, with and by whom he was employed; and at the end of two and a half years so spent, the fifth cast was taken, from which we find that a general expansion had been going on. For about eight and a half years more, he continued in and near London, employed in similar society; and now there is manifest in the coronal region an increase of nearly half an inch, as measured from the ear; while the region of the knowing and reflective faculties also has increased nearly half an inch.

4. Mr. Dennison brought his son to Mr. Deville to get a phrenological opinion of him, and begged that it might be expressed freely, without fear of giving offence. The youth was nineteen years old, and a student of Trinity College, Cambridge. The inference from his head (a cast of which Mr. D. took at the time) was, that he possessed the basis of a useful mind, but was too positive and self-willed to go by the rules laid down for the acquirement of knowledge; would not methodise details, and consequently would have less knowledge at nineteen than he ought to have possessed at twelve or fourteen. This accorded minutely with the account which had previously been given to his father by his Cambridge tutor; and the youth was led to apply so energetically to his studies, that within the next twelve months he gained a wranglership. A second cast, taken two years and a half

after the first, shows a diminution of fully half an inch at Self-esteem and Firmness, and a large increase of all the intellectual and moral organs. Mr. Dennison was so struck with Mr. Deville's observations at the time of the consultation, that he gave him liberty to make whatever use he pleased of his name and of the circumstances of the case; as he considered that phrenology must be of great use in the training of the young. He sent to London casts of several of his family, and also of a relation, for the purpose of obtaining advice as to their education and moral direction. The young gentleman, when transmitting the second cast to Mr. Deville, wrote him a kind letter, stating that he had profited much by his advice, and requesting more. He is now studying for the bar. On the first occasion, his temperament appeared to be lymphatic principally, with a little of the sanguine and nervous; now, Mr. Deville considers it to be bilious 55, nervous 30, sanguine 15.

4. A gentleman had his cast taken, purposely during Mr. Deville's absence from London, and left it for examination, with the announcement that he moved in the higher circles, and was well educated. Combateness, Destructiveness, and the basilar region generally, were large; Self-esteem, Love of Approbation, and Firmness, very large. The whole of the posterior region was full; and the coronal region, though in some parts full and in other large, was, in Mr. Deville's opinion, not sufficiently balanced to regulate duly the lower feelings. Alternation of good with inferior conduct was hence deduced, and the inference proved to be correct. It was inferred that he would be too positive and self-willed to move smoothly in the walk of life which his circumstances and education entitled him to frequent, as nobody in good society would submit to his dogmatism and unqualified expression of opinion; that, owing to the activity of the posterior region of the brain, he would like society where he could command personal attention, and be the leader of the company, and would be addicted to female society of a similar character; that he would find it difficult to deliver an oration to persons of his own class, for although he would not be at a loss for words or ideas, he could not readily connect and arrange them; and that his brain must undergo a considerable alteration before he could do this, or be able to move in good society with comfort to himself. The gentleman acknowledged that the whole of these inferences were but too true; adding, that his health had suffered in consequence, and he was going abroad for a few years to break off his low connections, and improve his mind and manners. After spending four years in Germany, during which he entered into highly moral society, and successfully studied works on moral philosophy, he no longer felt a difficulty in addressing his own class, and repudiated that with which he had

formerly associated. He is no longer the positive, self-willed being, but anxious to hear, and to give reasons for his opinions; feeling no wish to be considered—nay, loathing the idea of being considered—the leader of such society, male or female, as he formerly delighted in. A second cast, taken after his return to London, shows an alteration corresponding with the change of his character. At Self-esteem, Firmness, and the basilar region, there is a diminution, in some parts, of fully half an inch; while the intellectual region is found to have increased.

5. Casts of the head of a medical gentleman were taken at the ages of twenty-nine and thirty-five. Shortly before the former period, he had attempted to settle in a large provincial town, where he soon became a political partisan, and, being a fluent writer, wrote so strongly against his opponents, that an action was brought against him for libel, and abandoned only on condition of his leaving the neighbourhood. He then came to London, stated to Mr. Deville the difficulties he was in, and solicited some advice. On his head being examined, Self-esteem, Firmness, Love of Approbation, and Combativeness, were found all large or very large; Cautiousness moderate, and the reflecting faculties and Ideality only full; with indications of a command of words and the power of arranging them. That the inordinate strength of the four faculties first enumerated might be lessened and counteracted, he was advised to remove from the metropolis, and reside for a year or two with some respectable family, studying philosophy and ethics, cultivating his reflective faculties, and getting his Self-esteem and Firmness diminished before he again attempted practice. He did so; and has now a very fine practice in one of our largest county towns, where he is highly respected by his neighbours. In the second cast, Self-esteem and Firmness have subsided nearly half an inch, while, at the reflective organs, the head is nearly half an inch larger; the intellectual region generally has increased; and there is an enlargement also of Ideality and the whole coronal region.

6. In 1815, Dr. Spurzheim took a cast of the head of the late Mr. Oldham, formerly mechanist to the Bank of Ireland, and latterly, until his death, to the Bank of England. Mr. Oldham was, in 1815, about forty-five years of age. On comparing the cast with another taken after death, in 1840, an increase is seen in the whole of the intellectual region, agreeing with the increase of talent manifested by him in many ways during the interval, as is well known to engineers and scientific men.

Finally, in five cases where two casts of each have been taken at different ages (*viz.* twenty-six and thirty, twenty-six and thirty-two, thirty-six and forty, thirty-six and forty-five, and forty-five and fifty),

and where the individuals have engaged in no new studies, nor been subjected to the influence of altered circumstances, no change of form or size is observable. In one instance, where casts of the head of a young gentleman were taken at twelve and fourteen years of age, it was found to have increased a little in size, but to be unaltered in shape. His mother reported, that during the two intervening years he had gone on as before, making progress in no one attainment more than another, and preserving his dispositions and morals as they had been for several years before.

ARTICLE III.

VIMONT ON COMPARATIVE PHRENOLOGY.

Dr. Elliotson, of London, in the new edition of his large work on Human Physiology, gives the following interesting account of the labours of Vimont, who is now one of the most distinguished naturalists in France :—" Dr. Vimont, of Caen, has carried his researches into the phrenology of brutes with extraordinary perseverance, and produced a most magnificent work. Attracted in 1818 by the prize offered by the French Institute to the author of the best memoir upon the anatomy of the brain in the four classes of the vertebrated animals, he began his researches into the subject without any reference to phrenology, for he had not read Gall, and had seen him spoken of in books, and heard of him only as a charlatan ; however, he thought it incumbent upon him to read Gall's work among others. ' Hardly,' says he, ' had I begun to read it, when I found I had to do with one of those extraordinary men whom dark envy endeavours to exclude from the rank to which their genius calls them, against whom it employs the weapons of the coward and the hypocrite. High cerebral capacity, profound penetration, good sense, varied information, were the qualities which struck me as distinguishing Gall. The indifference which I first felt for his writings, therefore, soon gave way to the most profound veneration.'

" In 1827, Dr. Vimont presented to the Royal Institute a memoir, containing a fragment of the researches on which he had then spent so many years, together with 2500 heads of brutes of various classes, order, genera, and species. Among them, 1500 belonged to brutes with whose habits he had been individually well acquainted before they died, or were killed ; 400 wax representations of the brain, modeled after nature, and an atlas of more than 300 figures of the brain and cranium, executed with the strictest accuracy of dimensions,

also accompanied the memoir. The work in which he now sets forth his observations, has an atlas of 120 exquisite plates, containing about 600 figures. The accuracy of dimensions is said to surpass any thing before attempted in anatomy; and if the immense mass of proofs of phrenology from the human head, and the facts pointed out by Gall in brutes, were not sufficient to convince the most prejudiced, the additional multitude amassed by Dr. Vimont will overwhelm them. No one can pretend to a perfect knowledge of comparative anatomy and physiology, without a knowledge of his labours; and to impress their importance upon my readers, I shall quote a long passage.

“ ‘In animals of the lower class, to begin with fish and reptiles, the number of cerebral faculties is small; their acts generally of short duration—all have a spinal cord. In the apparatus of the senses, they have, externally, a multitude of shades of form and structure, calculated to facilitate their actions. The most prominent cerebral faculties are conservation, alimentation, and reproduction. If there are any perceptive faculties, they are, except in some species, very limited.

“ ‘What a difference, in this respect, between them and birds! How must we be struck with admiration on observing, that with the more energetic and complicated actions of birds, the cerebral system becomes more ample! Is it not still more surprising to see the combination and energy of the faculties perfectly coincide with the wants of the species? How can we, on the other hand, refuse to be convinced of phrenology, when it proves to us, by the inspection of many thousands of skulls, that if birds, whatever be their class, order, genus, or species, or even their peculiar habits, have a faculty in common—for example, that of migration or recognising places—their skulls will always resemble one another at one point; and, as this truth applies to all the faculties discovered by observation, to deny the existence of these facts, is to deny that the eye is the external apparatus of sight, the ear of hearing, the nose of smelling, &c.

“ ‘In quadrupeds and quadrumana, in which the cerebral operations, generally considered, are more numerous and present a more continued action than in birds, we find the cerebral system more developed. Some organs which were but rudimentary in the two first classes, are very prominent; and the acts dependent upon them, being more energetic, confirm the general law of nature—the relation between the extent and force of the acts of the nervous system with its volume or developement. . . . Full and perfect reliance may be placed on my observations; for they are the result of a scrupulous and conscientious examination of many thousand skulls of brutes, and the dissections of their brains, subsequent to the study of their most striking manners and habits.’ ”

ARTICLE IV.

ON THE FACULTY OF LANGUAGE AND ITS CEREBRAL ORGANS.

BY J. R. BUCHANAN, M. D.

There is probably nothing in craniotomy which is more frequently misconceived by amateurs than the effect of cerebral developement upon the position of the eye. The frequency of erroneous suggestions upon this subject is such, that a few explanatory remarks cannot but be beneficial. The salient eye is generally considered indicative of a fine memory of words, and capacity for the acquisition of languages. So far is this from being true, the very reverse of this position might be maintained with *equal* propriety.

The eye, resting in its socket, is in contact with the ethmoid, sphenoid, frontal, and malar bones. Its position, therefore, depends upon these four bony walls, with which, but for a small quantity of muscular and adipose matter, it would be in *immediate* contact. The six muscles of the eye, having no other duty than that of turning the ball in a well lubricated socket, are too delicate to have any sensible influence on its position by their magnitude. The filling up of the socket with adipose matter, which occurs to some extent in cases of obesity, when the face is fleshy, changes materially the prominence of the eye, as we see in plethoric persons whose tissues are distended with blood and lymph. When the system is wasted by disease, and the face partakes of the general emaciation, we witness a slight recession of the eye within the socket, owing to the absorption of the substance in which the eye is usually cushioned. In cases of diseased action and fungous growth at the basis of the brain, the eye is sometimes protruded from the socket, while the functions of the neighbouring organs are deranged. But all these causes are of little importance, compared with the arrangement of the bones which constitute the socket, and by which the position of the eye is generally determined.

In proportion as these bones are influenced by cerebral developement, and moved at their points of contact with the eye, the position of the latter becomes indicative of the developement of the brain. To what extent, and in what manner, this occurs, we propose to inquire.

Of the four bones of the socket, it is through the frontal and sphenoid alone that the eye is brought into apposition with the brain. Through the frontal, with the base of the front lobe, and through the sphenoid, with the anterior extremity of the middle lobe. The middle lobe lying at the back of the socket, its developement must necessarily move the eye directly forward, tending to push it horizontally out of

the socket, so as to overhang the face and project beyond the brow. The upper part of the socket (more than one third of the whole) is formed by the frontal bone. This portion (the super-orbital plate) of the frontal bone supports the convolutions at the base of the front lobe, which constitute the perceptive organs and the organ of Language. Being very thin, its form shows with correctness the developement of those organs. The organs, then, which may affect the position of the eye, are Individuality, Form, Size, Weight, Colour, Order, Number, Language, Tune, Alimentiveness, and Gustativeness. I say Alimentiveness *and* Gustativeness, because the faculties of alimentation and gustation are distinct, and must be manifested by distinct organs. The organ of Gustativeness lies in the anterior and internal portion of the middle lobe, near the fissure of Sylvius, and that of Alimentiveness, in its basilar portion, touching the temporal bone.*

The position of the eye, as we have seen, is affected by the developement of ten or eleven different organs, instead of the single organ of Language; and of these, the only one which tends directly to project the eye, is the compound organ called Alimentiveness. The developement of the organ of Language being in an oblique line downwards and forwards, it tends, when very large, to project and also to depress the eye; but the convolution constituting this organ is entirely too small to have the amount of effect which is usually ascribed to it, and a very slight additional developement of the middle lobe, projecting the sphenoid bone, would have more effect in producing the salient eye than the largest developement of the organ of Language. If, then, we consider the salient eye as an indication of developement, it is rather the developement of the middle than of the front lobe, and

* We often have cases in which the alimentary function is morbid, suspended, or increased, without any affection of the gustatory power. In the following case, the organ of Gustativeness was injured by a tumour. The case is given in the London Medical and Physical Journal, for December, 1827, by T. W. Chevalier. A robust female, aged thirty-nine, having been severely burned at the age of fourteen, "ever since complained of an unusual sensation, which she described as a shaking movement in her inside." "In May, 1827, she was afflicted with a strange sort of headache, and a sensation of burning in her stomach." Her sight became impaired, occasionally her memory failed, and she was liable to falling forward. She spoke of heat in her mouth, and of a *loss of taste*, which she attributed to that cause. She soon became comatose, and died. The brain had a firm, healthy appearance, but a tumour, of the size of a large walnut, was attached to the sella turcica and pia mater. Its base filled the *sella turcica*, and its form was nearly spherical, so situated as "to separate the corpora albicantia and the optic nerves more than an inch and a quarter from the posterior clinoid processes." The situation of the tumour thus was such as to interfere greatly with the anterior internal portion of the middle lobe, and we observe the *loss of taste* was the effect.

therefore has more to do with epicurism, or with destructive violence, than with the faculty of Language.

Without referring to the living, I may mention Darteneuf, the famous epicure, whose portrait we may see among others of the Kit-Cat Club. His epicurism was even alluded to in the polished verse of Pope. The head of Darteneuf does not show the breadth over the cheek bone, for which we are accustomed to look in seeking Alimentiveness. The head appears to have a narrow base, but presents the salient epicurean eye. A more convenient illustration may be found by referring to Spurzheim's Physiognomy for the head of the sensualist Godoi. In that, we see the same salient epicurean eye.

If we are to infer the developement of Language from the position of the eye, it must be from the depression rather than the prominence. The heads of Count Loupede, Charles Bonnet, Count de Buffon, distinguished naturalists, and those of Milton, Locke, Cervantes, George Buchanan, Descartes, Montaigne, Voltaire, John Knox, &c. exhibit this position. At the same time we must remark, that if the perceptive organs are largely developed, the brow and the anterior part of the vault, or super-orbital plate, will be so much depressed as to diminish the apparent defect of any depression made by the organ of Language; whereas, if the perceptive organs are of a moderate size, the brow being comparatively elevated, the eye appears more depressed. The apparent depression of the eye, then, shows the comparative developement of the posterior, or of the anterior parts of the socket—of Language, or of the oculo-perceptive organs, and of the superciliary ridge.

As to the prominence of the eye, I have already shown that it depends chiefly upon the developement, at the back of the sockets, in the region of Alimentiveness. But prominence must be estimated comparatively; and when we speak of the prominence of the eye, we mean in comparison with the nose, cheeks, and forehead—especially the latter. No matter how much the eye may be projected by the middle lobe, we would not call it prominent if it was still greatly overhung by the front lobe. The brow is the part to which we refer by comparison, when we speak of the eye. Now, as the developement of the intellectual organs projects the whole forehead and brow, it is impossible that there could be a prominent eye in this sense, when the intellectual organs are very largely developed, as in the head of Mr. Webster; whereas, if we cut off from the extremity of the front lobe half an inch of the length of the intellectual organs, we leave the eye uncommonly prominent, as we often find it in the heads of congenital idiots. I have a specimen of this in the skull of a stupid negro woman, who had a remarkably small front lobe. Her low fore-

head was absolutely farther back at its most prominent portion than the cornea of the eye. The socket projected much beyond the intellectual organs. This form is incompatible with intellect, unless it results from the excessive development of the middle lobe.

It appears, then, that the prominence of the eye is chiefly indicative of the comparative projections of the front and middle lobes. If the front lobe is large or long, and the middle lobe small or receding, the eye is deep sunken. If the middle lobe is extremely prominent, and the front lobe deficient, making a coarse or idiotic character, the eye is very prominent. The prominent eye, then, is frequently to be considered an indication of intellectual deficiency; for it is manifest, *cæteris paribus*, that the more we take from the front lobe, the more prominent the eye becomes.

In estimating the development of the intellectual organs by the prominence of the front lobe, a comparison of its prominence with that of the eye, though not a precise criterion, will often be of material assistance. There are many high broad foreheads which belong to persons defective in intellect; and if the extremity of the front lobe be cut off, the forehead remaining may be even higher and broader than what appeared before. The fine expansive perpendicular forehead, beneath which we find the salient eye, may be the very mark of stupidity, because it may show a deficient length of the front lobe. This fact has been observed by many, and physiognomists have published it as one of their most certain truths.

Aristotle, and afterwards Rhoses, declared the prominent eye to be indicative of stupidity, like that of the ass. J. B. Porta, in presenting the same idea, near three centuries ago, gives as the explanation the opinion of the physicians, that the salient eye was caused by the moisture or debility of the ventricles of the brain! which must be enfeebling to the mind, as they made the ventricles its organs. Polemon also mentions the prominence of the eye as one of the most unequivocal signs of stupidity, and sometimes of entire imbecility. Moreau endorses these opinions, and Lavater agrees with them.

To show the prevalence of these ideas, I would refer to other writers of less distinction. An old French book, bearing the title of *Physiognomy and Chiromancy*, says, "Too large a forehead indicates a character at once lazy, timid, and stupid." Another, published at Lyons, in 1549, under the title of *Natural Physiognomy*, says that "those who have the forehead very large and broad, are dull of spirit and understanding." Peuschel, a German writer on physiognomy, says that—"A very voluminous front, announces a man difficult of conception, but apt to retain well what he has learned. Slow and dull to acquire ideas, it is equally difficult for him to carry

them into execution." Cratachus, in a Latin essay on physiognomy, says that those of large foreheads are dull or stagnant, and may be compared to oxen, but those of small foreheads are sprightly.

These opinions of physiognomists coincide well with phrenology. In the cases which have been observed by these physiognomists, and in which they seem to agree so well with each other, with nature, and with Gall, the phrenological principles are very evident. The large moral developments of such heads overruling the animal forces, tend to produce a mild and feeble temperament, destitute of the vivacity and force which belong to the animal organs, while the deficiency of intellect produces slowness and dullness of apprehension. But even did not these opinions coincide with the doctrines of craniology, they would be worthy of our serious attention, as they relate to a mere matter of observation, and in all matters of simple observation, the unanimous testimony of observers is proof sufficient.

If the vertical forehead and prominent eye may, then, be often the indication of stupidity, they cannot be the indication of a talent for the languages, but must be rather the reverse, for the study of languages is not merely an exercise of the organ of Language, but is an exercise, in truth, of all the intellectual organs. The argument has sometimes been used as an objection to the study of the ancient languages, that it is the cultivation of only one intellectual organ to the neglect of all the rest—an unjust argument in behalf of a good cause. The study cultivates not only attention, but every phrenological species of perception, reflection, and recollection. Much as the study may be abused, and much harm as it has unquestionably done, we cannot deny the truth of the argument in its behalf, drawn from the excellent mental discipline that it affords when rightly pursued.

What is the study of language? The study of written language is the recognition of certain printed forms or marks called letters, and the association of these with the corresponding sounds, and the ideas which those sounds represent. It is also the study of their relations to each other, and the appropriate mode of connection. The science of the relations of words affords an exercise for the highest order of talent and profound reflection. To understand the construction, appreciate the beauty, and catch the spirit of language, requires a vigorous exercise of intellect—especially of Comparison, Causality, and the reflective organ called Wit. Printed letters are perceived and recollected by Colour, Form, Size, and Individuality. In recollecting or perceiving words, we also use Locality, Number, and Order, to understand the combinations of letters; while to understand their sound or utterance, we use Tune and Time. All visible objects are conceived and recollected by Form, Size, Colour, and Individuality;

those who have these faculties in an eminent degree, can easily look at a line of writing or a book, and then, closing the eye, bring before the mind a vivid conception of the letters as seen upon the page. They are thus enabled to read them easily, forwards or backwards, as if they were looking on the book. It was in this manner that Buxton performed his astonishing mental calculations. He had the whole series of figures in the mind's eye, as if they had been written down upon a slate. Verbal memory, then, is greatly dependent upon these organs; for verbal memory, in the case of a printed or written language, is chiefly dependent upon the ocular memory. (To those who remark that they can recollect faces very well, but not names, which is the case with nine tenths in the United States, I reply that they could recollect them very well by writing them down, or by seeing them on a sign, for they are then recollected like the faces, by the ocular memory.)

In addition to the ocular, we need the auricular memory—the memory of the sound of the word. This depends either upon the organ called Tune, or upon that called Language. That it depends upon the former, is the doctrine which I have taught for the last four years. Let us, however, speak of them together; for if we do not allow to the organ of Language the memory of vowel sounds, it at least claims that of the articulations—the memory of the consonants.

The study of language, then, being an exercise of all the intellectual organs, we should not confine our observations to the organ of Language, when we would determine the capacity for such studies. On the contrary, it is more important that the forehead should be prominent than the eye. Still, we must not overlook the importance of the organ of Language. The oculo-perceptive organs may recollect the forms or appearances of the letters—the faculty of sound may recollect the spoken language, and the various intellectual faculties may associate the written and spoken language with the proper conceptions, but we need something more. These conceptions and forms must be associated with the vocal effort necessary for the utterance of the proper sound. This power of utterance must appertain to the organ of Language, and it seems probable that it is the sole function of that organ.

When we take away from the general faculty of Language, 1st, the portion contributed by the whole intellect—2d, by the oculo-perceptive organs—and 3d, by the organ of sound, we find nothing remaining for the function of that organ but the mechanical part of language—the utterance of the sound. The organ that manages the muscles of articulation is thus the next neighbour of that which manages the

hands in all dexterous operations—in other words, the convolution of Language runs into that of Constructiveness.

If the articulation be the sole function of the organ of Language, we may account for the fine verbal memory which is sometimes found in persons who have but a moderate developement of that organ. But we would expect to see a large developement of it in a speaker of remarkable fluency, as otherwise his utterance, incapable of keeping pace with his ideas, would be a source of much embarrassment, and he would prefer writing to speaking, when he would display his powers to the best advantage. Those who have a large developement of the organ of Language, become more fluent by excitement or irritation, and pour forth a torrent of words; while those who have it small, are liable, in moments of excitement, to become suddenly embarrassed in speech.

The highest degree of the faculty of Language is found in those who have the broad, prominent forehead, with the depressed eye, and a fulness of the spheno-coronal suture, near an inch behind the external angle of the brow. The latter indication, though mentioned by Gall, has been much neglected by later phrenologists; yet it is, according to my observations, the most important indication of the organ of Language.

If, having a forehead thus happily constituted for lingual purposes, we leave the special organ of Language untouched in large developement, and shorten the front lobe by taking off a section in front, we will at once interfere materially with the faculty of Language. Whenever the lower part of the front lobe has been sufficiently curtailed, Language will be affected. I have sometimes found in schools that the worst readers—those who read with the greatest slowness or difficulty, and who required the longest time to acquire the art—were well developed in the organ of Language, and had the salient eye with the short front lobe. The deficiency of the perceptive organs in such cases, makes it very difficult for them to acquire a printed language. They are slow in becoming familiar with the forms of the letters, and never acquire so perfect or ready a familiarity. In glancing at the page, they recognise but a small number of the letters at once, and a vigorous attention is necessary for them to conceive and combine a sufficient number of letters to form a word. Their reading, therefore, is a laborious discovery of word after word; whereas, the boy possessing a large developement of the lower half of the forehead, looking carelessly at the page, perceives by a glance all the letters or words of the line, and utters them easily with the rapidity which best suits his taste or powers of utterance.

The foregoing remarks are of especial importance to young prac-

tical phrenologists, whom I have sometimes observed greatly embarrassed by finding the salient eye in men defective in the faculty of Language. The common impression that phrenology ascribes great intellect to a high broad forehead, has been the cause of much doubt as to the truth of the science; for there are so many stupid men who have such foreheads, that most of those who have a vague idea of the science have seen some such case. If the lower, which may indeed be considered the more important portion of the forehead, be highly developed, it would require an immense developement of the organs of the abstract intellect to produce a high vertical forehead; hence the receding forehead is of the most symmetrical and most common form. The vertical forehead shows a disproportion between the abstract and the practical intellect, and frequently accompanies a deficiency of the latter.

(To be continued.)

ARTICLE V.

PHRENOLOGY AND CHRISTIANITY.*

Galileo was told from high authority in the church, that his doctrine of the revolution of the globe was obviously at variance with Scripture, and therefore that it *could not be true*; but as his opinions were founded on physical facts, which could neither be concealed nor denied, they necessarily prevailed. If there had been a real opposition between Scripture and nature, the only result would have been a demonstration, that Scripture in this particular instance was erroneously interpreted, because the evidence of physical nature is imperishable and insuperable, and cannot give way to any authority whatever. The same consequence will evidently happen in regard to phrenology. If it were possible that any facts in physiology did actually and directly contradict any interpretation of Scripture, it is not difficult to perceive which must yield. The human understanding cannot resist evidence founded on nature; and even if it did resist, nature would not bend, but continue to operate in her own way in spite of the resistance, and a new and more correct interpretation of Scripture would ultimately become inevitable. This opposition we sincerely believe to be in itself impossible, when the facts in nature are correctly observed, and divine truth is correctly interpreted; but

* From the 30th number of the Edinburgh Phrenological Journal.

we put the case thus strongly to call the serious attention of religious persons to the mischievous consequences to religion, of rashly denouncing any doctrine professing to be founded on natural facts, as adverse to revelation. Every instance in which the charge is made falsely, is a mortal stab to revelation itself, and tends to lead men to regard Scripture as an obstacle to the progress of science and civilisation, instead of being a system of divine wisdom, in harmony with all natural truth.

Some persons are anxious that we should avoid all discussion of the relations between phrenology and religion, as tending to create uneasiness, and being unnecessary to the progress of the science; and if we could view the matter in this light, we should be happy to act as they advise; but as it appears to us certain, that phrenology is destined to exercise an important influence on the religious opinions of mankind, it is a duty to state this fact. If the diffusion of the principles of this science will strengthen, purify, and advance religion, which we firmly believe, the sooner the relationship between the two is made known the better. If it were possible that phrenology should weaken religious truth, or impede its progress, it would be dishonest, whilst suspecting this result, to propagate its doctrines, and conceal their tendency. In either view, therefore, it is the duty of a candid and benevolent mind to speak openly. In all earnestness and sincerity, therefore, we announce to religious professors of every denomination, that the day is on the wing, when they shall find their doctrines sifted and tried by the principles of this science. We are convinced that true religion will gain great strength and power by the ordeal; but we are prepared to expect modifications of many existing opinions.

One of the most important and fundamental questions in morals and religion, is the inherent capability of the human mind, by the development and proper application of its own elements, and those of external nature, to rise in the scale of improvement; we do not say to perfection, but to a condition fairly calculated to satisfy the reasonable demands of our moral and intellectual faculties. If we assume the negative side of this question to be the true state of the fact, we shall be led by our principles to treat lightly the natural qualities of the human mind, and to look for success in improving mankind chiefly from spiritual influences. Some sects in religion have not only denied the capability of human nature to improve itself, but represented its constitution, and that of the external world, as positively adverse to such improvement; so much so, that they consider the chief value of revelation to consist in proving this to be man's true natural condition, and in providing a spiritual remedy for his inherent defects. Accordingly, the general train of clerical instruction proceeds

on this principle. Theology is essentially scholastic and dogmatic, and not practical in its character. From the pulpit and the clerical press we receive no scientific expositions of the elementary qualities of human and physical nature, and of the effects of developing these, under the guidance of intelligence, and moral and religious principle. We are not encouraged to found our practical conduct on the basis of nature, and to look for enjoyment as the legitimate result of following out her institutions. The general system of religious teaching is adverse to such principles. Nature stands condemned; it is regarded as debased; it is despised and neglected. If there shall be error in this sentence, it must be one of momentous magnitude, in regard to man's duty, both to his Creator and himself.

If, on the other hand, we assume that man and the external world, such as they now exist, are both direct emanations from the will of the Creator; that the elements of both bear the impress of his wisdom and benevolence; and that the constitution of man, as a rational being, necessarily implies that it is his duty to develop his own powers, to apply them by his intelligence, and to direct them by his morality, as the means of attaining to enjoyment; then a different style of clerical teaching is imperatively called for. According to this view, the foundation of all improvement must be laid in a knowledge of the elements of human and physical nature; and the advancement of man must be accomplished by the proper application and direction of these elements; which application will become possible exactly in proportion to the discovery of the powers of the elements, and of their relationship. If we have reason farther to believe that the human mind itself is susceptible of great improvement in its moral and intellectual capacities, by physiological causes, cognisable by human intelligence, the obligation imposed on us to study our own nature, and improve it, will be still more deeply felt and readily acknowledged.

It is a shallow objection to the latter views, that they arrogate to man the power of improving his own condition, which properly belongs only to God. The Creator displays equal power and goodness in conferring on a rational being faculties capable of developing themselves, as in applying from day to day spiritual influences to produce this effect. The full grown fruit is as much a gift of the Creator, as the seed from which it sprung; because its capacity to ripen was conferred by him, and he instituted all the agents by means of which it arrives at maturity. So is it in regard to man.

It is obvious that phrenology affords some assistance in determining which of these views of human qualities is most consonant to nature. The advocates of the depravity of man, refer to his violent passions, his limited understanding, his perverse will, and his countless crimes,

as triumphant evidences of his inherent worthlessness and weakness. On the other side, the meekness and benevolence, the love of order, justice, elegance and refinement, the acute observation, the profound reflection, and the splendid monuments of art, science, and social life, which man has exhibited in his past career, are adduced as proofs of his possessing a superior nature. Phrenology shows (and we hold the point to be positively demonstrable) that human beings exhibiting the former qualities, are endowed with organs of animal feeling disproportionately large in relation to their organs of intellect and moral sentiment; that those displaying the latter qualities, possess a development of brain exactly the reverse in the proportions of its parts; and that, by due attention to the laws of physiology, it is possible to diminish the numbers of the former, and increase those of the latter, to an extent of which the limits are not at present conjectured. Not only so; but there is reason to believe, that even the best qualities of the highest order of minds are still susceptible of great improvement.

If, then, these be physical facts, existing or operating, whether believed in or not, abiding in their nature, and irresistible in their consequences, it is clear that it is unwise to sound an alarm against them, without inquiring into their truth, on the bare assumption that they are adverse to Scripture; especially when we consider that Christians are by no means unanimously agreed in regard to the extent of man's depravity, and that the unfavourable interpretations were put upon Scripture by divines who were utterly ignorant of the momentous truths now adverted to.

Phrenology gives a degree of clearness and precision to our views of the human constitution which was never before enjoyed; and it forces us, by the palpable nature of the facts which it presents to our consideration, to reason on ethical questions whether we will or not.

Again, all existing interpretations of Scripture have been adopted in ignorance of the fact, that, *cæteris paribus*, a brain preponderating greatly in the size of the animal organs over the moral and intellectual organs, has a native and instinctive tendency to immoral conduct, and *vice versa*; and that the influence of the organisation is fundamental; that is to say, that no means are yet known in nature, by which a brain of the inferior combination may be made to manifest the moral and intellectual faculties with equal success as a brain of the superior combination. Only phrenologists, who have observed, for many years, in various situations, and under different influences, the practical conduct of individuals constituted in these different ways, can conceive the importance of the combinations of the organs; but after it is discovered, the inferences from it are irresistible. The religious teachers of mankind are yet ignorant of the most momentous fact in

regard to the moral and intellectual improvement of the race which nature contains. We have heard it said that Christianity affords a better and a more instantaneous remedy for human depravity, than improvement in the cerebral organisation; because the moment a man is penetrated by the love of God in Christ, his moral affections and intellect become far more elevated, whatever his brain may be, than those of any individual without that love, however high his cerebral developement may be, and however much he may be instructed in natural knowledge. If the case were as here represented, there would be a power in operation on the human mind, which acted not in accordance with, but independently of, organisation; and, accordingly, many excellent persons believe this to be Scriptural truth, and matter of fact also; but so far as our observations extend, we are compelled to dissent from the conclusion. We cannot doubt that the influence of the brain is established by the Creator, because he gave it all its qualities and effects; and as he is perfect wisdom and goodness, we cannot conceive one part of his works contradicting another. Farther, we have observed men in whom the moral and intellectual organs were large, proving themselves by their whole conduct on earth to be excellent Christians, which goes to support phrenology; but we have never seen an individual with large animal, and small moral and intellectual organs, whose conduct was steadily moral, under the ordinary temptations of life, however high his religious professions might be. Indeed, we have seen several striking instances of person, who, after making a great profession of religion, ultimately disgraced its cause; and we have observed, without one exception, that in all these instances the organs of the inferior propensities were large, and those of one or more of the moral sentiments deficient; and we are convinced that the same conclusion, after sufficiently accurate and extensive observation, will force itself upon all candid and reflecting minds.

Our inference, therefore, is, that the Divine Spirit, revealed in Scripture as a power influencing the human mind, invariably acts in harmony with the laws of organisation; and that a well constituted brain is a condition essential to the due manifestation of Christian dispositions. If this be really the fact, and if the constitution of the brain be in any degree regulated by the laws of physiology, it is impossible to doubt that phrenology is destined to exercise a vast influence on practical Christianity.

An admirable portion of Christianity is that in which the supremacy of the moral sentiments is explained and enforced as a practical doctrine, "Love thy neighbour as thyself;" all mankind are thy neighbours. Blessed are the meek and the merciful; love those that hate

you and despitefully use you ; seek that which is pure and holy, and of good report ;—these are precepts of Scripture. Now, phrenology enables us to demonstrate, that the human faculties, and external nature, are so constituted as to admit of this becoming a practical doctrine on earth, which it has rarely entered into the heart of man to conceive as a possibility without miraculous interference. If phrenology shall carry home to the conviction of rational men, that the order of nature fairly admits of the practical exemplification of these precepts by the developement of its inherent resources, a new direction must necessarily be given to the pursuits of the religious instructors of mankind. In the dark ages which followed the subversion of the Roman Empire, men, through ignorance, converted Christianity into a vast system of superstition ; in proportion as learning revived, the barbarous superstructures which had been raised on the simple foundations of the Gospel were cleared away ; but the period from the revival of letters to the present day, has been the age of scholastic learning, as contradistinguished from that of philosophy and science. Christianity stands before us at present, as interpreted by men who knew extremely little of the science, either of external nature or of the human mind. They have conceived it to be a system of spiritual influences, of internal operations on the soul, and of repentant preparation for another world, rather than an exposition of pure and lofty principles inherent in human nature itself, capable of being largely developed and rendered practical in this world. It is a common accusation against philosophy, that the study of it renders men infidels ; and this alleged fact is brought forward as a proof that human nature is corrupt, blind, and perverse, turning what ought to be its proper food into mortal poison. But if this were really a well founded charge, the conclusion which we would draw from it would be, that there must be essential errors in the popular interpretations of revelation, when the effect of a knowledge of nature on the mind is to lead to disbelief of its truth. Science is of modern growth, and, down to the present hour, the mass of Christians of every country have embraced their faith without the possibility of comparing it with the revelation of the Divine Will contained in the constitution of external nature, which, philosophically speaking, was unknown to them. For example: The brain is capable of being greatly improved by attention to the laws of physiology ; and improvement in the brain will be accompanied by enlargement of the moral and intellectual capacities, and diminution of the animal propensities of the mind. These facts have been unknown by divines, who have denied the capability of mankind to attain, by the developement of their natural powers, to a higher moral condition than they have hitherto exhibited, and hence their decision against the capabilities of

human nature has been pronounced *causa non cognita*, and must be open for reconsideration. If Christianity was freed from many errors by the revival and spread of mere scholastic learning in the fifteenth, sixteenth, and seventeenth centuries, much more may we expect that the interpretations of it will be farther purified, corrected, and elucidated, by the flood of light which the sciences of human and physical nature, now in the course of cultivation, will one day shed upon it.

According to our view, the study of the human constitution, and of external nature, and of their relations, will become an object of paramount importance with reference to a just appreciation of the true meaning of Scripture. Civilised man sees infinitely more true and practical wisdom in Scripture than the savage of the wilderness, even supposing that the latter could read and understand the words of the sacred volume; and, in like manner, we humbly think that man, when thoroughly instructed in his own constitution, and in that of external nature, will discover still profounder truth, and more admirable precepts in that record, than ignorant, contentious, blind, and conceited man, such as he has hitherto existed. These observations may perhaps appear presumptuous to those who do not admit phrenology to be a true exposition of the Divine Law in the constitution of man. To such persons we are able to offer no apology. We have done our best to ascertain the truth of what we teach, and that truth appears to us to be too momentous to be hidden. If they, without submitting the question to investigation, as we have done, choose to condemn us on the strength of their own preconceived opinions, we appeal from their sentence to men better imbued with philosophy, and more thoroughly acquainted with practical Christianity, and conclude in the words of Dr. Whately, that "we are bound to use our own natural faculties in the search after all that is within the reach of these faculties, and that most especially ought we to try, by their own proper evidence, questions which form no part of revelation properly so called, but which are incidentally alluded to in the Sacred Writings."

ARTICLE VI.

THE NEGRO AND CAUCASIAN BRAIN COMPARED.

Professor Tiedeman says that the average weight of European brains is from 3 lbs. 2 oz. to 4 lbs. 6 oz., troy; but the average of four Negro brains, from which he drew his conclusions, will be found

to be only 3 lbs. 5 oz. 1 dr., or 3 oz. above the *lowest* European average; and the *highest* Negro brain falls 5 oz. short of the highest *average* European, and no less than 10 oz. short of Cuvier's brain, which weighed 4 lbs. 11 oz. 4 dr. 30 grs.; Dupuytren's 4 lbs. 11 oz. If we take the average of the length of the brains of the four Negroes, it will be found to be 5 inches 11 lines; but that of seven European males, which he examined for comparison, 6 inches 2½ lines. The average greatest breadth, 4 inches 8½ lines in the former, 5 inches 1½ lines in the latter. The average height is 2 inches 11½ lines in three of the four Negroes; 3 inches 4 lines in the Europeans. He adds that "the anterior portion of the hemispheres is somewhat narrower than is usually the case of Europeans."

The average capacity of forty-one Negro skulls, in his tables will be found to be 37 oz. 1 dr. 20 grs., or, if those which were female are subtracted, 37 oz. 6 dr. 16 grs.; that of seventy-seven European skulls of every nation, in his own tables, 41 oz. 2 dr. 30 grs. Dr. Morton, however, after examination of twenty-nine skulls of unmixed Negroes, nine of them native Africans, states the mean internal capacity of Caucasian skulls to be 87 cubic inches; and of the Negro to be only 78. The most capacious European skull was 109; the least, 75. The most capacious Negro skull, 98; the least, 65. In face of his own results, Dr. Tiedeman declares that the opinion of Camper, Soemmerring, Lawrence, Virey, Cuvier, &c.—that the Negro has a smaller skull and brain than the European—is "*ill founded and entirely refuted by my researches!*" He declares that the weight and the size of the Negro brain is as great as those of Europeans!" "Here, then, on Tiedeman's own showing," says Dr. Andrew Combe, "we have, first, an inferiority in the dimensions of the Negro brain, and a greater narrowness of its anterior lobe; and secondly, a marked inferiority in the capacity of the Negro skull to the extent of about one tenth; and yet he very strangely infers that *both are equal*, to the European; and the Royal Society, and half our scientific men and journals, adopt and propagate both facts and inferences as literally correct and of vast importance! If the phrenologists had perpetrated such a series of blunders, Sir William Hamilton and his allies would have shouted in triumph over their stupidity."—*Elliotson's Physiology*.

ARTICLE VII.

CASE OF INSANITY.

(The following case of insanity was communicated to us by Dr. H. A. Buttolph, in a letter dated Sharon, Ct., March 6th, 1841; its bearings on phrenology will be obvious to the reader.—Ed.)

Mrs. P——, of ——, Ct., aged eighty-four, of nervous bilious temperament, had been deranged about eleven years at the time of her decease, which occurred early in February last. Prior to the date of her derangement, she had suffered much from functional disease of the stomach. She naturally possessed decided practical business talents as a landlady, and was fond of the pecuniary avails of her efforts. She was affectionate in her family, kind and hospitable to strangers; uniformly consistent in her moral and religious character, and although reserved in her manners, yet generally cheerful. The first indications of derangement which her daughters (with whom she lived) observed, was a fear that she was losing her property, and that they (her daughters) were secretly appropriating it to their own use.

This suspicion was at first cautiously expressed, but she grew more and more bold in her accusations that they were taking her property unjustly, until at length she became entirely alienated in her feelings towards them—would say she meant to kill them, and would frequently, by open and by secret means, attempt to injure them. For a length of time, however, she would converse rationally with her neighbours when they called in to see her, and would manifest her usual degree of interest in their welfare. During the latter part of her derangement, she became exceedingly violent in her temper, making unceasing efforts to injure and destroy every thing in her way. Her language was rarely profane, though often extremely vulgar. Near the close of her life, the powers of her mind were greatly enfeebled, and finally she died in a state of almost complete fatuity.

Her brain was about the medium size, with no greatly disproportionate developement in any particular part, except that of Cautiousness, which was decidedly large in proportion to either the coronal or the superior frontal regions. The posterior and lateral regions, embracing the phrenological organs of Philoprogenitiveness, Adhesiveness, Combativeness, Destructiveness, and Acquisitiveness, were full; and a preponderance somewhat of the perceptive over the reflective organs in the anterior region.

Anatomical Appearances.—On piercing the dura mater, there was an escape of a watery fluid to the amount of from three to four ounces;

the vessels of the pia mater were highly and universally engorged with blood. The general consistence of the brain was much increased. Effusion of from two to four drams was found in the lateral ventricles; and softening, with change of colour to a greenish yellow, of the posterior portion of the middle lobe of the left hemisphere. The softened portion embraced the organs of Philoprogenitiveness, Adhesiveness, Combativeness, and a part of Destructiveness.

It may also be remarked, that the internal carotid arteries were pretty firmly ossified for three fourths of an inch after leaving the carotid canal, through which they pass to the brain.

MISCELLANY.

Progress of Phrenology.—Dr. Elliotson, late Professor of Medicine in the London University, has recently published the fifth edition of his large work on Human Physiology, in which he has boldly and most ably vindicated the truth of phrenology. He has devoted nearly a hundred pages to a consideration of the functions of the brain, and made very numerous references to, as well as quotations from, phrenological writers. Dr. Elliotson is one of the most distinguished physicians in Great Britain, and has always been indefatigable in his labours for the promotion of science generally, as well as for the elevation of medicine in particular. He was one of the first to embrace phrenology, and has contributed many excellent articles to various periodicals in exposition and defence of its principles. In his work on physiology (p. 402), we find the following note:—Says Dr. Elliotson, “When I wrote, advocating phrenology, in 1817, the year of my appointment to St. Thomas’s Hospital, I did not know six phrenologists in England; and when I founded the Phrenological Society of London, there was none in England or abroad. They now exist in many parts of Scotland, Ireland, America, Denmark, and Paris. In Paris, the most distinguished members of our profession are phrenologists. To the everlasting honour of Edinburgh, not only was the first phrenological society established there, but the first phrenological journal; and a treatise on the science by Mr. Combe has passed through several editions, and made its hundreds of converts. Thousands of well-informed persons in this country are now phrenologists—a very large number in my own profession. Though the pope put Gall’s works into the Index Expurgatorius, phrenological treatises have lately been permitted in the states of his holiness, as well as by Austria, in Milan and Pavia. Phrenological language is of daily use with our best writers and teachers; though they, too, often fear to declare their conviction. I have never known an individual write or speak against phrenology, without betraying a total misconception of it, or an ignorance of the facts of which he spoke.”

Political Ethics.—We learn that E. P. Hurlbut, Esq., has just closed an interesting course of lectures on Political Ethics, at the Mechanics’

Institute, New York. The New York Courier and Inquirer, for February 16th, gives the following synopsis of Mr. Hurlbut's lectures; which, it will be seen, involve topics of inquiry of the greatest value and importance. We sincerely hope Mr. H. will be induced to present the public, ere long, with a work on the subject:—

"In the *first* lecture he maintained—

That the sentiments, faculties, and passions of the human mind are *innate*—are dependant on man's physical organisation, and are manifested by means of the brain.

That all sane human beings are endowed with *the same mental powers*; that they differ in the *degree*, but not in the kind of their mental manifestations.

That as all external nature is adapted to the developement, gratification, and exercise of the powers and dispositions of the human mind, it is to be inferred as the natural design, that every power of the mind should be employed, and every native desire of it be gratified.

That the fundamental rights of mankind are, 1st, The right of life; 2d, The right of happiness.

That the *means* of attaining happiness, are to be found in the healthy and harmonious activity, exercise and gratification of the native sentiments, faculties and desires of the human mind.

That human rights can only be understood by means of a *mental philosophy* which should accurately define the innate powers and dispositions of the human mind and their true relation to external nature; and he adopted *phrenological science* as unfolding the true mental philosophy.

That all rights and duties are ordained by natural laws—that the only proper function of human laws, is to *protect and enforce* them—and that whatever is indifferent to the laws of nature, should be left undisturbed by human legislation.

He next endeavoured to show that the *social state* is the natural condition of the human race—that certain powers of the mind can find no appropriate exercise, except in general society, and that man had a *right* to live in that condition.

That this right must not oppose any *other right*, equally incident to his nature—and that, in the social state, man could not properly be required to sacrifice a solitary natural right.

This led to the means to be employed for the protection of rights, and to the consideration of *government*, as an *instrument* adopted by men being in the social condition, for the declaration and defence of the rights of humanity.

The *second* lecture treated of the *origin and nature of government*.

The *third* lecture treated of the *organisation of government*, and of the persons who might participate in its affairs. He excluded four classes only of persons from the exercise of the *elective franchise*.

1st, All persons of immature age. 2d, Intellectual idiots. 3d, Moral idiots. 4th, The grossly ignorant.

The *fourth* lecture was upon *rights not recognised, and rights imperfectly protected by laws*.

The lecture for Monday evening was devoted to the discussion of the *rights of woman*. In this we are informed that he contested almost every principle of the common law in regard to the *matrimonial state*—from the doctrine of marriage being a *civil contract*, to the end of the chapter. He examined the *moral condition* of woman under the *common law*, and treated of the right of divorce and the right of property.

The *sixth and last* lecture will be upon Friday night upon the *right of property*, in which he proposes to show it to be founded in nature: its

relation to man's moral sentiments; the causes of the inequality of men's estates; to inquire into the propriety of laws which affect the acquisition of property; and to discuss corporations, internal improvements, speculations, credit systems, &c."

Mental Science in England.—The state of mental science in England appears to have been nearly stationary for the last half century, with the exception of what contributions have been made to it by the discoveries and labours of phrenologists. Says the writer of an able article in the *American Biblical Repository* for January, 1841, while speaking (p. 151) of the present state of literature in England, "whatever the causes may be, the fact is indisputable, that in the department of ethical and mental philosophy there is no living writer of note. There has been no contribution to these sciences of any considerable value since the days of Tucker and Paley; for Sir James Mackintosh was a Scotsman, and Coleridge's *Remains* are *disjecta membra*. Loud complaints have long been uttered against Dr. Paley's system, yet no one has arisen to supply the deficiency. The most that the professor of moral philosophy at Cambridge (who dislikes Paley) promises, is a reprint of Bishop Butler's *Sermons on Human Nature*, with excerpts from other authors, and illustrative notes from his own pen."

Laws of Hereditary Descent.—In the *Mothers' Magazine* for February—a religious periodical, published monthly at New York, and having an extensive circulation—may be found an interesting article on the *Laws of Hereditary Descent*, contributed by a lady. It is truly gratifying to find such sentiments as the following in a *mother's* magazine—"Mr. Combe says, if the same amount of knowledge and care that has been taken to improve the domestic animals, had been bestowed upon the human species during the last century, there would not have been so many moral patients for the lunatic asylums, or the prisons, at present. That the human species are as susceptible of improvement as the domestic animals, who can deny? Then is it not strange that man, possessing so much information on this subject, and acknowledging the laws that govern such matters, should lose sight of these laws in perpetuating his own species? Yet how short-sighted is that individual who, in forming a matrimonial connection, overlooks the important consideration of the quality of the physical and mental constitution which his children will be likely to inherit; and also that a great portion of the happiness, or misery of his future life, will depend upon the conduct of those children; and again, that their manifestations, whether good or evil, will be the effect of the mental, moral, and physical organisation which they inherit. The time is fast approaching when men will have to pay more attention to this subject, for the science is taking deep root by which these matters can be tested, and the parent will not be so much *pitted* as *blamed* for the bad morals of his child."

Growth of the Brain.—Dr. Elliotson, in his physiology, remarking on the growth of the brain, says, "The truth is, the brain grows for a great many years. If you examine the heads of children seven years and upwards, you will find the average size much below that of the adult head. Every hatter knows that the sons of most of his customers require hats of larger and larger sizes every year till they are men. Nay, the head grows in some instances to a late period—till near or past forty.

Gall told me that Napoleon's hatter assured him that the head of that ruthless destroyer of human life grew to the age of thirty-five. Phrenologists know that different parts of the head grow differently at different ages, and that the forehead in particular parts of it sometimes grows very much in young adults. Casts have now been taken of the same individuals at various ages in many instances, and the changes of the different parts of the skull, and therefore of the cerebral organs, are very great; for the hard parts depend much for their size and form upon the soft, and the skull exactly represents the brain when in a healthy state, and before decline begins. In some instances, it is said that accidental exercise has caused the increase. But generally this has been the result of natural tendency to development. No amount of exercise will make a giant of a dwarf, make a small eye large, or lengthen a limb or a finger. Exercise will make an organ plump—make it thicker and more vigorous; but it is limited in its power by the limits of nature."

Criminal Jurisprudence.—The Hon. Joel Parker, Chief Justice of the Court of Common Pleas for New Hampshire, introduced indirectly the subject of phrenology in a charge on insanity, delivered September, 1838. He recognised not only intellectual insanity, but added that "the propensities and sentiments may also become deranged;" and among the diseases to which they are liable, he included "an irresistible propensity to steal," "an inordinate propensity to lying," "a morbid propensity to incendiarianism," and "a morbid propensity to destroy." We have here distinctly recognised the morbid states of Acquisitiveness, Secretiveness, and Destructiveness.

Phrenology in Italy.—Says Mr. Combe in his address at the late meeting of the Phrenological Association, "On my arrival from America in June last, I found awaiting me a little work entitled 'Memoirs regarding the Doctrine of Phrenology, and other sciences connected with it,' by Dr. Luigi Ferraresse, Professor of Medicine in Naples, read before the Royal Academy of Sciences in that city. It was published with full permission from the royal censor of the press. The censor, in his report on the work, certifies that it 'is very instructive and useful, and contains nothing offensive to religion, or to the rights of the king.'"

The editor of the "Law Journal," of Boston, is an able and zealous phrenologist, and in his work advocates its application to criminal jurisprudence.

The Institution for the Blind in Boston is ably conducted by Dr. Howe, a phrenologist, who has actually printed in raised letters an "Outline" of the science, which he teaches to his pupils.

The prize essay of the Central Society of Education in London was recently presented to a Mr. Lalor, who acknowledges, in explicit terms, the obligations of education to phrenology.

Lady Blessington, in some of her late works, has spoken in favourable terms of phrenology.

"I am happy to say that there is at King's College, as well as at University College, a professor who has for many years been a decided phrenologist, and avows his conviction."—*Dr. Elliotson, London.*

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ARTICLE I.

PHRENOLOGY AND ANTI-PHRENOLOGY.

"Select discourses on the functions of the nervous system in opposition to PHRENOLOGY, Materialism and Atheism, to which is prefixed a Lecture on the diversities of the human character, arising from physiological peculiarities. By JOHN AUGUSTINE SMITH, M. D., member of the Royal College of Surgeons, London, President of the College of Physicians and Surgeons for the University of the State of New York, and professor of Physiology in that Institution. New York, D. Appleton & Co., 200 Broadway, 1840.

Judicious, temperate, investigating, truth-loving men, are, day by day, giving in their adherence to the doctrines of Phrenology. Teachers of the young, superintendants of the insane, members of the learned professions, students of mental and moral philosophy, of jurisprudence, of political economy and of history, acknowledge that it is a light to their path and a cheater of their labors. It is supported by the leading medical journals of the world. The *Medico-Chirurgical Review*, The *British and Foreign Medical Review* and The *Lancet*. In this country it is advocated by The *Electric Journal of Medicine*, The *Boston Medical and Surgical Journal*, and The *Western Journal of Medicine and Surgery*. Within a few months the leading scientific periodical of the new world, The *American Journal of Science and Arts*, has cast its name, character and influence into the phrenological scale. In view of these facts, mature indeed ought to have been the deliberation of Professor Smith, weighty his reasons, strong his convictions, before declaring Phrenology to be "A freak of the imagination, a fanciful toy." (pp. 142.)

Widely, indeed, do we differ in opinion from the professor. We look upon phrenology as the first of human sciences in interest and importance, as a science which not only furnishes us with the true physiology of the brain, but which embraces the entire ground of mental and moral philosophy, and forms the true basis of Education, Legislation and Jurisprudence; as a science pregnant with more important influences than the revelations of Galileo, of Harvey, or of Newton; making known

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as it does, the mental constitution of man; exposing, as it does, the instruments of thought, the secret springs of emotion and impulses of action; enabling us, as it were, to throw ~~our own and external nature~~ into one mighty syllogism and educe human duty, human rights, and human destiny.

We are fully aware that the foregoing language may seem the emanation of exaggerating enthusiasm to those who are unacquainted with the true nature, scope and utility of our science. We express it, however, with the deep conviction that it is the language of sober reality; and such being our conviction, shall we not be permitted to insist that it be not condemned on *ex parte* evidence, and that it would be unjust to take for established, the grave charge of our assailants, that "whenever a phrenologists appeals to cerebral organization, fancy is evoked to furnish the facts." (pp. 101.) We think we can prove that all the evidence he adduces to support this charge, is erroneous or insufficient. Nay, further, we hope not only to clear phrenology, but to show conclusively that the professor's objections are in truth, "freaks of the imagination, fanciful toys." But whatever may be the result of the contest, we shall endeavor to conduct it with mildness and courtesy. Truth left free to combat error, is ever too strong for its antagonist. And phrenology, being true, needs not the aid of angry phrases nor contemptuous epithets. Its opponents often merit them, indeed, but the phrenologist can afford to be generous and forgiving. Professor Smith may rest assured, therefore, that ~~we~~, at any rate, shall neither attempt to enforce our statements nor fortify our arguments by that peculiar species of rhetoric which, if the wit of Mr. Addison is to be believed, "distinguishes, beyond any other part of her majesty's dominions, that portion of the British metropolis where they speak the plainest English and sell the freshest fish."

It is worthy of remark, that throughout his whole work, the author of the "Select Discourses" does not refer to the labors of his predecessors; there is nothing said from which it could be inferred that phrenology has been attacked by Gordon, Roget, Stewart, Barclay, Rudolph, Hamilton, Prichard, Jeffrey, Magendie, Bostock, Bell, or Sewall. How is this? Are the writings of these gentlemen so erroneous in facts and inconclusive in argument, that the professor is ashamed of them? Does he agree with us that they are so little creditable to their authors that, for fame's sake, they had better be forgotten? How else can we account for this profound silence? Anti-phrenological writers generally, indeed, manifest very little respect for each other's labors. Each one seems to regard as entirely successful, his own attempt at refutation, whilst he

agrees with us that the attempts of others are futile and fallacious. Thus Dr. Bostock in his attack (*Bostock's Physiology*) says, "It must be acknowledged that the opponents of phrenology have been more characterized by the brilliancy, or, perhaps, *flippancy* of their wit, than by the *soundness* of their arguments." Yet unfortunately for his discernment, he has produced no objections which will stand the test of enlightened scrutiny.

Dr. Prichard remarks in one of his attacks, (*Cyclopedia of Practical Medicine*), that "nearly all that has been said of late against phrenology, was advanced many years since, in the most forcible manner, by the author of a critique in the *Edinburgh Review*. Similar objections," he adds, "are still frequently repeated, though most persons *have become, or might have become, aware* of their *inconclusiveness*." Yet the objections of Dr. Prichard are equally inconclusive with those of his predecessors.

Dr. Sewall, too, in his attack, (*Examination of Phrenology*), rebukes our opponents for the unphilosophical weapons employed against us. Unfortunately, however, for the reputation of his philosophy, he commits, among other blunders, the fatal one of attempting to generalize pathological facts into a physiological conclusion; but it is clear, that if the individual facts be pathological, the general fact must, of necessity, be pathological. To deny, as he in effect does, that it is impossible, in the general run of cases, to judge, with closely approximating accuracy, of the size of the brain, from the size of the skull, because in disease the cranium sometimes differs greatly in thickness, is no more philosophical than it would be to deny that the liver ordinarily secretes bile, because in disease it sometimes secretes pus.

Nay, so true is the old saying about the mote and the beam, that Dr. Reese, even, acknowledges that by "the ridicule and persecution of its votaries, phrenology *has alone* or chiefly been opposed," (*Humbugs of New York*.) But then, as if fully determined that the future should not change the character of the opposition, he proceeds in a strain that in coarseness though not in wit, would have been creditable to Timon of Athens, to denounce phrenology as a "vile imposition on public credulity," as "sublimated impiety, materialism and fatalism," and to denounce phrenologists as "skeptics or free-thinkers, deists or atheists, neologists or materialists." We suppose that no man of science or education, whatever be his opinions of phrenology, will give much weight to Dr. Rees' remarks in general, however clearly he may consider him to have demonstrated two of his propositions, namely, those in which he asserts that "There are many fools who are wise in their own conceit," and

that there are persons "whose organ of Self-esteem reaches from head to heel."

Professor Smith, as we have said, does not refer to the writings of his coadjutors; he does, however, refer to two objections which have been frequently urged and violently charged upon phrenology, by some who profess to be humble disciples of the meek and lowly Teacher of Nazareth, but who, nevertheless, arrogate to themselves the incommunicable unerringness of the Deity; denounce as opposers and contempters of the Creator, those who dissent from their dogmas and interpretations, as though they had a monopoly of special Divine illumination. What is the best of men but a foolish and erring creature? then whence obtain they the right to denounce their fellow man for the reason that in seeking for truth he departs from the beaten track; a track, it may be, that has sunk beneath the common level of rationality. Unlimited freedom in religious, political and philosophical inquiry is the first, the most important, the most sacred right of man. But instead of respecting this right, they condemn unheard the master minds of every age, and almost every discovery which rises above ordinary mechanical appliances, be it the doctrine of the earth's revolution, the facts of geology, or the physiology of the brain. They forget that all truth is of God, that if the earth revolves, it is by His appointment, that in whatever way it were formed, it was by His power and wisdom; that whatever may be the functions of the brain, He is their author and finisher. That every discovery which is made, is in truth a new revelation of His power, His wisdom, and His will.

The two great objections charged upon phrenology by the class of men to which we refer, are that it destroys moral responsibility and involves the materiality of mind. It is quite interesting to see the manner in which Professor Smith treats these objections: "It has been alleged," says he, "that the phrenological speculations weaken our convictions of human responsibility, while they strengthen the cause of materialism. *Both charges appear to me to be groundless.* * * * The phrenological hypothesis involves nothing, with regard to the constitution of man, which, in reference to that constitution merely, *may not safely be granted.* * * * The organs in fact hold precisely the same relation to the mind which is conceded to the eye and ear." (pp. 85.) And as to the other charge, he declares that phrenologists "are constrained with irresistible force to oppose materialism." After giving these quotations, we would remind the author of the wrong he has done to phrenology by the association in which, in his title page, he has so prominently placed it, "Select Discourses in opposition to *Phrenology*,"

Materialism and Atheism. One of the most common yet unfair means resorted to in order to bring a subject into odium, is to associate it with that which is odious.

But not only does Dr. Smith do justice upon these objections, but upon himself. He acknowledges that "for a long time *he* considered 'the notion of distinct organs in the brain,' as irreconcilable with the doctrine of human responsibility; *further reflection*," says he, "*has, however, convinced me of my error.*" From what we know of Dr. Smith, we can hardly err in stating that before this "*further reflection*," phrenology had to suffer many a bitter taunt on account of that erroneous opinion, as it has still to suffer on account of the many erroneous opinions in relation to it, which he yet retains. May we not hope that the fact of his having become convinced that he has believed *one* erroneous charge against phrenology, will induce him to bestow still "*farther reflection*" on the entire subject, renounce other errors and make other retractions. Our hope, however, can be very faint only, for there is much truth in the professor's assertion, that "*mistaken opinions, once imbibed, are not readily surrendered, and if a book has been written, the case is, of course, hopeless.*"

Having settled down then into the conviction of the folly and falsity of phrenology, but being satisfied of the inconclusiveness of the attempts of others to refute it, Professor Smith has determined, seemingly, to save the world from its imminent danger of becoming irredeemably phrenological, by himself taking the field from which so many have retired discomfited, feeling confident, evidently, that *he* at any rate is not only invincible but irresistible. And, in truth, if phrenology is ever to be refuted, this should be the occasion. If phrenologists survive this attack, they may breathe more freely and anticipate other opposition without alarm. The author of the "*Select Discourses*" is a doctor of medicine, a member of the Royal College of Surgeons, one of the vice presidents of the Lyceum of Natural History, in earlier life he held a professorship of mental and moral philosophy, he was for years a professor of anatomy, and for years he has been and is now professor of physiology to the College of Physicians and Surgeons for the University of the State of New York, and is also the president of that institution. Besides the learning and reputation which these honorary and official titles indicate, it is to be remarked that he has, as he himself informs us, (pp. 109,) the great natural advantages of a head so large that he has seen one individual only whose head is rather larger than his own, and that "*his temperament is not only sanguine but ardent,*" so that his "*brain has all the benefit to be derived from a full supply of well aeriated blood.*" Then again, the

attack before us is no hasty and sparkling production, struck off in a fierce and sudden heat, but it has been long meditated, carefully matured, often reconsidered, every word must have been measured, every sentence thrice scrutinized. For many years has the author annually presented these discourses to the medical college of which he is president, making, from time to time, the improvements of which he deemed them susceptible. After some years, he considered them sufficiently mature to deliver before the members of the learned society of Natural History, of which he is now one of the vice presidents, and by whom they were, as he informs us, "received with favor," and now, after more than three years' still further deliberation and preparation, he has at length presented them to "the lovers of science" as "SELECT DISCOURSES." That is, according to Dr. Johnson, "nicely chosen, choice" Discourses, Discourses "*culled out on account of their superior excellence.*" Are we not fully justified then in asserting, that if we had a right to expect perfection any where, it is here; that if phrenology is ever to be refuted, it ought to be on this occasion. Let us proceed, therefore, with all the calmness and self-possession which circumstances will permit, to enquire our fate, that we may know whether phrenology must indeed wrap its mantle around it and sink forever into oblivion.

In perusing "The Select Discourses," and other anti-phrenological writings, it is of the utmost importance that the reader should bear in mind the distinction between *investigation* and *reasoning*, a distinction which is almost constantly lost sight of or kept out of view. By investigation we become acquainted with the *previously unknown*: by reasoning, we draw particular conclusions from general depositions, *the truth of which is acknowledged*. Investigation is primary, reasoning is secondary; the former has relation to the truth of premises, the latter to the connection between the premises and the conclusion. To render the distinction clear, let us take an illustration. Aristotle laid down the proposition that heavy bodies fall to the ground with velocities directly proportional to their weight. Assuming this to be true, it is obvious that a ten pound weight would fall ten times as rapidly as a one pound weight. The conclusion here is drawn from the premises with perfect clearness. *The reasoning* is manifestly sound, and yet its result is in reality most erroneous, simply because the proposition of Aristotle is false, though for two thousand years it was implicitly acquiesced in by the learned. Aristotle *neglected to investigate* and laid down a *mere conjecture* as an ascertained truth. Galileo, on the contrary, let fall bodies of different weights from the tower of Pisa, noted the relative velocity of descent, and repeated the experiment till he became satisfied of the fact, now universally admitted, that all heavy bodies fall through equal spaces in

equal times. This being true, it is obvious that a ten pound weight will fall no more rapidly than a one pound weight. Here again the conclusion is drawn from the premises with perfect clearness. The *reasoning* is manifestly sound, but not more so than the reasoning of the ancients from the proposition of Aristotle, though our conclusions on this subject are universally true, and their's were universally false.

In ordinary cases, indeed, to reason correctly is a very simple mental process. Thus to arrive at the conclusion, from the proposition of Aristotle, that a ten pound weight would fall ten times as rapidly as a one pound weight; or, from that of Galileo, that both would fall with equal rapidity, is quite natural. The difficulty would be to draw or seem to draw from the *false* proposition a *true* conclusion, or from the *true* proposition a *false* conclusion. In complex cases much more difficulty is experienced, but still it is *false reasoning* that is the exquisitely ingenious art. Here is room for the greatest display of rhetorical power in order to make repellant propositions stick together by the cohesive force of words. The fault of men is that they are not willing to follow truth whither she would lead them; they attempt to drag her whither she would not willingly go. Their object is to support a particular tenet, doctrine, practice or dogma; and when they find the natural course of reasoning tending toward an undesired conclusion, they commence their play of fallacy, reject what should be retained, introduce what should be omitted, use ambiguities, and thus, after much labor, arrive at the desired end by a trick of words, as read, though not perhaps as obvious, as that in the stanza of Dr. Johnson:

"If a man who turnips cries,
Cry not when his father dies,
'Tis a proof that he had rather
Have a turnip, than his father."

With such argumentation is the world crowded. Futile and fallacious it is, indeed, and, before the analyzing power of a sincere seeker after truth, is often unstable as the winged seed ball of the thistle which a well directed breath will scatter far and wide, yet it serves admirably to convince those who merely want an apology for conviction, and to confirm those who ardently desire confirmation.

We would draw the attention of the reader to another truth also, generally overlooked by our opponents, namely, that over a *fact* neither reasoning nor assertion, nor any thing else, has the slightest influence. As well might a snow flake attempt to crush the Alps, as man to control a natural law. Man often talks, indeed, as though upon his belief or disbelief, the existence or non-existence of a truth depends, but nature moves on unchanged and unchangeable, as heedless and consciousness of his asseverations, his ignorance, aye or his knowledge, as though

such a being existed not. The pope and cardinals of Rome declared that the world does not turn round. On account of this denial, however, it neither stopped nor staggered, but by its rotation continued to bless, even the opposing conclave, with the warmth and brilliancy of day, the lulling calm of eventide, and the beauty and repose of night. The circulation of the blood was denied by grave and learned doctors, but their hearts ceased not to contract and expand. The fountain of life still gushed forth and sent its ten thousand glowing nivalets to distribute vitality and energy to every tissue and fibre of the body, enabling the very tongues that denied its action, to avow their disbelief. The learned professors of England denied the Newtonian doctrines, but the subtle and impalpable power of gravity loosed not the bands of the universe and let slip the worlds which it binds in everlasting brotherhood, into chaos; but continued to secure even these professors themselves in their ancient halls, while they were scouting at the idea of its existence. This permanency of nature is the cheering consolation of the phrenologist. Relying on the uniformity of man's organization, and feeling sure that he has been permitted to enter with Gall into the sanctuary of the soul and lift the veil of truth, he knows that every future observation will confirm his doctrines and establish his good faith.

Investigation, then, by the ascertainment, comparison and classification of facts, being the only mode of discovering the unknown, it follows, as a corollary, that to *repeat the observations* by which a discovery is said to have been arrived at, or to make other observations, applicable to the case, is the true mode of testing the reality and accuracy of such discovery. When, instead of conforming to this rule, men wrangle about the matter, tardy indeed is both the progress of truth and the correction of error. Gall, by comparing cerebral organization with mental manifestation, by most extensive inductions of rigidly scrutinized and verified facts, established the phrenological doctrines. Take, for example, the organ of the Love of Young. In pursuing his investigations, he observed that a particular portion of the brain situated beneath the upper part of the occipital bone, was much more developed in woman than in man, and, as he was fully authorized by his previous discoveries, he concluded that *this was the probable seat of the organ of some quality which is stronger in woman than in man*. The question then arose, "Of what quality is the organ?" For *five years* he kept the subject continually in mind, making new observations, and adopting various opinions, all of which he saw reason to discard. On extending his observations to the lower animals, he found the heads of the monkey tribe to be strikingly developed in the corresponding region, the like difference, however, existing between the heads of males and females;

from which he inferred this to be the probable seat of some quality common to man and these animals, but possessed by the females of both in a degree superior to the males. This led him to ponder over the qualities of the monkey tribe, and at length, while dwelling upon the extreme love of young manifested by these animals, the thought flashed upon him that this was probably the long sought quality. He hurried to his cabinet, commenced to examine and compare all the skulls he possessed, and found the same difference to exist in male and female skulls in general. All subsequent observations by himself and others, have confirmed the fact, that this portion of the brain is, in truth, the organ of the Love of Young. It is found that in all species of animals, the Love of Young predominates in the female, and in exact accordance with this, it is found that in skulls of birds, from the smallest to the largest, and in the skulls of mammalia, from the shrew mouse to the elephant, the part described is more developed in the female than in the male; that in the foetal cranium this difference is manifest, and that by it the crania of women may be readily distinguished from those of men. There are, however, in individuals of the same sex, striking differences in the strength of this feeling, but in all cases it is found that the *strong manifestation of the feeling* is accompanied by a *large developement* of the organ, and a *feeble manifestation* of the feeling is accompanied by a *small developement* of the organ, the manifestation and developement being proportional. Other weighty facts, physiological, pathological and physiognomical are found to corroborate the discovery of Gall. Now what is obviously the only true mode of testing the reality of this one, as of all others, of Gall's discoveries? Surely this, to repeat the observations by which it is said to have been arrived at, to inquire of nature. If there is not a correspondence between organization and mental manifestation, the phrenological doctrine can readily be overthrown in the most complete manner. If there is such correspondence, it is a highly curious and important fact, which it is the bounden duty of, at least, "*professors of physiology*" and "*presidents of Medical Colleges*," to teach and promulgate. Every motive of conscience, honor and benevolence binds them to keep pace with the discoveries in the physiology of the brain, that they may teach truth and not error; that they may avoid instilling prejudice into susceptible minds, and may save themselves from being instrumental in sending into society, physicians who will blunder on empirically in relation to mental disorders, when a physiology is discovered on which their treatment might be surely based.

The right rule of procedure in relation to discoveries has, for many years, been adopted in relation to chemical science, and how rapid has been its progress! Immediately that Davy announced his discovery

of Potassium and Sodium, other chemists repeated his experiments and were satisfied of the reality and accuracy of his observations. As fast as the news could spread and the experiments be repeated, the discovery was installed as an established truth throughout the civilized world. That point was settled, and chemists started from this advanced out-post, in quest of other truths. Had the anti-phrenological method been adopted, the existence of Potassium and Sodium would have been in dispute at the present day. A few choice spirits would have repeated Sir Humphrey's experiments, and have been convinced; but the mass of doctors, professors and others, would neither have repeated the experiments themselves nor heeded the repetitions of others. Volume after volume, essay after essay, review after review, would have been published, full of "words, words, words." The philosophic writer would have questioned the capacity, learning and honesty of Davy, and have balanced the probabilities of his being right and every body else wrong. The scientific writer would have quoted the learned words of learned works. "What can we think," they would have said, "of a man who tells us that alkaline earths are compounds of metals with oxygen, when so many learned men say that they cannot be decomposed, and when we know that the principal acids, the very antagonists of alkalies, derive their acidity from oxygen. Is it possible for oxygen to produce such dissimilar effects? The common sense writers would have shown the irrationality of Davy's assertions. "What," they would have said, "try to palm on the world, as true, the gross fiction that he has discovered metals which swim upon water! when the heaviness of metals has passed into a proverb. Nay, still more reckless, that he has discovered a metal which water will set on fire! when every body knows that by water fire is extinguished!" Such criticism and argumentation would have rendered to the science of chemistry the same notable services which have been so graciously rendered to moral, intellectual and physiological sciences by anti-phrenological writers.

The assaults of these gentlemen have been so numerous as to afford hope that the true mode of attack would, at length, be arrived at by the simple exhaustion of erroneous methods. When Dr. Sewall, some time ago, resorted to the desperate expedient of publishing certificates against phrenology, from gentlemen, eminent in other respects, who confessed on the face of their certificates, *utter ignorance* of the evidence on which phrenology rests; we did think that anti-phrenology would, at length, cease beating the air. As it is undeniable that *one* man is unable to decide a controversy of which he is ignorant, we did not know but Dr. Sewall *might* publish a supplementary essay showing *how many*

men thus ignorant are able so to decide. But having done so, and finding phrenology still alive and vigorous, we deemed it reasonable to expect that he and his coadjutors would discover their error, and, instead of attempting to out-word, out-wit or out-face, they would at length attempt the only true mode of procedure, that of attempting to *est-fact* phrenologists. Here was an opportunity for Professor Smith to prove his superiority over his predecessors. Why did he not avail himself of it, and meet the phrenologist fairly on the broad field of nature and of fact, where alone the controversy can be decided? From his pretensions and reputation, we had a right to expect this, but he has chosen a different course. The very few facts he presents, are mostly irrelevant anecdotes, his arguments are ill connected and inconclusive; his objections are chiefly old castaways revamped; his phrenology is not the noble science in which we believe, but a creation of his own. A thing of shreds and patches, grotesque to look upon, and passive under opposition as the wind-mill hero of the crazed Knight of La Mancha. These are grave charges, but they are such as we deem it not difficult to substantiate. Had Professor Smith taken up any one important position of our science, and shown, *from observation*, its error, he would have dealt phrenology a more fatal wound than could be inflicted by a hundred such works as the "Select Discourses."

The first principle of phrenology is that the brain is the organ of the mind. In common with most writers of the present day, Professor Smith subscribes to this doctrine. "Some action of the brain in whole or part," he says, "is doubtless connected with *every* state of the mind," (pp. 86,) and this he states was "always known." His latter position is erroneous, if he means by it that the fact has been undisputed. We could produce many modern authorities to the contrary, one, however, shall suffice: Mr. Jeffry, in an attack upon phrenology contained in the 88th number of the Edinburgh Review, says "there is *not the smallest reason* for supposing that the mind *ever operates* through the agency of material organs, except in its perception of natural objects; or, in spontaneous movements of the body which it inhabits." Here is a direct denial, by a brother anti-phrenologist, of the proposition laid down by Professor Smith as "always known," adding another to the many disagreements among our antagonists themselves. Professor Smith, however, is undoubtedly right. Fact, reason, authority, and almost universal assent combine to prove or corroborate this proposition. We shall now proceed to those propositions that are considered peculiarly phrenological, and which the professor controverts.

On page 82 he commences his attack by manifesting his entire igne-

rance of the history of phrenology. The organs of the faculties were discovered successively, by a series of observations of the most minute and comprehensive character, extending through many years, and the "completeness of arrangement," the "admirable disposition" of the organs, which Professor Smith so much affects to laud, was not *invented* by Gall but *discovered* by him, after the establishment of many of the organs. He was then struck with the beautiful arrangement by which the instruments of those faculties immediately related to each other are grouped together in the same part of the brain. "Such a display of ingenuity and science would be delightful," says Professor Smith, "could we only feel assured of its correctness, has, therefore, the professor's justification for the delight he feels on contemplating not indeed a "display of ingenuity," but the wonderful order and harmony of nature. Dr. Smith, however, treats the matter as though it were conceded that Gall sketched out the organs on the skull, just as an architect would proceed to trace "the plan of an embryo town upon the fair surface of an alluvial plain." The fundamental error of the professor is, that he has, on very slight grounds, concluded that phrenology is false, and has never seriously questioned nature as to its truth. His whole language shows this. He tells us that he cannot "*feel assured* of its correctness," that he is "*incredulous*" as to its merits, and that believing it to be a "creation of the fancy," it becomes his duty to expose what he "*conceives* to be the errors of its advocates." After this, he proceeds to state the views of the phrenologists in the following summary :

"First. That *minute* and distinct parts of the brain termed 'organs,' are exclusively appropriated to particular *affections* and *processes* of the mind."

"Secondly. That these affections and processes will be *intense* and vigorous, *ceteris paribus*, as the size, technically, as the development of these organs."

"Thirdly. That the organs in question are situated upon the *surface* of the brain, and to that surface, and consequently to them, the skull is secondarily moulded, and with great accuracy. Hence, cerebral *elevations* or *depressions* will cause corresponding *inequalities* in the cranium. But these inequalities *being osseous* are *durable*, and being superficial, are at all times visible, therefore they enable the professor of phrenology to *determine the talents* and *character* of *any* individual living or dead, whose head may be subjected to his examination.

"These three propositions," says he, "embrace, as far as I can understand it, the whole doctrine of phrenology."

Dr. Smith would have saved himself from much error, and his readers

from much confusion, had he transcribed a statement of the fundamental principles of phrenology from some standard work on the subject. This was due to phrenology and to himself. To phrenology that it might not be misrepresented. To himself that he might be free from the suspicions of intentional misrepresentation.

In the FIRST PROPOSITION, we object to the term *minute*. It is inappropriate; it is never employed by phrenologists, and it is used by the professor for the purpose of throwing discredit on the proposition by the very mode of stating it. He wishes it to be inferred that it is very absurd to suppose that "*minute*" portions of the brain can perform the functions which phrenology ascribes to them. This is evident from his observations on the organ of Weight, page 124, where he ridicules the idea as "beyond the pale of a sane imagination," that a "diminutive mass of cerebral matter," can perform the functions ascribed to "this active little organ." The objection appears to us to be very ill taken. Will Dr. Smith be kind enough to inform us of how much cerebral matter he deems it possible for the Creator to form an organ, having "*per se*," or per any thing else, such powers as we say the organ of Weight does in some way possess? Dr. Smith is the vice president of a society of Natural History; perhaps he is acquainted with the brown ant, (*formica brunnea*,) an insect one eighth of an inch long, which has social instincts, reproduces its kind, tends its young, removes them nearer to, or farther from the surface of the earth, according to the external temperature. Acting in unison with others, it chooses a site for its habitation, forms a plan, prepares materials, and then builds numerous apartments of high finish, in concentric stories, with long galleries for general communication, the arched ceilings, covering the more spacious places, being supported by columns or regular buttresses. The doctor will acknowledge that all these various and dissimilar acts are performed through the agency of the nervous system; now this "*diminutive*" organ of Weight is at least *one thousand times* as bulky as the *whole nervous system* of one of these ants. If this "*active little organ*" puzzles the doctor, how much more should the nervous system of the brown ant pass his comprehension and belief. And what will he say to the "*minute*" nervous systems of those "*active little*" infusoria which the microscope makes manifest. Surely the doctor's stock of sarcasm must have got disarranged; he can hardly have intended this mocking paragraph to occupy its present position. In addition to this, we must remark that phrenologists have neither in reference to the organ of Weight nor to any other organ, exercised "*imagination*" at all. What they say about it is the result of observation; and it is sufficient for them that the

fact is as they state it, and not otherwise. They are willing that Professor Smith should monopolize the employment of determining the question, whether the Creator has used sufficient nervous matter for his purpose.

Again, Professor Smith is in error when he represents phrenologists as maintaining that there are distinct organs for the particular "*affections*" and "*processes*" of the mind. What they do say is, that there is a peculiar organ for each *faculty* of the mind. The distinction is important.

In the SECOND PROPOSITION, the words "*affections*" and "*processes*" are again improperly employed, and also the word "*intense*." Intensity and power are two distinct qualities. Power is a permanent quality, and exists equally whether an organ be active or quiescent, just as Samson was still the strong, whether reposing in the arms of Delilah, or carrying off the gates of Gaza. But intensity, as such, is a quality depending for its existence on the actual activity of an organ, and when an organ is acting, its intensity of action depends not upon size alone, but also upon temperament and the strength of the exciting cause. The relation between size and power, is a question too important to be confused by the introduction of extraneous considerations.

In the THIRD PROPOSITION, most important misrepresentations are made. Dr. Smith there lays down as the doctrine of phrenologists, that the organs are situated upon the "*surface* of the brain," meaning the surface *merely*. This is evident by his frequent application of the term "*superficial*" to the organs, and by his assertion (pp. 95) that on the internal portion of the brain, the phrenologists lay no stress whatever. Now Mr. Combe so far from subscribing to this "*superficial*" doctrine, says, (System of Phrenology, pp. 82, Boston, 1835,) "The length of an organ is ascertained by its distance from the *medulla oblongata* to the peripheral surface." And this Dr. Smith knew, for, strange as it may appear, he attacks the very doctrine embodied in the above extract. "The organs," says he, "are held to be cones extending from their basis at the surface to the medulla oblongata a little above the neck." Surely the professor is a rather captious and somewhat inconsistent gentleman; he first asserts that phrenologists consider the organs to be *merely superficial*, and having, as he thinks, ousted them from that position, he turns round and shows that they hold them to be *not merely superficial*, but extending from the surface to the medulla oblongata; and then he commences an equally determined attack for the purpose of driving them from that position also! Has the reader witnessed Shakespeare's Comedy of Catharine and Petruchio? If he has, the following scene is already, perhaps, depicted before him

Petruchio. "How bright and goodly shines the moon!"

Katharine. "The moon! the sun; it is not moonlight now."

Pet. "I say it is the moon that shines so bright."

Kath. "I know it is the sun that shines so bright."

Pet. "Now, by my mother's son, and that's myself,

It shall be moon or stars or what I list,

Evermore crossed and crossed, nothing but crossed.

I say it is the moon."

Kath. "I know it is the moon."

Pet. "Nay, then, you lie, it is the blessed sun."

Kath. "Then God be blessed, it is the blessed sun,

But sun it is not, when you say it is not,

And the moon changes even as your mind,

What you will have it named, even that it is."

Act IV., Scene V.

That Professor Smith is disposed here and elsewhere to act the part of Petruchio to the phrenologists, is clear enough; that the phrenologists will submit to be to him a Katharine, and echo all his expositions of their doctrines, is not quite so evident.

The professor represents the doctrine of the phrenologists correctly, when he says they maintain that to the surface of the brain the skull is secondarily moulded. This fact is, indeed, indisputable, and he does not attempt to dispute it. But when he talks of *depressions* and *elevations* here, and of *minute* superficial inequalities elsewhere, he conveys to the reader false impressions of phrenology by inducing him to suppose that these are all of which phrenology treats. That the extent of his error may be clearly seen, we refer to page 122, in which he maintains, by implication, that the differences on which phrenologists rely, are really so very small as to be almost inappreciable. "Let me recal to your recollection," says he, "what you must all have observed. In bald persons the *general contour* of the head is ordinarily so *uniform* that no eye or finger can detect any *sudden* or considerable inequality. This *evenness of outline* is so perfect that the cranium admits of a polish like marble, and skull caps have heretofore been converted into drinking cups. Yet under this almost *unvarying surface* lie the organs of the phrenologist, inducing, as he contends, by their *greater or less projection*, all the infinite and striking diversities observable among men."

Dr. Smith has evidently picked up the erroneous notion about "bumps" and cavities, against which from Gall downwards, phrenologists have guarded their readers. For *minute* superficial inequalities they do not look. They maintain that size, *ceteris paribus*, is the measure of power

and size, can be ascertained where no sudden inequalities, unevenness or projections exist. Under an "almost unvarying surface" it may be readily ascertained. Let the reader follow the advice of the doctor, and call to mind the heads, either bald or otherwise, that he has noticed, or if he has not attended to the subject, let him commence and observe all that he can for a few weeks, and he will be convinced that an even and almost unvarying surface, is compatible with great difference of size and form. He will find the sloping forehead in connection with a predominance of the perceptive faculties, the forehead fully developed in its upper region, in unison with comparatively strong reflective faculties. He will find the contracted and low coronal region, in connection with weak moral forces; and the broad and well arched coronal region, corresponding with high moral endowments. He will find the small basilar and posterior regions in unison with moderate or deficient strength of the propensities, and the wide basilar region and large posterior lobe existing with strong animal feelings. If he extend the range of his observations and bring in review casts as well as living heads, he will find differences still more striking, ranging from the lower idiots to the Websters: from the head of eleven inches in circumference, to that of twenty-five; and corresponding differences in the size and development of the several regions. Of course there is nothing very minute in differences of fourteen inches. But what is more to the purpose, he will, in the heads of the same general size, find differences in width or height at particular regions, amounting to an inch or more. Surely an inch of cerebral matter is not very minute. And all this may be observed without the skull being studded with bumps or indented with cavities, but under an almost even surface. Sometimes, indeed, a single organ is very much or very little developed in comparison with the other organs, then there is an elevation or depression sufficiently obvious. Such instances form the extreme cases, the *experimenta crucis* by which phrenology is severely tested, and which furnish demonstration after demonstration of its truth. Considering the above error of Professor Smith, we wonder not at his want of success in recognizing the correspondence of cerebral organization with mental manifestation. Nay, allowing for the extent to which it must have vitiated his conclusions, his testimony to the truth of phrenology, is very strong. "That my observations," says he, "have occasionally corresponded with the phrenological theory, is very true, but a want of conformity, if not more common, has been so frequent as to render me an absolute disbeliever." (pp. 110.) It seems that he is doubtful whether his inquiries have shown instances of a conformity or non-conformity to have been most common; so that about *one half* of

all his observations have been confirmatory of the phrenological doctrines, a proportion *far greater* than under the circumstances; we should have considered possible.

The professor states as the doctrine of the phrenologists, that the skull, "*being osseous*, is durable," and in this statement and reason he seems to acquiesce. The precise fact is, however, that the skull, like every other part of the body, is continually undergoing decay and renovation, and being secondary, subservient or protective, it changes to accommodate itself to that which is primary. It is originally moulded on the brain and afterwards expands as it expands, and shrinks as it shrinks, so as always to keep the inner table in apposition with the cerebral membranes. When the skull remains permanent, therefore, in size and form, it is not, as the professor intimates, on account of its "*osseous*" nature, but from the permanency of the organs which it protects. In extreme old age, indeed, changes occasionally take place in the skull irrespective to some extent, of alterations in the brain. These are generally irregular depositions of bony matter along the inner and sometimes the outer surface, appearing as though nature had laid on the new materials with a dimmed eye and a faltering hand. But phrenologists expressly state that they do not found their conclusions on the organisation as it exists in the decrepitude of age.

Perhaps the assertion the most injurious to phrenology of any which Professor Smith could advance, is contained in the third proposition. He there makes the phrenologist say that, by the inequalities of the skull, he "can determine the *talents* and *character* of *any* individual living or dead whose head may be subjected to his examination." On page 123, he advances still stronger pretensions for the phrenologist. "*Upon simply observing*," says he, "the exterior of a skull *accidentally* taken from a museum or a charnel house, the phrenologists *will undertake* to delineate as *minutely* and as *positively* the peculiarities of him to whom that relic of mortality formerly belonged, as if the easel of Raphael had furnished his portrait, or the *pen of Tacitus* had painted the man!" Both these extracts are disfigured by exaggerations and misrepresentations. No phrenologist has pretended to such power, and Professor Smith cannot point, in any phrenological publication ever issued, to an assumption as broad as the foregoing. The professor either knew that no such pretensions were ever made, or he did not; we leave him to draw the conclusion resulting from either horn of the dilemma.

But let us see what the phrenological doctrine is upon this subject, that such implied charges as the foregoing may be neutralized, and the inquirer be informed of the reasonableness of all for which the phrenologists contend. To present the matter clearly, we must keep distinct

two questions which may readily be confounded. The one is, Can the distinct organs of the brain be *ascertained* by cerebral developments? The other is, To what extent from such developments can the character of any given individual be determined? The one question relates, it will be seen, to the truth of phrenology; the other to its application. The former the phrenologist answers unqualifiedly in the affirmative. To the latter, his answer is conditional and guarded. He shows, in relation to the first inquiry, that in extreme cases, differences of mental manifestations are very striking, and that, if all the elements of uncertainty were combined to vitiate his conclusion, their influence would be slight when compared with the influence of the difference between the size of a very large organ and a very small one; and, in proving a proposition, he is not only at liberty to produce, but is bound to produce, the strongest evidence. Contrast Dr. Chalmers and Joseph Hume, M. P., in the region of Ideality; the general size of the head is the same in both, yet Chalmers's head is in this particular region *an inch and a quarter* wider than Hume's.* Contrast Hadyn and Ormerod in the region of Tune; Audubon and Milne in that of Color; Eustache and Gottfried in that of Benevolence; Haggart and Gibson in that of Firmness; Voltaire and Canova in that of Language, and such differences will be seen as the phrenologist relies on to establish his doctrine, while he maintains that all heads, to a greater or less extent, confirm and corroborate those doctrines, and that not one incompatible fact can be adduced. That the true functions of the brain, and the organs of those functions, can be, and that many of them have been, fully ascertained, we consider to be as conclusively proved as any proposition of natural philosophy.

In reply to the second question, being that to which Professor Smith's assertions more particularly apply, we answer, that phrenologists never have claimed the power of determining, from organization alone, with minuteness and invariable correctness, "the character of *any* individual living or dead." What they do say is to the following effect: The word *character* does not represent a homogenous idea, but may be used in at least three significations.

1. To represent the notions of a man's qualities which exist in the mind of another. This may be called his *ascribed* character.

2. To represent the constitutional dispositions, the moral and intellectual capacity of a man. This may be called his *natural* character.

3. To represent the general mental condition of a man, and his usual mode of mental manifestation within a given period and under given circumstances. This may be called his *actual* character.

It is sufficiently obvious that of the ascribed character of a man, we can have no uniform organic indications, for, as no two minds are pre-

cisely alike, have precisely the same means of judging, or bear precisely the same relation to the mind observed, it follows that no two would form precisely the same estimate of an individual's mental qualities.

This diversity of opinion does not prove, however, that ascribed character cannot be relied on for correctness in any case, but merely that we are to take into consideration not only the observed but the observers. There is, indeed, general unanimity of opinion as to the mental characteristics of distinguished individuals. Thus, though some would form a much more just conception of Paganini's talents than others, all agree in calling him an extraordinary musician. The same is true of Raphael in painting, of Mathews in mimicry, of Colburn in arithmetic. All agree that Wurmser was daring; Hare, avaricious and bloodthirsty; Eustache benevolent. But about less strikingly marked characters, there is less agreement. As to these, however, impartial and discriminating men, of good moral endowments, can form correct opinions. The opinions of such men, with adequate opportunities of observation, on all mental qualities, and the general agreement of these and others, on the more strikingly marked qualities, may be relied upon with safety. They form the standard of comparison to which the phrenologist appeals, as that by which the correctness of his own decisions must be determined.

Of the *natural* character of man, the phrenologist can judge, in almost every healthy subject, of proper age, with closely approximating accuracy, from organization alone. There are, indeed, a few elements of uncertainty which phrenologists themselves were *the first* to point out, and which are fully stated in their works, but it could rarely happen that an able phrenologist would commit a considerable error from the operation of any of these obstacles, or even from all combined. But then the *actual* character may differ widely in two persons whose natural character is about the same.

It must ever be remembered that the brain is a part of the living, organized body, and that, like all other parts, it is nourished, grows, decays and perishes; like them, too, it may be rendered feeble and irregular in its action by disease or insufficient nourishment or exercise, may be stimulated to unwonted energy, or by judicious exercise be increased in aptitude, vigor and certainty of action. What is true of the brain as a whole, is true of its several parts. By means of its structure and vitality, each one is endowed with a certain function, the gratification of which it craves with an importunity proportionate to its size. But it may be adequately too feebly or too highly stimulated, and the results will vary accordingly. If an organ be kept, as far as possible, in a state of quiescence, it loses in strength, ease and efficiency of

action. Hence, on two organs of little size and constitutional activity being subjected to equally powerful exciting causes, the one, owing to difference of previous training, might greatly exceed the other in ease, energy and precision of its action. As a guide to these differences of training, the phrenologist inquires into the education of the individual examined. From the natural character, as far as he can ascertain from organization, education and external influences being given, he can solve the problem of actual character with closely approximating accuracy. The non-phrenologist cannot commence the solution. Nay further; the phrenologist can tell the *remarkable* traits of actual character, when such exists, with considerable precision, from the organization *alone*; for, if an organ be very deficient in size, no amount of the most judicious training can make it display great energy, and, when he observes such an organ, he can say with perfect confidence, that in all actions for which strength of its function is required, the individual in whose organization it exists, will manifest feebleness or imbecility. If an organ, on the contrary, greatly predominates in size, it hungers as it were for stimulus and responds to it, when presented, with such vigorous and, in general, pleasurable energy, that its tendency is to overpower the appeals of the other organs, or to reduce them to subservient activity, and though judicious training may greatly modify this tendency, it will exert a powerful influence over the character, and this the phrenologist can state without the slightest fear of mistake. Starting from these extremes, he proceeds with less and less certainty, in judging from organization alone till he comes to men in whom the organs are equally poised. Here he finds the individuals, who, placed amid elevating and refining influences, the propensities having lawful means of gratification, may sustain a fair reputation; but who, placed amid obnoxious moral influences, may become guilty of every crime. There are men who would be almost utterly corrupt in heaven; there are others who would in hell retain their allegiance to their high moral destiny, and, despite temptation and mockery, remain, like Abdiel amid the rebel angels,

"Unmoved,
Unshaken, unseduced, unterrified,"

But those of whom we now speak, are far removed from both these classes. They often surprise not only others but themselves, by the rapidity and frequency of their changes from evil to good, and from good to evil. The actual character undergoes marked revolutions; the natural character remains the same; its distinctive trait being its liability to be strongly modified by external circumstances and education; and this characteristic the phrenologist can state from the organization alone. He

cannot tell, indeed, whether the individual with such an organization be ranked among the virtuous or the vicious; but he can tell that no amount of moral training will render him equally excellent and amiable as it would if the region of the moral sentiments had been one third greater, or that of the propensities one third less. The principles here applied to the moral qualities, are equally applicable to the intellect separately considered.

Such and no greater are the power and knowledge claimed by the phrenologist. How different are these claims from the wholesale, indiscriminate and unlimited pretensions which Professor Smith makes him arrogate. We have treated this subject somewhat at length, here and elsewhere, because we fear that the error of the professor is shared by many men of literary and scientific reputation and influence; who, strange to say, continue to pick up their notions of our science from any source rather than the standard writings on the subject.

(To be continued.)

ARTICLE II.

A SYSTEM OF LOGIC BASED ON PHRENOLOGY.

In the year 1836, Mr. Geo. Combe offered himself as a candidate for the Chair of Logic in the University of Edinburgh; and, in order to show the intimate connection of the true science of mind with a system of Logic, he addressed a letter to those gentlemen upon whom devolved the duty of making this appointment. After an introductory paragraph, Mr. C. proceeds to remark as follows:

It has been remarked, that, if a Chair of Phrenology were to be disposed of, my certificates might be deserving of attention, but that they have no relation to Logic.

I beg leave very respectfully to solicit the attention of those who entertain this opinion, to the following words of Mr. Dugald Stewart: "I have always," says he, "been convinced that it was a fundamental error of Aristotle (in which he has been followed by almost every logical writer since his time) to confine his views entirely to reasoning or the discursive faculty, instead of aiming at the improvement of our nature in all its various parts. If this remark be well founded, it obviously follows that, in order to prepare the way for a just and comprehensive system of logic, a previous survey of our nature, considered as one comprehensive whole, is indispensably necessary."

The late Mr. George Jardine, Professor of Logic in the University

of Glasgow, in his "Outlines of Philosophical Education, illustrated by the method of teaching the Logic Class" in that University, says: "To the elements of the *science of the human mind*, therefore, I have recourse on the present occasion, as the *mother science*, so to call it, from which all others derive at once their origin and nourishment. Thus *logic, metaphysics*, ethics, jurisprudence, law and eloquence, have their common origin in mind; and consequently an intimate acquaintance with the phenomena of mind must form a suitable introduction to the study of every branch of knowledge."

The Royal Commissioners appointed to visit the Universities of Scotland, in their General Report, observe, that "Logic may be rendered more elementary and useful by being confined to a brief and general account of the objects of human knowledge, *the faculties by which it is acquired*, and the rules for the investigation of truth."

Assuming, then, that the philosophy of mind is indispensable to the formation of a sound and useful system of Logic, I beg leave to observe, that Phrenology, whatever notions of it individuals who have never studied it may entertain, is the philosophy of the mind, based on observation of the mental organs.

The external senses may be adverted to in illustration of its nature and pretensions. In order to comprehend the philosophy of vision, it is necessary to study the following particulars:

1. The structure and functions of the eye and optic nerve, which are the organs of this sense.
2. The effects of the condition of these organs on the powers of vision. One constitution of the eye, for instance, gives distant, another close vision. When the eye is diseased, we may see green objects as yellow, or we may see double, or we may be altogether incapable of seeing, according to the nature of the malady.
3. The relations of external objects to these organs. This head includes the science of optics, with its various applications to painting (*perspective*), astronomy, (*making of telescopes*), &c. &c.

If the philosophy of vision were studied by merely naming, recording and classifying its phenomena, without knowledge of the structure, functions, diseases and relations of the eye, it would present precisely the same appearance which the philosophy of mind now exhibits in the pages of the metaphysicians.

In studying the works on mental philosophy by Dr. Reid, Mr. Dugald Stewart, and Dr. Thomas Brown, who form the boast of Scotland in this department of knowledge, the following observation strike a reflecting reader:

1. These authors differ widely in regard to the number and nature of the primitive mental faculties.

If the philosophy of the senses had been studied without a knowledge of their organs, we should probably have had, in like manner, disputes whether hearing and seeing, tasting and smelling, were distinct senses, or whether, by some metaphysical refinement, they could not all be referred to one sense.

2. They make no inquiry into the organs of the faculties.

3. They give no account of the obvious fact, of different individuals possessing the faculties in different degrees of endowment, which fit them for different pursuits.

4. They give no account of the effects of disease on the manifestations of the faculties.

5. They have given no philosophical account of the relations of external objects to the faculties, and could not do so while the faculties themselves continued unknown.

In consequence of these imperfections, it is impossible to apply, with reasonable success, the philosophy of mind, as taught by these distinguished authors, to any of the following purposes:

1. To the selection of proper pursuits for individuals according to their capacities; or to the selection of persons endowed with the necessary natural ability to fill particular offices. Men of penetration accomplish these ends by the aid of their natural sagacity, sharpened by experience; but metaphysical philosophy affords them no aid in doing so.

2. To the elucidation and treatment of insanity.

3. To the exposition of the relations of different sciences to the human faculties, an indispensable requisite in an effective system of education.

4. To the elucidation of the mental causes which produce the tendency to crime.

5. To the exposition of the effects of the condition of the bodily organs on the powers of mental manifestation.

Phrenology, on the other hand, is recommended by the following considerations:

1. No faculty of mind is admitted as primitive until the organ by which it is manifested be ascertained by observation.

In consequence, the phrenologists no more attempt to make and unmake faculties, or to analyze one into another, than they would attempt such feats in regard to the external senses. Every faculty stated as ascertained in phrenology, stands forth as a distinct mental capacity, whether of feeling or of thought, resting on the stable foundation of an organ, having specific functions, and standing related to determinate

objects, very much as the external senses appear when studied in connection with their organic apparatus.

2. The fact is ascertained by observation, that the power of manifesting each of these faculties is in proportion, *cæteris paribus*, to the size of its organ; and that the relative size of the organs differ in different individuals.

Hence, it is possible to ascertain the strong and feeble powers in individual minds, and to apply this knowledge in dedicating them to particular pursuits. The same knowledge renders it possible to select persons enjoying particular mental qualifications to fill particular offices.

3. The mental faculties being studied in relation to their organs, their constitution in health is philosophically ascertained, and it becomes easy to understand their appearances under the influence of disease.

4. The fact that, *cæteris paribus*, the power of manifesting the faculties is in proportion to the size of the organs, enables us to comprehend how some individuals, from having the organs of the animal feelings in excess, and the organs of the moral emotions in a state of deficiency, are prone to crime; and the knowledge of it aids us in their treatment.

5. The mental faculties being specifically ascertained by means of their organs, it becomes possible to determine the relations in which they stand to external objects; in other words, to form a rational system of Logic, and a really philosophical plan of education.

It is generally admitted, that Logic and mental science, as at present taught, are inapplicable to any practical purpose, except serving as a species of gymnastics for exercising the mental faculties of the young.

Professor Jardine, in speaking of the state of Logic when he entered the University of Glasgow, uses these words: "During several sessions after my appointment, the former practice was regularly followed; that is, the usual course of logic and metaphysics was explained by me in the most intelligible manner I could—subjected, no doubt, to the same animadversions as my predecessor. Though every day more and more convinced me that something was wrong in the system of instruction pursued in this class—that the subjects on which I lectured were not adapted to the age, the capacity, and the previous attainments of my pupils, I did not venture on any sudden or precipitate change. Meanwhile, the daily examination of the students at a separate hour, gave me opportunity of observing that the greater number of them comprehended very little of the doctrines explained; that a few only of superior abilities, or of more advanced years, could give any account of them at all; and that the greatest part of the young men remembered only a few peculiar phrases, or technical expressions, which they seemed to deliver by rote, unaccompanied with any distinct notion of their meaning. Im-

pressed with this conviction, which the experience of every day tended to confirm, I found myself reduced to the alternative of prelecting all my life on subjects which no effort of mine could render useful to my pupils, or of making a thorough and radical change in the subject-matter of my lectures."

Professor Jardine informs us, that he did make "a thorough and radical change in the subject-matter of his lectures" accordingly; and no doubt he introduced great improvements: but you may easily ascertain by inquiring of the students of the latest session, whether the foregoing observations are not, in a great degree, still applicable even to the most improved systems of Logic taught in the Scottish Universities. On this subject, indeed, Mr. Stewart speaks emphatically. Alluding to the long prevalence of Aristotle's Logic, he remarks, that "the empire founded by this philosopher continued one and undivided for the period of two thousand years; and, even at this day, fallen as it is from its former grandeur, a few faithful and devoted veterans, shut up in its remaining fortresses, still bid proud defiance in their master's name to all the arrayed strength of human reason." "As to Logic in general," he observes, "according to my idea of it, *it is an art yet in its infancy*, and to the future advancement of which it is no more possible to fix a limit, than to the future progress of human knowledge." Again, he remarks, that "to speak in the actual state of the world of a complete system of logic (if by that word is meant any thing different from the logic of the schools) betrays an inattention to the object at which it aims, and to the progressive career of the human mind; but, above all, *it betrays an overweening estimate of the little which logicians have hitherto done, when compared with the magnitude of the task which they have left to their successors.*" In accordance with these remarks, you will observe, that in the testimonials presented to you in favor of the champions of the existing school, no allusion is made to the *utility* of the doctrines, either in Metaphysics or in Logic.

The questions for you to determine, therefore, are, Whether the teaching of Logic in your University shall be continued on a system which the experience of ages has demonstrated to be nearly useless, and which has been condemned as barren by the highest authorities in mental philosophy; Or whether you will endeavor to introduce a new system, founded on the improvements in mental science which have recently taken place—rational, practical, and in harmony with the spirit of the age. If the former be your determination, then you should by all means reject my pretensions; but if you aim at the latter alternative, I very respectfully solicit your suffrages, because I appear before you as the representative

of a new mental philosophy, capable of affording a basis for a sound system of Logic; and I have endeavored to prove by evidence in my testimonials that that system is founded in nature, and applicable to practice.

In forming your judgment on these two questions, it may not be without advantage to bear in mind, that the history of all scientific discoveries establishes the melancholy fact, that philosophers educated in erroneous systems have in general pertinaciously adhered to them, in contempt equally of the dictates of observation, and of mathematical demonstration. You cannot, therefore, reasonably expect that the masters of the expiring system should, in the present instance, view with any favorable eye, the pretensions of the new. Experience also shows that it is equally true in philosophy as in the affairs of ordinary life, that "coming events cast their shadows before;" in other words, that the opinions of the young present the best index of the doctrines which will prevail in the next generation. There is no instance in the records of science, of the authority of great names, even although sustained by the energy of civil power, proving successful in permanently supporting error in opposition to truth; and neither is there an example of any established University, which had at an early period embraced a great discovery in science, having had occasion afterwards to repent of having done so.

In applying these historical facts as principles of judgment to the present case, I would respectfully remind you that Phrenology is now in the forty-eighth year of its promulgation, and that during the whole period of its history, it has been opposed, ridiculed, misrepresented, and condemned by almost all the men whose intellectual reputations rested on the basis of the philosophy which it is extinguishing; and that nevertheless it has steadily advanced in public estimation, until at present, even in weighing the mere authority of names against names, it stands in Europe on equality with the older systems, and in America it has unquestionably the ascendancy. Farther, in looking at the state of opinion in your own city on the subject, it is certain that while you will hear Phrenology condemned by the more aged patrons of the ancient school, you will find the young ardent inquirers into its doctrines. Your acute and learned member of Council, Bailie Macfarlan, will correct me if I am in error in stating, that in 1823, when he so ably and eloquently defended Phrenology in the Royal Medical Society in this city, he had scarcely any supporters; but that in proportion as he persevered, season after season, in lifting up his testimony in its favor, he found himself backed by a constantly increasing minority. And I am informed that now, so numerous are its adherents in that body, that questions touching its truth and merits are generally carried by majorities in its favor.

In nominating a Professor of Logic, you are providing a teacher for the young; and I very respectfully beg of you to consider whether it is probable that, with the testimonials in favor of Phrenology which have been presented to you in their hands, with the books and museums on the science before their eyes, and with the constant advocacy of its truth by a highly influential portion of the periodical press, the students of the rising generation will readily bow to the authority of a philosophy which never satisfied men of practical understandings, even when it was supported by public opinion and the highest names, but which is now generally proclaimed as being useless, and which is brought into competition with a newer, a better, and a highly practical system of truth.

I have been told that, to rest my claims on the truth and utility of Phrenology, is to deprive myself of the benefit which I might otherwise have derived from the talents which I have displayed, and the beneficial uses which I have made of them, however humble these may be. I profess myself altogether incapable of comprehending this objection. I found my pretensions on Phrenology, because I entertain the sincere conviction that no rational or useful system of Logic can be reared without its aid. If you have confidence in the judgment and good faith of the gentlemen who have honored me with testimonials, you have grave authority for admitting the reasonableness of this opinion. To reject my claims, therefore, because they are based on and bound up with Phrenology, would be simply to shut your eyes to doctrines which have been certified to you by men of the highest talents and philosophical reputation, as constituting the only basis of a sound system of Logic.

It may appear to savor of egotism in me to observe, further, that on your decision in the present instance will depend, to some considerable extent, the prosperity and reputation of your University for the next generation; but I venture to do so, because I speak not of my own importance, but of that of a great system of natural science, to the prosperity of the University of Edinburgh. As an individual, I am utterly insignificant; but if, in rejecting me, it shall be understood that you refuse to admit Phrenology as a science within your academic walls, then you may injure the institution over which you preside. Phrenology stands in much the same relation to the philosophy of mind and its applications, in which the discoveries of Copernicus, Galileo, and Newton stood to astronomy and physical science. It is calculated to remove mystic speculations, and to supplant them by facts and the sound inductions of reason. Its first and greatest influence will be felt in leading to an important reformation in the subjects taught in classes dedicated to moral and intellectual science. Its next effect will extend to the improvement of

education, rendering it at once philosophical and practical. But it will exert a still more extensive influence. Phrenology is the doctrine of the functions of the brain, and I feel and aver that if it were once admitted into your University as science, Professors of Physiology might soon find it prudent to instruct their pupils in its principles, else they would fall behind their age. It is the foundation of the most rational views of insanity, and Professors of Medical Jurisprudence might find it proper to give effect to its doctrines, in preparing their pupils for judging of this form of disease. It affords an intelligible clue to the reciprocal influence of mind and body, and teachers of the Theory and Practice of Medicine might, I trust, be induced to avail themselves of its lights in their prelections. But while I say these things, permit me to assure you that, if placed in the Chair, it would be my earnest study, as it would be my duty and my interest, to avoid giving offence to any one; and I am persuaded that I could teach Logic on phrenological principles without doing so.

In short, were the new philosophy introduced into your University, a very few years would justify the wisdom of your decision; and you would maintain for your Seminary that pre-eminence as a seat of unfettered and liberal study, which it has already enjoyed, and which contributes so greatly to the fame and prosperity of the city.

On the other hand, if you shall shut your eyes to the pretensions of the new science, you will proclaim to the world that the University of Edinburgh is not disposed to take the lead in adopting the new lights of the age, and a short period may suffice to reveal to you a decline in its prosperity, which it may be extremely difficult to arrest.

I am aware of the criticisms to which I expose myself in making these remarks; but criticism has already done its worst on me, and I have nothing farther to fear from its severity. If I did not state to you truths, and truths of the utmost importance to the welfare of your University and city, I should be bound to submit to obloquy, because it would be merited; but if I merely present to you facts founded in nature, and endeavor to open your understandings to the perception of consequences which a few years may realize, I appeal to public opinion when enlightened by experience, to decide on the merits of the course which I have pursued.

I have the honor to be, &c.

GEO. COMBE.

ARTICLE III.

REMARKS UPON THE FACULTIES OF LANGUAGE AND TUNE, AND THE SENSE OF HEARING.

BY J. M. BUCHANAN, M. D.

(Continued from page 276.)

From the analysis we have made, it appears that the faculty of Language, instead of being the single manifestation of one organ, is a compound faculty, connected in various degrees with the action of the whole intellectual group of organs. Of these, one of the most important is the organ of auricular perception, which, were we disposed to name it from its function, might be called the organ of Sound or Tone. We will then proceed to consider the subject of auricular perception and its cerebral organs.

In my first phrenological observations, I was annoyed by a difficulty in determining upon the degree of musical talent by the developement of the organs. Instead of finding a developement of the organ of Tune uniformly accompanied by musical talent, I have often found it well marked in persons who complained of being deficient in the capacity to learn tunes—who were sometimes unable even to whistle a tune correctly; yet I found others with a moderate or small developement of Tune, displaying musical talent and singing or playing with facility upon any instrument they wished to use. Unwilling to discredit this portion of phrenology, the first conclusion to which such observations led me, was that I must be an imperfect observer, since unable to verify the conclusions of Gall and Spurzheim. Had the exceptions to the phrenological rule been few and obscure, I might have been content to explain them in this manner, but they presented themselves so frequently and palpably, that I could not evade their force. I found, too, that other phrenologists labored under the same difficulty, and that a good practical phrenologist had even refused to mark the developement of the organ of Tune on account of the uncertainties which he had discovered as to the function. I observed that the best practical phrenologists were frequently grossly mistaken in estimating the musical capacity of a stranger.

Finding it thus out of my power to verify the received theory, I was compelled to look to nature for the function of this organ. I found that it was fully developed in my own head, and that although incapable of executing any tune or recollecting all its notes, my ear was not deficient as to its other perceptions—on the contrary, I believed my power equal to or above the average as to hearing sounds and perceiving all their qual-

ities except their musical pitch. As to the vowel sounds, the articulations, the *timbre* and qualities in the human voice which gives it pathos and character, I found myself a quick observer. I had frequently been struck with the difficulty of making a person hear whose attention was not already fixed upon the person hailing him, and I knew that in my own case no such difficulty existed, but that on the contrary it was impossible for me to avoid hearing any conversation that was audible, whether in the room or on the street, no matter how I might be engaged. Phrenology offered me no explanation of these differences, as it did not pretend to recognize in the brain any special organs for the external senses or for the perception of sound. But since men possess, and possess in very different degrees, the power of perceiving sound and an innumerable variety of its qualities besides those which constitute music, we are bound to seek in the brain the locality in which this function is performed. To suppose this the function of the auditory nerve, would be contrary to physiology and indeed ridiculous; as well might we suppose the eye alone capable of conceiving objects and events because they are perceived by the instrumentality of the eye. The external senses are but the means by which the brain receives the impressions of external objects. Consciousness exists only in the cephalic hemispheres, for whatever is transacted out of them, is absolutely unknown until the impression is transmitted by some nervous cord to the brain. Even Dr. Roget would sneer at the supposition that hearing was merely a function of the auditory nerve.

Looking then to the brain for the most appropriate seat of the auditory function, we would of course look to the perceptive range of the intellectual organs. In this we find but one place appropriate to the purpose—the organ to which is already assigned a similar function—the organ of Tune. Without controverting the opinion of Gall and Spurzheim, we may well suppose that the musical faculty which they assigned to this organ, is but a small part of its functions.

Induced thus to suppose the perception of sound in general the real function of the organ of Tune, I found my conclusions uniformly sustained by the observation of nature. In my own case it was peculiarly satisfactory. The auditory had always been my most vigorous perceptive faculty. However I might have been unconscious of objects or persons in my presence, I never failed to recognize their movements when they produced any sound, and never found it possible to be unconscious of the language uttered in my presence. Impressions on the ear were even more effective and more permanent than those on the eye. The sound of the voice or the sound of a name would be remembered when the recollection of the countenance had faded. The sound always

made a stronger impression on the feelings than sight; the cry of fire through the streets of a city, or the ringing of the alarm bell, had a thrilling influence on the feelings, which beholding the most extensive conflagration would not produce. The sound of the human voice under excitement, was much more interesting and exciting than the sight of the countenance. The voice indeed seemed to be far more effective in revealing the character; it seemed to be a positive and distinct embodiment of the whole character—the very presence of the soul—compared to which, the countenance seemed a foreign or mechanical appendage. Keenly appreciating sound as a medium of thought, feeling and eloquence, I found infinitely variable pleasure derivable from the human voice. Unable to appreciate the higher order of scientific music or the opera, I found pleasure in the simplest airs, and listened with rapture to the loud and animated songs of Methodist meetings, and with vivid pleasure to the simple music with which our negroes enliven their toils. The sounds of Nature were more interesting than her spectacles. The thunder was a more imposing phenomenon than the lightning's flash—and the sound of the breeze booming through the forest, conveyed more majestic ideas than the forest itself, or the wildest scenery of nature.

From the vigor of this faculty, it sought abundant gratification, and silence was painful. The amount of noise which was a vexation to others, was generally a pleasure to me. In the 'log cabin' schools of the West at an early period, it was often the custom of the scholars to learn their lessons aloud; each one reading or spelling in a loud voice for his own benefit, so that at times you might hear the school at the distance of half a mile—some twenty or thirty voices rattling through their lessons at full speed. This I found very agreeable; the confusion of sound filled the ear agreeably, and it was impossible for any voice to be so distinct as to fix the attention. This Babel of sound served as effectually as stopping the ears to keep off all interruptions of the attention. But when I found myself in a school where strict silence of the pupils was enforced, the silence itself was an embarrassment, and when the teacher or one of the pupils spoke, my attention was rivetted upon the one speaking. If I sought solitude or closed the ear, the faculty became so excited as to compel attention to the faintest sounds that could be perceived. On all occasions, the ear snatched attention from the eye, and so superior was it as an avenue to the mind, that the most admirable book was less instructive than a conversation or lecture, and made a much less permanent impression. So much was this the case, that I recollected for years the names and the conversation of persons, who might pass me a few months after our interview, entirely unrecognized.

The very opposite of these peculiarities was much more common. Bishop Smith, of Ky., once remarked to me that he had been a thousand times thrilled through every fibre of his frame by impressions on the eye to one by impressions on the ear. In him the oculo-perceptive organs were remarkably large, so as to produce a fondness for the physical sciences, natural history, architecture, &c., but the organs of Tune and Language were as remarkably small. The general superiority of the eye over the ear as the avenue of knowledge, is shown in the different degrees of attention received by a speaker who addresses the ear alone, and one who also gives to his audience an animated countenance and gestures, or a display of specimens, the subjects of his address. The lecturer upon anatomy, experimental chemistry, or practical craniology, receives a more general and pleasing attention than those who speak only to the intellect and upon subjects that do not admit of ocular illustration. In all medical classes there are some who learn better from the book than from their professor, who are very imperfect in answering questions as to what the speaker said, but very correct in all the knowledge they have gained from authors. There are others who with very slight attention are enabled to note down or to retain in the mind all that the professor utters, and who greatly prefer learning from him to studying books. I have uniformly observed that in the former the oculo-perceptive organs were large, and the organ of auricular perception moderate, while in the class of those who learn best by listening, the reverse was true. I have sometimes found gentlemen (in whom the auricular overruled the ocular development) sitting before me and giving close attention, without looking at either myself or my means of illustration—who would prefer instead of examining a skull for themselves, to listen to my description of it, and who seemed to retain my remarks and catch my meaning even better than those who looked most earnestly. I easily discover in a class, whose attention I can command by the voice, and whom I must instruct through the eye; in this respect, the developments indicating auricular and ocular perception have never yet deceived me.

A knowledge of these principles leads to many important results, which I have had the opportunity of verifying. I have observed the men who pronounce the English language badly, are generally defective in the organ of sound, and I have often been struck with the fine delivery of those in whom the organ was large, with large Language. I had the pleasure of being acquainted with a fine old French gentleman of Louisiana, in whom the organs of Sound and Language were remarkably large, as well as all the perceptive organs; so pleasing and distinct was

his enunciation, that it almost seemed as if I was listening to my native tongue. This propriety and elegance in the enunciation of language, is not dependant on education alone. The most profound scholars have frequently an imperfect elocution, while we see uneducated men and women of limited opportunities catching by ear from society a just and beautiful pronunciation. That delicately distinct and beautiful delivery in which countless inflexions of the voice mark not only the feelings of the speaker, but even the tendency and construction of his ideas, is found only in those who possess these organs in fine developement. It is in the voice that the mind and character of the speaker display their most delicate peculiarities—that we perceive the accuracy or vagueness of his ideas, the strength of his conviction and the peculiar bearing of each sentence or clause from which we infer the meaning. In the voice

“The forms of thought blend with the hues of feeling,”

and through this delicate, expressive medium we establish the most perfect sympathy with the intellectual and affective nature of the speaker. The orator possessing these organs, is able to convey through his tones a great deal that cannot possibly be conveyed by words. The finest specimens of this developement are in the heads of Garrick, Whitfield and Bourdaloue. I have never known an orator deficient in the developement, to give his voice much variety and beauty.

The remarks which we have made as to learning by different methods, are peculiarly applicable to the study of languages. The study of the living languages, especially when we learn them by conversation or dictation, requires a great deal more of the auricular power than that of the dead languages, which, being acquired from books, and presenting less difficulty of pronunciation, are learned chiefly by the use of the eye and the understanding. The large developement of Tune and Language which is so common in the negroes, qualifies them well to acquire a language by the ear. Hence it has often been remarked in Louisiana, that when a stranger arrives with his slave, the latter by mixing with the creole negroes, learns to speak the French language first, and becomes interpreter for his master. In like manner we find that in schools some of the boys while engaged in their English studies, have mastered the declensions and conjugations of the Latin, by being in the room while the Latin classes are reciting. Every teacher knows that some boys instead of hearing the recitation of other classes, scarcely hear their own names when called out. A great deficiency of the auricular developement will thus produce a species of absence of mind; upon such phenomena we may throw some light.

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ARTICLE IV.

PHRENOLOGY IN GERMANY.

In the last number of the *Edinburgh Phrenological Journal*, we find an interesting sketch of the progress of Phrenology in Germany, in a letter addressed to Mr. Geo. Combe, by R. R. Noel, Esq., who has been a resident of that country for several years. We make the following quotation from Mr. Noel's communication :

As, in every German state, the scientific and learned men look up principally to the court for patronage and honors, it was fortunate for Phrenology that the present king of Saxony, and his learned brother Prince John, took much interest in it, from the moment of my first arrival in Dresden, in the autumn of 1833. I had not been there long, before Prince John called upon me to explain to him the principles of the science, and examine his own head; and soon afterwards, he submitted his children to a like examination, requiring a written opinion of the cerebral organization of each. This opinion was acknowledged to shew the truth of the science, not only by Prince and Princess John themselves, but also by the distinguished individuals charged with the education of the children. Since this time, I have been again called upon, in 1835 and 1838, to visit the young princess and princesses, and point out such measures as a practical acquaintance with phrenology enabled me to recommend for adoption in their education; and I have had several conversations with their governor and governess on this head. The two last winters I have again passed in Dresden, and, having had many opportunities of conversing with the Royal Family, have seen with pleasure that their Majesties, with Prince and Princess John, continue to take a lively interest in the progress of the science. I need not call attention to the high station this royal family occupies for intellectual cultivation as well as moral conduct, as Mrs. Jameson, in her last work, "*Social Life in Germany*," has laid these facts before the English public. But to return to the winter 1833-4; phrenology having been thus favorably received at Court, it followed, of course, that nearly all the learned men were prepared to attend to it favorably too. The first who expressed his conviction of its truth, and who did all in his power to promote my objects, was the late Hofrath Bottiger, the celebrated archæologist. He it was who introduced me to Obermedicinalrath Seiler, in whom, by degrees, I found a friend to the science; at least, he soon acknowledged his conviction of the truth of its leading principles. I gave him your "*System*" and the works of Spurzheim to read, and

pointed out the wretched organization and peculiar features in the skulls of many murderers, suicides, &c. Since that time, as you are aware, Seiler has procured a large collection of casts from Edinburgh and Paris, and all the phrenological works, including Vimont; which, added to the large collection of national skulls, those of suicides, murderers, and the insane, with numerous interesting cases of disease in the bones of the skull, form admirable means for carrying conviction to the minds of all desirous of studying the science. It was my wish, the first winter I passed in Dresden, to give public lectures on phrenology; but diffidence of my own powers, bad health, and the want of a collection of casts, in the first instance, and, latterly, the promise of Seiler to lecture himself, and the hope thus excited of seeing the science in the ablest hands, induced me to confine my efforts to private circles, and to visiting prisons, seminaries, and institutions for the deaf and dumb, the blind, &c.; on which occasions I succeeded in convincing many of the authorities, and most intelligent classes, of the sound foundation on which phrenology rests, and the truth of its leading principles. In short, phrenology became quite "the rage," and a great many lasting adherents, belonging to the most distinguished families, were gained. In all the circles in which I had an opportunity of judging—and these included nearly the whole of the educated classes—I found phrenology at least spoken of with respect. Many of the first medical men besides Seiler, as Drs. Hedenus, Choulaut, Von Ammon, Hille, Weigel, Reichenbach, Günther, Schon, &c., either then or later have expressed to me their conviction of the truth of phrenology, or have confessed that they know not one sound argument to be brought forward against it.

With regard to the promised lectures by Seiler, they have not yet been given, and I fear never will, owing to his advancing age, extensive practice, duties as professor of anatomy, &c. There are, nevertheless, many young physicians and others in Dresden, who feel a warm interest in phrenology, if they do not take active steps to promote its progress; and there is no fear that it will ever fall into oblivion. A friend of mine, a medical man, has lately written a short article entirely in favor of the science, and calling attention to the degree of cultivation it experiences in England, Scotland and America; this I have induced Mr. Brockhaus, in Leipzig, the editor of the "*Conversations Lexicon der Gegenwart*," to admit into that widely circulated work. Another friend, Dr. Cotta, a distinguished geologist, published in 1836, a translation of the article by Chenevix, with Spurzheim's notes, from the *Foreign Quarterly Review*. Many articles on phrenology have appeared in different periodicals since I have resided in Germany; but most of them

have been written in a spirit adverse to the science. In 1834, Heiker's *Physiological and Medical Review* contained a long review, in two of its numbers, of Dr. Hirschfeld's translation of your "System," from the pen of Dr. Ideler. Upon the whole, it was written in an impartial tone; many of the principles of the science were warmly advocated, and it conveyed some admirable and profound reflections on the unfruitfulness of mere metaphysical speculations. Last year a long article on phrenology appeared in Most's "*Encyklopadie der gesammten Staatsarzneikunde*," a valuable work, now in the course of publication.

But I must now say a few words of Bohemia. In this country, the number of those who take an active part in promoting the diffusion of phrenological knowledge, is far greater than in Saxony. Among the first converts whom I was instrumental in gaining, were the Counts Francis and Leo Thun, members of one of the highest and most distinguished families of the land. Count Francis procured, last year, a large collection of casts from Deville, which, joined to the copies of those which Seiler and myself have taken in Dresden during the last seven years, and casts of the national skulls brought to Europe by the celebrated traveller Baron Hugel, enable him to produce a sufficient number of facts to carry conviction to every unprejudiced mind. His apartments in Prague are liberally thrown open to all who take an interest in the science, and during last winter upwards of thirty converts to phrenology, amongst whom were seven medical men, met in them at stated intervals to discuss and to communicate information on the subject. The science, too, received considerable encouragement in Prague last winter, owing to an acknowledgment which Dr. Hirtel, the professor of Anatomy in the University, made to his class at the conclusion of his lectures on the brain. His words, as reported to me by a person present, were as follows: "You see, gentlemen, that we are now well acquainted with the general appearance of the brain, but that, according to the method of investigation hitherto adopted, we know nothing whatever of the functions of this highly complicated organ. Many, therefore, say the anatomy of the brain is a fruitless study; fruitless, however, is only the way in which it is pursued. The phrenologists have pointed out to us another way, which will doubtless be followed out further. People are satisfied, in general, with laughing at their doctrines; beware of following such an example; for although I do not believe in all the details of the present system, yet I am satisfied it contains much more than is usually supposed, and that it is destined to throw much light on the functions of the different parts of this organ."

ARTICLE V.

PATHOLOGICAL FACT CONFIRMATORY OF PHRENOLOGY.

MR. O. S. FOWLER—Believing that the following case would not only be interesting to yourself, but also to the public, I take pleasure in recording and communicating it.

About the first of March, 1835, I was called to see a lad, H. McA., aged eight years. He had been sick some twelve or fourteen days. His disease had approached very gradually and had been neglected, owing to the sickness of his father, who had lain at the point of death for some time, and finally died, but three days previous to my visit to the boy. I was informed by his mother, that he had for several days simply complained that he was unwell—next that his head ached—then that he could not sleep at night, he heard so many strange noises. In short, he had inflammation of the brain; and when I first saw him, had fever of a low grade; was pale, restless, wakeful, delirious, and was screaming, "Oh, dear! Oh, dear! My head! My head!" while his countenance was expressive of the utmost anguish. He would often seize upon a word that he heard, as when offered water, he would repeat the word "water! water!" from five to twenty times in the same sharp key or tone, which was exceedingly painful to the attendants who were compelled to hear it. In order to obtain some relief to my own ear, I would frequently pronounce some other word, that he might catch it, and thus change somewhat the sound, which had from its monotony become so painful. Before he became so much reduced, as he necessarily did, from the disease and treatment, when asked where his pain was, he would uniformly place his hands upon the sides of his head, over and in front of the ears and say, "my head! my head!"

Notwithstanding he was treated very vigorously in the outset, yet no amendment of symptoms took place till his head was shaved and two large blisters were applied, one on each side of the head. These were kept open and discharging for two weeks. From their first application, he gradually grew better, and finally recovered.

As soon as he was sufficiently restored to be about his usual business, a remarkable change was observed in his character. Before his sickness, he was quite noted in his neighborhood for his manliness, kindness, integrity and obedience. The father being a very intemperate man, the mother chiefly supported the family with her needle. This boy was consequently employed to do a great many errands and other little domestic business, usually done by older persons, such as making purchases

at the market and groceries—procuring fuel, &c., all of which he did with correctness and fidelity. But after his sickness, when set about the same kind of business as formerly; he would keep part of the money given him from time to time to make purchases, and squander it for candy and trinkets. He would moreover borrow money in his mother's name, of the neighbors and grocery men, where he had been accustomed to trade, on pretence that his mother wanted it to pay rent, &c. In this way, too, he would obtain money and clandestinely go to the circus, contrary to express command; and thus was continually cheating and deceiving his mother—yet when accused of the falsehood or theft, he would never deny but readily acknowledge it, seem to be sorry and promise amendment, but would straightway go and do the same things, till he became quite as notorious for his deception and dishonesty, as he had formerly been for his candor and integrity. The mother, grieved and wearied out with his delinquences, determined to send him into the country in order to remove him from temptation and reclaim him if possible. He remained some time, and returned somewhat improved, but it was six months, as she informs me, before he was fully restored; since which time, to the present, he continues to be, as before his sickness, a good and honest boy. He is now fourteen years of age. The mother and boy are both still residents of this city, besides several other living witnesses, who can and will testify to the same facts.

To the Phrenologist, who has turned his attention to the subject and acquainted himself with the numberless facts of a similar kind, that abound in every community, this case is neither new, nor remarkable, nor inexplicable; but to those who reject phrenology and adhere to the old systems of Locke, Reid, Stewart, Brown, et ceteri, it will prove a sort of Gordian knot, that must be cut, not untied.

The above communication is at your service, to be used for the benefit of the science and the public.

I have several other cases of a different character, bearing upon other points of phrenology, which I may present at another time.

Very respectfully yours, &c.

W. W. REID.

Rochester, N. Y., Jan. 16, 1841.

ARTICLE VI.

IMPORTANCE OF EDUCATION.

As to the **ADVANTAGES OF EDUCATION**, Phrenology communicates precise and irresistible convictions on this important point. The human faculties consist of animal propensities, moral sentiments and intellectual

powers; they have a natural tendency to activity, greater or less in proportion to the size of their organs, and, being active, each serves to suggest certain desires, emotions, or intellectual conceptions, to the mind. The organs of the propensities, namely, Amativeness, Combativeness, Destructiveness, Secretiveness, &c., are the largest; those of the moral sentiments, the next in size, and the intellectual organs, the smallest. Farther, the propensities and sentiments are mere blind impulses, which lead to happiness and virtue when well directed, and to misery and vice when misapplied. Thus, Combativeness and Destructiveness, when directed by Benevolence and Justice, give boldness, enterprise, and energy to the character, and fit a man for becoming the terror of the wicked and the foe of the oppressor; when left unguided, they may lead to furious contention; indiscriminate outrage, cruelty and murder. In like manner, the moral sentiments require direction; Benevolence, unenlightened by intellect, may lead to hurtful profusion; Veneration, unguided by reflection, may degenerate into superstition; and, lastly, the intellectual powers having the smallest organs, possess the least natural energy, and require not only the most assiduous cultivation to give them activity, but, being in their own nature mere general capacities for observation and reflection, demand a vast store of knowledge as materials for their exercise. The organ of Language, for example, requires not only to be vigorously exercised to produce facility in writing or speaking; but, as the mind is not informed by instruction of the meaning of words, labor and attention must be bestowed to acquire a knowledge of terms, as materials on which the faculty of Language may exercise its powers. In short, nature, by means of this organ, gives the mind a capacity to learn words, and after they are learned, to use them; but she does not inspire us with a knowledge of their signification, in the same way as she implants in the bee an instinctive tendency to resort to particular flowers that contain honey. By means of the organ of Causality, she enables the mind to reason and to anticipate results; but this also is a mere general power, and requires for its successful exercise, an extensive observation of their occurrences and their effects: it does not instinctively anticipate the future; but, after the mind has discovered, by observation, that fire communicated to gunpowder, produces explosion, it gives the feeling that the same train of occurrences will happen again, and enables the individual to regulate his conduct in the knowledge of this result.

An uneducated mind, therefore, is one in which animal impulses run riot—strong, vivacious and undirected; in which moral sentiments sometimes shed the benign influence of their proper nature, but oftener suggests wild wanderings by their misdirected energy, and in which the

intellectual powers are obtuse, through want of exercise, and inefficient in consequence of the absence of knowledge.

This is a correct picture of a mind entirely in a state of nature. In civilized society some extent of education is forced upon every individual by the intelligence and example of others; but in proportion to the scantiness of his cultivation, is his approach to the condition now described.

An educated mind presents a different picture. Happiness results from the legitimate use of all the mental faculties; and the constitutions of the moral and physical worlds, when thoroughly understood, are so admirably adapted to each other, that full scope is afforded in nature for the legitimate gratification of every faculty of the human mind. The first effect of education then is to present the intellectual faculties with materials on which they may act—that is, persons who received stores of hereditary information, and acquired additional ideas by experience—communicate to the young mind a knowledge of the objects and creatures which exist, and which are the sources of good and evil to mankind. This knowledge constitutes the materials on which the faculties of the young may act; thus, the primitive colors and their combinations being exhibited, the mind, by means of the organ of Coloring, derives pleasures from contemplating them, and desires to apply them in producing new combinations. A description of a particular kind of industry, or of certain internal laws, or of certain domestic institutions being communicated, the mind, by means of the organ of Causality, takes delight in knowing these, in tracing the good or evil produced by them, and it anticipates the result of new combinations. The intellect, thus provided with knowledge, and strengthened by exercise, is in a condition to discover what form of indulgence is fitted to afford the highest and most lasting gratification to the propensities and sentiments, and it guides and directs them accordingly. Thus the propensities of Amativeness, Philoprogenitiveness, and Adhesiveness, have large organs, and at an early period of life act with intense vivacity. The individual whose mind is unenlightened by knowledge, whose intellect is unexercised and unaccustomed to control or guide his desires, and whose moral sentiments are not directed to practical objects, will yield to the first impulse, and either resort to the haunts of vice, or marry, regardless of the future and all its consequences. Another individual, whose mind has been instructed in the nature of his own physical and mental constitution, trained to perceive distant consequences, and to regulate his propensities with a view to the future, and whose moral sentiments have been accustomed to act in concert with and to support by their dictates the conclusions of his intellect, will have a vivid perception of degradation, disease and misery,

as the result of illicit indulgence; and of poverty, anxiety and depression, as the consequence of injudicious marriage, and will be fitted, if not in every case, to resist effectually, at least to withstand, a far higher degree of temptation than the other.

Not only so but there is a prodigious difference between the actual pleasures enjoyed by the educated and uneducated. The direct gratification of the lower propensities is short-lived, coarse, and unsatisfactory; and when the impulse of excitement is over, the moral sentiments enter into activity and condemn the conduct, so that no agreeable emotion arises from reflection on the past. The indulgence of these, on the other hand, under the guidance of the moral sentiments, is pleasing at the time, and not painful on retrospection; while the direct exercise of the higher sentiments themselves and intellect affords the highest present delight, and the most lasting satisfaction in futurity. The practice of Benevolence in the daily duties of life, avoiding all occasions of giving pain to others, and manifesting a warm and sincere regard for their happiness in the little offices of kindness, for which the private circle affords so delightful a theatre—the exercise of Conscientiousness in curbing our humors and desires, so as not to overstep the boundaries of justice, and permitting and encouraging every indulgence and gratification consistent with duty, to those who are dependent on or connected with us—the practice of Veneration in piety towards God, and in habitual deference and respect to our fellow men, bearing with their weaknesses, and avoiding irritating and humiliating conduct towards them—the exercise of Ideality in appreciating and luxuriating amidst the beauties of nature and of art, and the exercise of Individuality in becoming acquainted with the countless objects which exist around us, and their various properties—of Reflection in tracing their wondrous combinations—of the minor Knowing organs which are conversant with forms, colors, numbers, music, and their countless products—the delight, we say, which the educated mind is capable of extracting from the legitimate exercise of all these admirable faculties, leaves the uncultivated mind immeasurably behind in the very article of pleasure, even supposing enjoyment to be the sole object of human existence.

An objection to the proposed UNIVERSITY IN LONDON is, that the citizens of the metropolis care for wealth, but not for learning. We wish these citizens understood Phrenology, that they might fully comprehend the condition of a rich citizen unenlightened by education. Wealth conduces *directly* to the gratification of only *two* faculties, Acquisitiveness and Self-esteem; *indirectly*, it furnishes the means of enjoyment to all the other powers. The lower propensities, as we have said, are

naturally energetic, and, in ordinary men, require no cultivation to stimulate them to activity. But not so with the intellectual faculties and higher sentiments. These require training and culture to make them yield their fruits; but then their products, compared with those of the propensities, are like nectar compared with muddy water. The rich citizen then, with a *plumb* in his pocket, and no education in his head, is in possession of the means of gratification for his Acquisitiveness and Self-esteem. He may hug his purse, and dote upon its ample contents; he may defy the world, and look down with contempt on all who have fewer pounds than himself. Farther, he has the means of procuring all manner of animal enjoyment, and, added to this, every sort of finery in house, equipage and dress, that may excite the admiration of vulgar minds, and thereby gratify his Love of Approbation. He has also the faculties fitted to enjoy all these pleasures; and to this extent we allow him full gratification. But as money cannot confer an exercised intellect and refined sentiments, he is excluded from all the higher enjoyments of our nature. He may purchase books, but he is incapable of reading them with relish; he may expend thousands on pictures or statuary, but he can extract no delight from their beauties; he may fill his apartments with the finest instruments and the most admirable compositions in music, but he cannot command his soul to thrill at their sounds; he may aspire to the society of the enlightened, whose conversation soothes and purifies the feelings, while it stimulates and enlivens the understanding, but he has neither ideas nor sentiments in common with them. Two uneducated men of different occupations, and living in distant parts of the country, when they meet, have no subject of conversation in which both can feel an interest, and can extract no pleasure from each other's society. The knowledge of each is confined to the character of his neighbors, and the practice of his own trade; and he is dead to every feeling and idea that, by dealing with the great and permanent interests of mankind, is calculated to rouse the sentiments and elevate the understanding. The uneducated man, in short, must live and die in the society of those who talk of stock and trade, and prices, and farms, and profits, and eating and drinking, and dress, and every thing that is corporeal; and although all these, as ministering servants to the gratification of the higher powers, are excellent in themselves, yet, when they constitute the *alpha* and the *omega* of life, the sum and substance to which all our thoughts and aspirations are dedicated and confined, they are felt to be poor and paltry, just because they yield no satisfaction to the moral and intellectual faculties.

In regard to the locality of the proposed university, London has been

objected to on the ground that large cities afford more incentives to vice than retired situations or secluded seminaries. Phrenology renders our notions on this subject also definite and precise. Men may be divided into three classes: First, those in whom the moral sentiments and intellect naturally preponderate over the animal propensities. Individuals so constituted are in very little danger from temptation, and may be excluded in the present discussion. Secondly, those in whom the animal propensities naturally predominate over both sentiment and intellect. These are the men who sink into vice in whatever situation they are placed—who degrade themselves with habitual indulgence in animal pleasure—and, so far as our observation extends, if placed in the country, they become a focus of corruption to others; whereas, in a town, they are swallowed up in the gulf of pre-existing iniquity. Thirdly, those individuals, and they form the great majority of mankind, in whom the propensities are naturally so balanced against the sentiments and intellect, that external circumstances will cast the balance to vice or virtue.

This is the most important class, and we shall dedicate a few words to them. The object to be attained in educating them, is to induce them habitually to restrain and regulate the animal feelings, and to exercise and manifest the moral sentiments and intellect. To accomplish this end, every situation calculated unduly to excite the propensities, must be avoided, and every circumstance that tends to call forth the sentiments and to exercise the intellect ought to be encouraged. The question then occurs, does a secluded seminary, or a retired village, afford fewer temptations to vicious indulgence than a city? Mr. Campbell, we think, has answered this successfully. "Granting," says he, "the college proctors whom you appoint to be the strictest and most conscientious, still, how poor is a proctor's influence to a father's, to a mother's, and to the purity of conversation ensured by the presence of sisters and respectable friends!" In short, in situations where boys live closely congregated, and removed from the influence of ordinary society, one individual of a corrupt mind may produce great contamination; and it is well known, that retired seminaries are, in fact, selected as places of reform for all the depraved and spoiled children of the community, whose dispositions render them nuisances at home. In these institutions, therefore, there are always some individuals of bad natural dispositions, who come into the closest communication with those who are ready to yield to the first impression.

But farther, all the powers of the mind possess natural activity; and it is highly erroneous to imagine, that boys, whose mental organs are equally balanced, and whose cases we are now discussing, will naturally

be pure, if not contaminated by evil example. On the contrary, their animal propensities will engender vice in the most retired situation, unless prevented. And how are they to be prevented? By exciting highly and habitually the moral sentiments and intellect. We require only to contemplate those powers for a moment, to be able to decide what situation is best adapted for their exercise. They are, Benevolence, Veneration, Conscientiousness, Hope, and Ideality; and these may be aided by Adhesiveness and Love of Approbation. Allow, then, that the intellect is equally well cultivated in a retired seminary and in a college situated in a city, Whether is the bosom of a virtuous family, or the chambers of a great school, best suited to keep in habitual exercise the sentiments here enumerated? There can scarcely be a shade of difference in opinion on the subject; and it ought always to be remembered, that it is only by carrying the mind upward, and leading it to expand its powers, and *reap its enjoyments*, in the department of morality and intellect, that the animal propensities can possibly be restrained and regulated. Mr. Campbell, in adverting to the case of sailors and Turkish women, gives a convincing commentary on the success which attends attempts at curbing the lower instincts by mere physical restraint; that is, by merely rendering the natural gratification of them impossible, without providing *countervailing enjoyments* for the mind. The principle of leading the mind from vice and to virtue by *pleasure*, is scarcely at all understood; and, nevertheless, it is essential to the success of all plans for the improvement of the species.

One of the great banes of society is the prevalence of aristocratic feeling, in itself a mere abuse of Self-esteem. The only superiority which nature recognises in one man over another, consists in higher moral and intellectual qualities, and a greater extent of useful information; and we have observed, that individuals who are conscious of possessing these advantages, care little for factitious rank or hereditary titles, although they may have succeeded to them by birth. Weak and immoral men, on the other hand, who are conscious of no natural excellence calculated to command esteem—who feel that, if left to fall in society to the level of their merit, they would sink to its lowest stages—call in the aid of adventitious circumstances to support their consequence, found upon them pretensions to precedent and respect, and affect to treat with disdain all who cannot boast of equality with them in these fanciful advantages. No one grudges to high rank, when joined with mental greatness, the highest honors; but the spirit of which we complain, so far as it has any effect, produces prejudicial results, by separating consideration from the qualities which alone ought to confer it, and by encouraging a por-

tion of society to remain profligate and uninstructed, in the idea that their rank places them above the reach of public opinion. The legitimate remedy for this evil, is to refine and instruct to the highest possible degree the industrious classes of the community; and when they are able to exhibit elegant manners and enlarged understandings, nature will assert her own superiority, and factitious pretensions will sink in public estimation like the tattooed face and pendant nasal ornaments of the savage. We believe it quite possible to render a merchant or manufacturer a *gentleman*, in the proper sense of that term, by a judicious course of moral and intellectual cultivation.

On another point also we differ from Mr. Campbell. He proposes that the education of boys should be finished before they begin to learn a trade; and proposes four years, from fourteen to eighteen, as a period for study, adding, that on inquiry he is informed that a young man may continue his education till the latter age consistently with learning his business. Looking at the order in which the organs of the faculties are developed, and at the changes in the condition of the brain by which the exercise of mental energy is affected, we perceive that prior to eighteen, the organs of the propensities, sentiments and perceptive or knowing powers, such as Individuality, Language, Locality, Form, Number, and Tune, are in the highest state of maturity; and that it is not till twenty or upwards that the reflecting organs have attained their full size; and farther, that it is not till after majority that the constitution of the brain has been perfected, so as to render it capable of the most powerful manifestations. Following the order of nature, therefore, we would teach children morality and virtuous conduct, and also initiate them in all the varieties of simple knowledge, before the age of fourteen; we would send them to learn a trade from fourteen to eighteen, and from eighteen to twenty-two we would combine attendance on classes of philosophy with the practice of the duties of their profession. The details of business do not require a greater portion of understanding than is possessed from fourteen to eighteen, while the higher branches of moral and physical science require a mature intellect and some experimental knowledge of the relations of society to enable the mind to enter upon them with delight, and draw *practical* benefits from their study. Farther, one great cause of the education that is at present bestowed being partially lost, is the entire separation of learning from business. The boy is a scholar till he goes to the shop or counting-house; and when he goes there he is a merchant or trader, and lays aside all his literature, science, and school acquirements, as obsolete exercises of boyhood. He never thinks of study as a relaxation from business, or as an agreeable recrea-

tion for leisure hours; and, until this habit shall be attained, education will not have triumphed. The great object ought to be to keep the intellect and higher sentiments of the industrious classes habitually awake, and to give them an interest in every thing that is calculated to support the activity of those powers, and afford them gratification; and this will never be accomplished till they are trained to look on themselves not only as individuals pursuing exclusive and personal objects, but as citizens of the world, interested in the great principles which regulate the happiness or misery of the species. They must be taught to pass from the counting-house to classes of philosophy, and from the halls of science to the ware-house, as transitions natural, useful and becoming; and to regard personal industry and elevated reflection as fitted each to confer grace, dignity and usefulness on the other. There is no degradation in labor; and the highest intelligence is not incompatible with the most animated exertions in the duties of life. A conviction of the truth of this observation cannot be too widely diffused among the inhabitants of Britain; for its practical application would constitute their glory and their strength.—*Edinburgh Phren. Jour.*

MISCELLANY.

Religion and Phrenology.—"It appears to me to be by no means desirable that Phrenologists should pay any attention to that class of objectors who reiterate the charge that their system is opposed to Religion. Every science has in some stage of its progress received a similar attack, and the friends of Phrenology will surely be enabled to bear their fate, in this respect, with tolerable equanimity when they call to mind the fact that the individuals who in the present day accuse them of promulgating doctrines subversive of Religion, are the worthy descendants and representatives of the class who some few centuries back brought a similar charge against the teachers of Astronomy, and who in later days, when religion still survived, although the first principles of Astronomical Science had become familiar truth, transferred the charge to the students of Geology. Undismayed by the attack, the Geologists steadily continued their observations and multiplied their proofs. Religion still survived, and their accusers (who seem tenaciously to cling to the belief that they must eventually succeed in discovering some science which shall be subversive of religion) unwilling to let the charge lie idle, immediately directed it against Phrenology. The probability is, that, like its predecessors, this science will survive the attack, and as it has already resisted its force for thirty or forty years, it seems likely, judging from past experience, that some new discovery will shortly rise up, against which the old piece of artillery will be required, that it will therefore be

considered expedient to withdraw it from Phrenology, and that although the system will then be suffered quietly to progress, Religion will still retain its vitality and extend its influence.

Let us hope, therefore, that the field of science may yet be enlarged by many new discoveries, sufficient to afford constant employment to these worthy persons; while at the same time we need not necessarily relinquish the belief that the day will never arrive which will enable them to affirm that they have at length met with the object of their persevering search!"—*Communicated by M. B. Sampson, London.*

Head-ache caused by over-excitement of certain mental faculties.—The following is an extract from a letter directed to Mr. L. N. Fowler, while recently lecturing on Phrenology in one of the N. England states. The letter was written by a very intelligent lady—the wife of a clergyman; and, we are assured, that the facts here stated, may be relied upon as strictly correct. Such facts, we presume, are by no means of unfrequent occurrence: were the attention of persons properly directed to the subject, almost any number might be collected. Mrs. R—— writes thus—"For some months past, I have experienced a very great degree of pain in my head which I have endeavored to account for phrenologically; for this reason, viz: that it was always attendant upon unusual excitement of *mind*. This pain has been so severe at times, that I have feared it might terminate in dropsy of the brain. Still I cannot be satisfied with this conclusion, because the pain, though severe, frequently *shifts its position*, which I think would not be the case in dropsy. Since your Lecture last evening, I have examined the subject more fully, and called to mind more distinctly, the *particular location* of the distress, which I was better able to do from the extreme acuteness of suffering that I have lately experienced. Allow me first to ask one question, viz: if pain be produced in the region of *one organ* which is *over-excited*, is it unreasonable to suppose that, where there is great nervous excitability of temperament, several organs may be excited and cause pain *at the same time*, or successively? Now this is the fact respecting myself—when I suffer pain in any part of my head, there is perfect correspondence on *both sides* of it. I have felt it distinctly at these various points. In the region of *Constructiveness*, this has frequently been the case, after I have been cutting out a large quantity of work, and racking my invention to do it in the best and most economical manner; and also whenever I have been contriving plans or inventing games of amusement, or any thing of the kind, for my children's profit or pleasure. Again: Such are my circumstances, that great care devolves upon me—the education of my children, the management of my domestic concerns, the control and disposal, to a great extent, of our finances; add to this, the absolute necessity of keeping up my spirits whether sick or well, in sunshine or in storm, in prosperity or in adversity. At such times, the pain has been directly through the head, as it seemed to me, where the organs of *Combativeness* and *Destructiveness* are located; and I have felt like this: "*Die I may, but go forward I must.*" When attending closely to any discourse or reading argumentative subjects that require deep thought, my forehead is subject to distress and sometimes severe pain. I frequently suffer pain in the region of *Combativeness* ;

ality and Ideality; and could enumerate many instances of this kind. One more fact only will I now mention. I am troubled often with pain over the eyes, and have noticed that whenever my children have disarranged every thing about the house, I am exceedingly annoyed, and after going about and replacing every thing in order, *my head is very sensibly relieved.*"

Appeal to the Clergy.—A correspondent sends us a communication from Upper Canada, under the signature of "*Clericus*," which contains some very good remarks upon the bearing of Phrenology on religion, with an answer to the objections that the science leads to Materialism, Fatalism, &c. As the same topics have been somewhat fully discussed in the Journal, we have room only to present a single paragraph of the present communication. Says this writer: "Upon the clergy, above all others, does the voice of suffering call—to them does every principle of duty appeal, that putting on the whole armour of righteousness, they should inquire into the nature and bearings of a discovery—which is to the mind what the discovery of the circulation of the blood is to the body, and which, if true, as much as the interests of the soul exceed those of the body, and as much as the salvation of the former surpasses the preservation of the latter—is of so much more importance to man—it behooves the clergy, I say, to inquire with careful, patient and impartial examination, whether it be true—taking care, above all things, that they do not lightly reject the handywork of the Almighty. The only conclusion which any reasonable or thinking man can arrive at, after such an investigation, is that the *grand principles of Phrenology are true*—that they are founded in nature, and are the work of Nature's God."

Phrenology in Vienna.—R. R. Noel, Esq., who has recently spent several years in Germany and Austria, mentions the following interesting fact in relation to his visit at Vienna. "Of Vienna I could say much too—of interest which Prince Metternich (one of Gall's earliest pupils) and many members of the first families there, take in Phrenology. Indeed, it was principally owing to my being a phrenologist, that I received great attention from Prince Metternich, and introductions to the heads of the different institutions to facilitate my observations in Vienna."

The Chinese, Craniologists.—In a descriptive catalogue of the Chinese Museum, in this city, drawn up by Professor E. C. Wines—who is well acquainted with the character of that people—we find this statement: "The Chinese put faith in the external developments of the skull, and are, therefore, to a certain extent, phrenologists. They look for the principal characteristics of a man in his forehead, and of a woman in the back of the cranium."

Mr. Geo. Combe intends visiting Germany the present season: one of his leading objects is undoubtedly the advancement of Phrenology in the interior of Europe.

Dr. Charles Caldwell is now on a visit to Great Britain and France.

Mr. Combe's tour in the United States is just published in two volumes, and will be farther noticed in the Journal.

AMERICAN PHRENOLOGICAL JOURNAL

AND

MISCELLANY.

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ARTICLE I.

PHRENOLOGY AND ANTI-PHRENOLOGY; or Review of Select Discourses on the functions of the Nervous System in opposition to Phrenology, &c., by Dr. Smith, of New York.

(Continued from page 309.)

Having now stripped the proposition laid down by Professor Smith as the embodiment of Phrenology, of irrelevant matter, corrected their errors and exposed their misrepresentations, we will re-state them in such form as to represent correctly phrenological doctrines.

1. The brain is the organ of the mind.
2. The mind is endowed with a plurality of innate faculties.
3. Each of these faculties manifests itself through the medium of a particular organ; of which organs the brain is a congeries.
4. The power of manifesting each faculty bears a constant and uniform relation, other things being equal, to the size of the organ of such faculty.
5. The outer surface of the skull corresponds so nearly with the form of the brain, that the relative size of these different organs can be ascertained during life.

On comparing these propositions with those laid down by Professor Smith, it will be seen that they differ very materially. The argument is therefore "virtually concluded," for his attack is made not upon the science in which we believe, but on a so-called phrenology of his own invention. We will proceed, however, and in the first place examine two objections which the professor brings forward against the logical correctness of phrenologists.

On page 94 he commences his attack on the doctrine of distinct organs, by demanding the evidence on which it is based. We confidently refer him to nature, to collections of casts and busts, and to the plates and writings of phrenologists. But to them he declines to go. This doctrine, he says, "is an inference and has to be adduced (?) so far as it can

be adduced (?) at all, from the proposition next in order." The proposition here referred to being that size, *cæteris paribus*, is the measure of power. "Until, consequently, that proposition comes regularly before us, no proof," he says, "can be offered, and of course no replication made. Were we, therefore," he continues, "to insist upon our *logical rights* there would be *no controversy*."

It is not true that the doctrine of distinct organs is a mere inference from the doctrine that size is the measure of power. It rests upon observation and can be demonstrated by attention to *form* alone even. But this whole objection arises from confounding a systematic presentation of certain conclusions with the mode of arriving at those conclusions. It is erected on the false presumption that phrenologists laid down one proposition, on that grounded another, and on that a third, so proceeding to the end. But we maintain that our fundamental principles are, on the contrary, generalizations of individual facts: therefore to the consideration of these the professor must of necessity resort. But independently of this, the circumstance of one proposition being laid down before another, by no means proves that the former must be demonstrated without reference to the other; for propositions may be dependant on the same facts, and may be of equal importance, though one must of necessity be first in order. And again the objection shows ignorance or forgetfulness of the general mode of arranging systematic works. In investigation, we ascend from particulars to that which is general. In systematizing, the order is reversed, the concluding generalization, the crowning fact, being often the first proposition laid down, thus preceding all the subordinate propositions and particular cases on the truth of which its correctness is dependent. It is evident, therefore, that in whatever light we view the objection of Professor Smith, it is futile and unsound. He cannot, under this illogical cry about "*logical rights*," escape the necessity of investigation. Nor can he be allowed, what he seems to claim, the reputation of generosity, for neglecting to stop his argument at this fancy-wrought barrier of his own erection.

On page 98, the professor charges phrenologists with "*assuming facts to be true without an attempt to prove them*," and with making "*reasoning premises and inferences to change places as occasion may require*." To prove this, he narrates a dispute which he had with somebody, from which, as we are informed, and as is usual in such cases, the narrator came off triumphantly. We leave him full possession of this triumph and proceed to notice the following other confirmation of his charge. "A patient," says he, "in a fit of sickness forgot the use of language. Now, says the phrenologist, the case is plain, the man's organ of Language was disordered. Here of course we have an assertion

deduced from the truth of phrenology, the *hypothesis being taken for granted*, and then made to do the duty of a *premise*." "But," continues the professor, "when a reversal becomes convenient, we are gravely assured that an inability to employ words through some malady, proves the doctrine of distinct organs. In this way, what was before an inference, is now converted into an assumption, and in lieu of being the offspring, is made to stand *in loco parentis*."

This is very plausible but also very fallacious and erroneous. It is not true that phrenologists "assume" their facts; it is not true that they do not attempt to prove whatever they advance; it is not true that the doctrine of distinct organs is a hypothesis; it is not true that they take this doctrine for granted. It is true, however, that the professor founds an argument against phrenology on the *assumption* that phrenologists *assume* their facts; that he *takes for granted* that the phrenologists *have taken for granted* the truth of phrenology. So readily does he fall into the errors which he is charging upon others! Now if the professor will *prove* that the facts of phrenology are assumptions, and that its doctrines are hypotheses, then clearly the controversy will be at an end, and to continue the argument would be to batter the air after prostrating the fortress. The truth is that the phrenologists never applied the above explanation to forgetfulness of language until *after they had established the existence of an organ of language*. And having established the existence of such an organ, the above inference is plainly deduced not from the premise pointed out by the professor, but from a universal law of pathology, which his hostility to phrenology even will hardly induce him to controvert, the major proposition of the argument being that the disordered manifestation of a faculty is always indicative of the functional or organic derangement of the organ of that faculty. The minor proposition expresses the disordered manifestation of the faculty of language in a particular case, and the conclusion inevitably follows that in the case referred to, the organ of that faculty was deranged. Could Dr. Smith prove that no distinct portion of the brain constitutes the peculiar organ of the faculty of language, he would not indeed impair the efficacy of the above argument, but he would force the phrenologist to acknowledge that the brain as a whole was deranged and not a particular part. Here we are again at the very point of the controversy. Is there a peculiar portion of the brain which constitutes the organ of Language? We say this is a fact not only demonstrable but demonstrated. The professor denies this, but offers no proof beyond the above logical quibbles; but until he disproves our doctrine, his objection is a mere play of words. As to the "convenient reversal" of which he speaks, it is a

fiction of his own invention. The phrenologist has in every case proved the seats of the various organs by physiological observations, and pathological facts have been brought in merely as corroborative or cumulative proof; as such, we deem them to possess great weight and interest. They show beyond dispute that one faculty of the mind may be singly and solely deranged, a phenomenon which the phrenological doctrine clearly explains, but which the anti-phrenological notion renders absolutely mysterious and inexplicable. Nay, still farther; pathological cases often confirm in the most striking manner the correctness of the phrenologist as to the seat of the various organs. Let us take one instance bearing directly on the question in hand. Sir Robert Liston was a gentleman of great talents; he was once minister plenipotentiary to this country, and at another time to the Court of Russia; he spoke ten languages, knew four others, and was remarkable for amiability and courtesy until seven years before his death, when his mental manifestations commenced to undergo a marked change. He saw apparitions: long trains of Greeks, Turks, and others, each in appropriate costume, would pass before his eyes. At first he was amused, being aware of their unreal nature, but finally one vision became so terribly real that he never afterwards spoke of these visitations. He saw his wife, who had been dead some years, standing in the room, so life-like in appearance that he spoke to her; she walked towards the window, he followed, and it was not till his head and hands crashed against the glass, that he became aware of the illusion. Again, from being one of the most amiable and courteous, he became one of the most violent of men, and from being an admirable linguist, he became unable to use words. At his death, Dr. Abercrombie and Mr. Craig examined the brain, Mr. Combe being present. Over the *organ of Wonder*, the appearance of the dura-mater and skull indicated that *chronic inflammation* had existed. In the posterior lobe, where *Combativeuess* is situated, *an abscess was found*, an inch in length and half an inch in breadth. *An abscess* was also discovered in the line of the fibres of the *organ of Language*. (Combe's lectures on phrenology, edited by Dr. Boardman, pp. 118, 214, Edinburgh Medical and Surgical Journal, Oct. 1836, Edinburgh Phrenological Journal, Oct. 1836, American Journal of Science and Arts, July 1840.) Will Professor Smith be kind enough to let us know his opinion of this and the numerous analagous cases to be found in the phrenological writings?

After considerably more erroneous assertion and fallacious reasoning, the readers progress through which is aptly characterized by Professor Smith himself as a "groping" in a "region of gloom," "at every step uncomfortably conscious of the obscurity by which we are surrounded,"

we arrive at a point of the controversy at which the author shows that he has had, during one interval at least, a just idea of the mode in which the phrenologists should be met, and that he himself is convinced of the inconclusiveness of all on which he has previously relied, and, as if cheered by the genial rays of truth which had thus fitfully visited him, he exclaims: "The region of gloom is past, the road before us is plain, the points to be reached obvious and essentially dependent on the testimony of our senses; for *projections* of the brain are visible, tangible, measurable. The prominent traits of character are also readily and certainly discernible. *How far, consequently the latter corresponds with the former, is a fact capable of the most easy and satisfactory proof*, or that failing, phrenology may be safely and confidently pronounced a mere phantom of the imagination." (pp. 107.) For "*projections*" substitute "*developements*," and this quotation will correctly express the test to which we wish our science to be subjected. And it recognizes, to the fullest extent, the correctness of the phrenological mode of investigation. "Which is the true alternative," adds the professor, "it is now our business to inquire." Gladly will we abide by whatever alternative may result from a faithful inquiry. Let us, therefore, pass in review, all the facts bearing on the subject presented by the professor from the commencement of the attack, that we may be enabled to decide their force understandingly.

Fact 1, (pp. 81.) "When perplexed by some puzzling *problem*, we experience uneasiness in the head, particularly, as I think, in its *anterior* part."

The consideration of a "*problem*," as such, is solely a work of the *intellect*, and the seat of the intellect being, according to our science, the "*anterior*" lobe, this fact is corroborative of phrenology.

Fact 2, (pp. 82.) "A young man lost a large portion of the *frontal* lobe by an accident. The wound healed, but the bone itself was not regenerated, so that a distinct osseous edge remained. In after life, when this person attempted close *study*, internal soreness and external inflammation took place and compelled him to desist."

"*Study*" is an operation of the intellect, and the seat of the intellectual organs being the "*frontal*" lobe, this fact also is directly corroborative of phrenology."

Fact 3, (pp. 93.) "The brain, its anterior part being in advance, acquires its full size at a very early period of life. *Authors differ* as to the exact date, which probably is not uniform, though *not later than the seventh year*."

Phrenologists maintain, as the result of numerous observations, that the brain very seldom attains its full size before the age of manhood.

The phrenological "authors," therefore, are not of the number to whom Professor Smith refers, yet he attempts not to give a reason for this exclusion. Surely he was bound to tell us *why* he considers the phrenological proposition false, and the non-phrenological one true. He has had numerous opportunities of deciding between them by actual observation of the brain itself. The subjects of all ages yearly presented in the dissecting room of the College of Physicians and Surgeons, have furnished him with ample means of weighing and measuring the brain, and of showing, if possible, most conclusively that the phrenologists are in the wrong. But he has chosen, on this and other occasions, with something, it seems to us, of credulity, to depend implicitly upon the sayings of "authors," when nature could so readily have been appealed to. It is evident from this and other parts of the "Select Discourses," that Meckel's Anatomy is the source of all Professor Smith's anatomical opinions. Let us turn, therefore, to Meckel. In volume ii. page 705, §1801, (Paris 1825) we find the following passage: "Jusqu'a l'epoque de l' entier developpement, l'encephale continue d'etre plus gros, en proportion du corps, qu' il nel'est dans la suite; car, entre *six et sept ans* suivant Wenzel, et meme de's *la troisie'me annee*, selon Sæmmering, il a deja acquis le volume et la pesantour qu' il doit conserver pendant tout le reste de la vie." That is, between *six and seven years*, according to Wenzel, and at *three years*, according to Sæmmering, the brain acquires its full size and weight. Thus it is, then, the reader of the Select Discourses will quote Professor Smith as his authority for the assertion that the brain attains its full size at seven years of age. We turn to Smith and we find that he refers to Meckel; we turn to Meckel, and we ascertain that he speaks on the authority of Wenzel and Sæmmering, who differ enough to have put others on their guard and shown to them the necessity of farther observation. We turn to Wenzel and Sæmmering, and then learn the meagerness, the utter inadequacy of their inductions of facts. Sæmmering, for instance, weighed the brain of a child and the brain of an adult; found them of about equal weight and forthwith concluded that the brain attains its full weight and size at two or three years of age! But, inasmuch as brains differ greatly in size and weight, there being idiots of adult age whose brains weigh no more than *one and a half pounds*, and there being men, such as Dupuytren and Cuvier, whose brains weigh *four and a half pounds*, or upwards, it is evident that even a child's brain of large size, might weigh as much as a small adult brain, and yet the proposition of the phrenologist be true, namely, that the brain increases in size till the age of manhood. Just suppose, if you can, reader, the head of Mr. Webster, twenty-five inches

in circumference, on the head of an urchin of three years old! "But," says Professor Smith, "the increase in the bulk of the head is due to the thickening of the skull, and not to the growth of its contents." We have examined many skulls in reference to this point, and we can state as the result of such observations, that the average thickness of the skull of adults in the prime of life, is but about *one fifth of an inch*. We are sure that Professor Smith, on this subject, does not speak according to knowledge.

Fact 4, (pp. 96.) "It is found that where duties are deferred to an after period of life, the parts implicated remain nearly stationary until their action is needed. Of this principle, the changes which occur at the age of puberty, will serve as an example. Now the cerebellum whose sole office it is, according to the phrenologists, to engender sexual feeling, has, according to Meckel, its relative magnitude at *five or six months* after birth; and its absolute bulk while we are yet *little children*. Here, then, we have by far the largest of the supposed organs, being indeed a seventh or eighth of the whole brain, perfected and dormant for eight or ten years."

The principle embodied in the former part of this extract, is perfectly sound, and on it the phrenologist relies with the utmost confidence. True it is that "according to Meckel," the cerebellum attains its full relative magnitude at the age of six months, but *according to nature*, not until the age of puberty. If the phrenologists have established one fact more clearly than another, it is the one we have just stated. In infants, the cerebellum is the least developed of all the cerebral parts, constituting but from about one ninth (and this very seldom) to one twentieth of the brain; whereas, in the adults, it constitutes from one fifth to one seventh of the brain, its nervous fibres being those of the whole encephalon, which are the latest to present a distinct appearance. These statements, if erroneous, Professor Smith has the means of readily disproving. We shall be pleased to hear of his making the attempt. We should then have no fear of his ever afterwards writing in relation to the cerebellum, "according to Meckel."

Fact 5, (pp. 100.) "In what manner do you account for the occurrence that persons with small heads have sometimes great and various talents?"

The answer is very easy and very conclusive. *Talents* are the gifts of the intellectual faculties, and the organs of these faculties have their seat in the anterior lobe of the brain. Now this may be large, while the organs of the sentiments and the propensities, which constitute the chief bulk of the head, are small. If Professor Smith will produce a case in

which not the head in general *but the anterior lobe* is small, while the talents are great and various, it will be to the purpose. But such a case he cannot produce.

Fact 6, (pp. 101.) "Where persons have been insane for years, nothing unusual in the brain could sometimes be *detected*; and where morbid changes have been discovered, it was frequently impossible to determine whether they were the *causes* or the *effects* of the mental alienation."

If morbid changes could not be *detected* in such cases, which recent investigations lead us to doubt, it would not follow that they did not *exist*. And even if they did not exist, the fact would be as adverse to the doctrine of the brain being the organ of the mind at all, as to that of its being a congeries of organs. Professor Smith seems to think that disease may originate in the mind and be thence communicated to the mind's organ. Will he be kind enough to inform us how disease can effect an immaterial principle? And if it can become diseased, will he tell us in what way the disorganization and death of this principle can be avoided?

We have now arrived at that portion of the "Select Discourses" at which their author commences in more due form the overthrow of phrenology, by the specification of hostile instances; his leading fact being the following:

Fact 7, (pp. 109.) "I have hitherto seen one individual only whose head was rather larger than my own, and one who was my equal. Yet, notwithstanding this prodigious 'developement,' and although my temperament is not only sanguine but ardent, I have seen, with sorrow be it said, both in Europe and America, men less amply provided, yet greater than I!"

If the fact be as the professor states it, phrenology, we can assure him, is not in the least affected because there are greater men than he. The power to attain greatness is the result, not of the mere absolute bulk of brain, but of a well developed and a *well balanced* brain, in combination with activity of temperament and governed by external circumstances. Absolute bulk may be occasioned by large propensities, and the individual will, in such case, be little else than a powerful animal, a creature of passion. From the note on page 101, however, it appears that Professor Smith judges of the size of the head from the size of *the hat*, a most erroneous means of judging. "Allow me," says Mr. Combe, (Lectures on Phrenology, edited by Dr. Boardman, pp. 3.) "to save you from error. Many, after hearing that size is the measure of power, immediately commence to try on the hats of their acquaintance, and are apt to conclude that the man with the largest hat is the most

clever. Now here is a little mistake. The hat is the measure of the head's circumference in a part of which he need not be so proud. It does not measure a great part of the intellect and none at all of the moral sentiments. Hatters, in seeming anticipation of moral improvement, have left, in the upper parts of our hats, ample room for the moral sentiments to sprout and grow." If Professor Smith will notice that portion of the hat which comes in contact with his head, he will find that the perceptive faculties are not reached by it, and that of the size of the coronal region it affords no indication whatever.

The professor has so often reverted to his own head in this attack, as to give others also full liberty to revert to it. He evidently presents it as a fair subject for public discussion. But for this courtesy, would have restrained us from making to it any reference. As it is, however, we may be allowed to say that we deem the cerebral organization of Professor Smith to be strongly corroborative of phrenology, and should like very much that the question be tested by a jury of his intimate acquaintances. His head is large, not merely posteriorly but anteriorly, and he is undoubtedly a gentleman of much influence and force of character. But his anterior lobe is deficient in the perceptive faculties, and he is, it appears to us, any thing but a man of facts; on the contrary, he is eminently speculative and hypothetical. We know that he will strongly dissent from this opinion, but we object to his being the judge of his own case; we appeal not to his testimony, but to that of his friends. His physiological lectures afford evidence of this. They are crowded with metaphysical opinions and philological distinctions, but are meagre in practical teachings. The manuscript even, is time worn; modern discoveries find little place there; the very ink has become decomposed; the tannic acid has entered into new combinations and left the yellow base alone in its glory. In his head, the organ of Firmness, Self-esteem and Combateness are very large, if our recollection be right, and his friends can easily correct us if it is not; and we ask those friends whether the manifestations of these faculties are not among the strongest traits of his character. Whether he does not manifest great tenacity of opinion, great egotism, and a great tendency to oppose, both in private society and the meetings of the college trustees, and lyceum directors. Whether he does not watch with a good natured sort of earnestness for something to pounce upon. To be sure he has an ample development of benevolence, wit and the social organs, and he is upon the whole, notwithstanding his Self-esteem and Combateness, a pleasant companion and a liberal man. We say again that we appeal to his friends to say whether the foregoing account of his organization and mental manifestations is not essentially

correct. If it is, then by appealing to the organization, does phrenology in this, as in other instances, corroborate its doctrines by appealing not to the testimony indeed, but to the organization of its antagonists themselves.

After giving the above statement about himself, Professor Smith comes down upon phrenology with some "facts" which he considers quite overwhelming. "To avoid error," says he, "I have *selected* and shall state instances so *strongly marked* as to render a mistake *impracticable*." Let us examine these formidable antagonists.

Fact 8, (pp. 111.) "There was at the college where I was educated, a pupil of whose physical formation you will have *an accurate idea* when I state that the students of mathematics used to write on the walls, 'What is a line? G. M.'s body.' 'What is a point? G. M.'s head.' This last was so small and round, that hats, being imported in those days in what were called nests, that is, one within the other, Mr. M. was in the habit of selecting the *first* in the series, and it was as perfectly circular when laid aside as when first put on. Now this gentleman labored under no deficiency, and with *some eccentricity* was endowed with talents much above the common order."

Fact, 9, (pp. 111.) "Again, there resided in the same neighborhood, a Mr. C. whose cranium was so diminutive and so globular that it was a matter also of ridicule. A *turnip* was in this case taken as the symbol, where turnips are usually about the *size of the fist*. 'The similitude, *I have been assured* by a person *not at all given to romancing*, was very striking. Yet Mr. C. was distinguished for his good sense, and devoid of peculiarities either positive or negative."

If the head in the former case were really about the size of a point, and in the latter about the size of a turnip, where a turnip is about the size of a fist, we give the matter up. But then Professor Smith also will have to abandon the proposition which he lays down on page 128, namely, "that a brain weighing only about *thirty ounces*, or less, is so incapable of performing its functions that idiocy results," for even thirty ounces of brain would occupy considerable space. The doctor has, however, given us the clue to the size of Mr. M.'s brain in saying that his hat was the smallest of "a nest." Now the smallest hat of a nest was always 6½ inches at least, in diameter, or about twenty inches in circumference; a rather large hat to cover a mathematical point. And if a head of the size of a mathematical point, require a hat twenty inches in circumference, how large a hat it must take to cover a turnip! We suppose, however, that these similitudes are merely intended for witticisms, and that all that is really meant is that the head in these cases was small. "Mr. M. was endowed with talents much above the common

order." Talents, as we have before stated, are the offspring of the intellect, and the seat of the intellect is the anterior lobe which may be well developed while the absolute size of the head is small. Now, as we are not informed of the size of Mr. M.'s anterior lobe, we do not know that it was not well developed, which is the only fact of any importance, and this information being omitted, the case is utterly irrelevant. As to Mr. C., we do not perceive what business he has there. His head was small, and he had just such a character as is accordant with a small, well balanced brain. He was a man of good sense and devoid of peculiarities, either positive or negative. We will let him pursue the even tenor of his way. No harm to phrenology will he ever be guilty of.

Allow us in this place to correct the erroneous notion that phrenology speaks slightly of men with brains of rather small or moderate size. A man with such a brain, is still a man, possessing all the faculties appertaining to our common humanity, and if his brain be well proportioned, his perceptive faculties somewhat predominant, his education judicious and his temperament active, he is often far better fitted to perform the every day duties and to enjoy the every day happiness of life, than his more amply endowed brother. Such a man is quick in his perceptions, vivacious in his movements, often brilliant and sparkling in the social circle, of which he is not unfrequently the life and the favorite. He clogs not the wheels of life with too much thought, his face wears not a solemn or fretful expression because of suffering arising from overaction of the brain, or the conscious want of some sphere in which his faculties may have full and energetic play. The domestic and social relations, the ordinary employments and recreations of life, fill him with activity and joy. That is not often so with the more amply endowed, let the annals of genius prove.

We now come to the great fact of all

Fact 10, (pp. 112.) "I have been long acquainted with a Mr. J. whose head is the one formerly alluded to, as surpassing my own. This remarkable bulk is chiefly owing to the prodigious projection of the parietal eminences, the 'organ' of 'caution,' 'doubt,' and 'wavering.'

"Here, then, we have a case *as strongly marked as a case can be*, and how *well phrenology and fact agree, you may judge*. The intellectual powers of this gentleman are respectable; but the *characteristic trait of himself and family is COURAGE*."

Professor Smith on numerous occasions throughout the "Select Discourses," greatly prides himself on his logical acumen, though in his arguments occur some most marked departures from logical consistency,

and the above objection is an instance. What would the reader think of our argumentation, if we should say that the eye cannot be the organ of sight, because we know a man in whom the eye is large, and yet who is remarkable for his power of hearing. Or if we should deny that the lungs aëriate the blood, for the reason that we know a man whose lungs are very large, and yet in whom the secretion of bile is very copious. Or if we should deny that the stomach digests food, because Mr. Somebody has a large stomach, notwithstanding that the characteristic trait of himself and family is muscular power! Yet it is readily demonstrable that the above premise and conclusion of Dr. Smith hold precisely the same logical relation to each other as characterizes the premises and conclusions in the supposed instances.

The great fundamental doctrine of phrenology is, that the organs of the faculties are distinct from each other, and that each may be large or small, independantly of the rest. Now Cautiousness is an organ wholly independent of Combativeness, (or courage) and Combativeness (or courage) is an organ entirely independent of Cautiousness. The one may be large and the other small, or both may be small, or both large, in the same head. In the case of Mr. J., the organ of Cautiousness is represented as large. What then should be the corresponding mental manifestation? Obviously this: he should be a man who in his general conduct looks well to consequences; is, in general, circumspect in business, and who, when he has an important but doubtful point to decide, is often troubled with painful hesitancy and oppressed with fear lest his decision might be wrong. And what fact alone would be averse to phrenology? Clearly this: if it could be shown that Mr. J. is incautious, careless about results, without foresight, or hesitancy, or distrust. But is Mr. J. such a man? Professor Smith says nothing whatever on the subject. He merely informs that Mr. J. is distinguished for courage! Courage is a manifestation of the organ of Combativeness. What then, in relation to this point, would be the only fact adverse to phrenology? Why obviously this: if it could be shown that Mr. J. has a small organ of Combativeness. But no information whatever on this point is given. We are merely told that the organ of Cautiousness is large! Both Cautiousness and Combativeness are powers, positive emotions, and to derive Cautiousness from the *absence* of Combativeness, or Courage from the *absence* of Cautiousness, is to derive emotions from nonentities, effects from the absence of causes!

Professor Smith uses symbols for the better elucidation of one of his objections; we may be permitted to follow his example; therefore let

A represent the organ of Cautiousness.

B " " quality of " "

C represent the organ of Combativeness.

D " " quality of "

Then the phrenological doctrine in reference to Cautiousness would stand thus: the size of A directly corresponds with the manifestations of B. And in relation to Combativeness, it would stand thus: the size of C directly corresponds with the manifestation of D.

Now Professor Smith tells us that A, in Mr. J. is very large, but he tells us nothing of the manifestation of B. From this statement, therefore, no conclusion can be drawn. He informs us that D is strongly manifested in Mr. J., but he tells us nothing of the size of C. From this statement, consequently, no conclusion can be drawn.

Let us finally, as the professor places so much stress on this case, state his argument syllogistically.

His major proposition would be: If in any individual the size of A and the manifestation of B do not correspond, phrenology is false.

His minor: In Mr. J. the size of A and the manifestation (not of B mark, but) of D, do not correspond.

Conclusion. Therefore phrenology is false.

A most unlooked-for conclusion, since the term D is wholly unknown to the major proposition.

But though the professor's *argument* is thus fallacious, perhaps he deems it a matter of *fact* that courage and cautiousness are incompatible. Is this so? Certainly not. So far from it that cautiousness is the best companion of courage. Large Combativeness with small Cautiousness generally degenerates into rashness, and the love of strife. Large Cautiousness, with small Combativeness, generally sinks into timidity and paltriness. A large development of both is necessary to the prudent yet courageous man. With this combination, he would not seek danger, but he would be ever ready to confront and disarm. Such a combination is characteristic traits of the Fabius and the Washington.

Fact 11, (pp. 112.) "Lastly, I have known a person, the posterior part of whose head formed so straight a line with the back of his neck, as to be an object of derision. Yet in the absence of Philoprogenitiveness, love of children was a striking feature in his disposition!!"

In no case is the organ of the Love of Young *absent*. It always occupies a considerable portion of the posterior lobe of the brain. Now the professor does not tell us the size of the lobe in the above case. It may have been great, although the neck and the region of Philoprogenitiveness formed a straight line. We have seen several such cases, which the professor may add, if he pleases, to his list of anti-phrenological facts. But in the instances to which we refer, the cerebellum was greatly

developed posteriorly, and gave great size to the upper part of the neck, causing the appearance above alluded to. In all such cases it is obvious at a glance, that there is no deficiency of the posterior lobe. Will Professor Smith examine the cerebellum in the person alluded to? We doubt not he will find it large and the region of the Love of Young amply developed.

The professor had said "lastly" to the above "fact," but he still goes on, as if not satisfied any more than ourselves, with what had preceded, makes some loose and irrelevant statements, and repeats as true a gross error of M. Serres, concerning the cerebellum in reptiles and fishes. The reader who wishes to see the views of M. Serres fully examined, is referred to Gall on the functions of the brain, Am. ed. vol. vi. pp. 185; to Spurzheim's Anatomy of the Brain, Boston, pp. 116; and especially to the great work on human and comparative phrenology, by Vimont. The author of the "Select Discourses" concludes, at length, this part of his subject, by saying, "Finally, if the researches of M. Lafarque can be relied on, *and they are correct* as far as my information extends, the principles of phrenology require courage and ferocity in the hare and the rabbit; a sanguinary disposition in the beaver, and that the ferret be guiltless of blood." It is really too bad for Professor Smith to give the erroneous impression that he has confirmed these most erroneous assertions. We do not hesitate to say that he has made no observations whatever on the subject. Let us put one of these assertions to the test. Ferocity is a result of the activity of Destructiveness, and, according to Dr. Smith, the principles of phrenology require this disposition in the rabbit, which is equivalent to the assertion that in them the organ of Destructiveness is large. Let us compare the skull of the rabbit in this respect, with the skull of the cat, the mildest perhaps of the *feræ*, and an animal of about the same size as the rabbit. We take from our shelves a rabbit's skull of about the medium size, and three cat's skulls which we pick up promiscuously. We will measure them across the region of Destructiveness.

In the rabbit the distance is *nineteen-twentieths of an inch*.

In the first cat the distance is one inch and *twelve-twentieths*.

In the second cat the distance is one inch and *fourteen-twentieths*.

In the third cat the distance is one inch and *thirteen-twentieths*.

So much for the organ of Destructiveness in the rabbit!

Having examined the above "hostile" instances which the professor tells us that he has "selected" because they are "so strongly marked as to render a mistake impracticable," which "alternative" shall we embrace? Is it possible that the professor, on account of *such* facts, can expect us to renounce phrenology? That is evidently his expectation,

and so strongly does he consider himself entrenched in his position, that he becomes quite severe on his "friends," the phrenologists, as he patronizingly deigns to call them. We shall waste no words in retaliation. It is sufficient for our purpose if we have convicted him of ignorance, misrepresentation and false argumentation. Whether we have or have not done so, we leave the reader to decide. But if we have done so, Professor Smith cannot consider it unjust if the bitter sentence which he passes upon us, namely, that our dialectics "are contaminated with every fault which can attach to a train of reasoning," recoil upon himself and cling to his work forever.

But the professor's facts do not even yet seem quite numerous enough, for on page 130, he tells us that the Patagonians have "very large" heads, which is not true; and that the Georgians and Circassians confessedly enjoy the finest in the world. If by "finest" the professor means the most beautiful, we shall not dispute about matters of taste; but if he mean that according to phrenology their heads stand foremost in organization; that in them the anterior lobe and coronal region are more amply developed than in any other race, then is he greatly in error; and we venture to say that for this error he can show no authority whatever. As to his "presumptions" about the Incas of Peru, we refer him and the reader to the "Crania Americana" of Dr. Morton, in which the harmony of the cerebral organization of the American Aborigines with the principles of phrenology, is most clearly and conclusively shown. And, finally, as to the "concave" forehead of the Caribbean chief noted for his knowledge of botany, we may remark that this form could not exist without being accompanied by a large development of the lower region of the forehead, the very idea of concavity involving the idea of peripheral projection. And as the lower part of the forehead is the seat of the perceptive faculties, the very faculties which give a talent for botany, this fact so far from being hostile, is directly corroborative of phrenology.

We have now exhausted the facts of Professor Smith; of their real value the reader is prepared to judge. In reviewing them, we think we have shown ample justification for the opinion before expressed, that the professor has never seriously questioned nature as to the truth of phrenology, but has hastily, and from the beginning, concluded that it is, what he declares it to be, "*a priori* incredible," and we may now add that his pretended examination of facts appears to us to amount to a mere search for a few opposing cases, with which to overwhelm those who might be obtuse enough not to see the force of his logic. For himself, he needed no facts; he was sagacious enough to perceive "*a priori*," the absurdity and falsehood of phrenology. But, since the phrenologists teased peo-

ple so much about observation, and facts, and induction, why he would not be so ill natured as to refuse to turn his eyes merely towards "the fanciful toy," with which they were so much delighted. When Galileo discovered the satellites of Jupiter by means of his new optical instrument, he invited one of his strenuous opponents to look through the telescope and see for himself; but this his antagonist peremptorily declined. Professor Smith, to show his liberality, consents to look through the telescope, but then *he is careful to look through the wrong end*, and thus, instead of bringing truth nearer, throws it still farther in the distance.

Having disposed of the facts of the professor, and ascertained the character of his investigations, let us examine more particularly the *arguments* on which he founds his rejection of phrenology. In doing this, we shall, on more than one occasion, be obliged to follow him through objections which, in substance, have often been urged, and as often refuted. We dislike the task, but we suppose that until phrenological knowledge is more generally diffused, these objections must be met in all the Protean forms which our opponents choose to give them; for it is true that old and thrice refuted errors may often, by the talismanic power of words, be resuscitated, and again clothed with the semblance of originality and truth. Let us, in the first place then, inquire into the professor's objections to the doctrine of distinct organs in the brain.

It is a general law of physiology, that every organ of the animal economy performs a separate and peculiar function; and that, on the contrary, every distinct function is performed by a distinct and peculiar organ. To this law, all that is certainly known of organization and function conforms. Corroborative instances are brought forward by Professor Smith himself, in relation to the nervous system. On page 47, he remarks that "*Particular nerves will convey particular impressions only*. Thus sounds do not affect the eye, nor sight, but the ear. Of this, every one is aware. But," he continues, "the principle extends much farther than is generally known; for although the optic and auditory nerves are of the finest texture, and obey the most delicate stimuli, yet have they no tactile sensibility, and may be cut or torn without pain, so far as can be ascertained." And on page 96, he remarks that "*When a particular purpose is to be answered in the animal economy, by what every one admits to be an organ, we perceive a distinct contrivance, more or less obviously adapted to the end in view. And as these ends vary, so do the means for their accomplishment*." This is reasonable, true and in accordance with the teachings of phrenologists; yet on it the professor founds an objection to the doctrine of distinct organs in the brain. The truth he lays down is, that so far as we are acquainted with the ani-

mal-economy, "particular purposes" are answered by "particular contrivances," that "as ends vary," so do "means vary." Now what is the inevitable and violent presumption from these premises? Clearly this; that in those cases where structure has not or cannot be ascertained, the same law prevails that every case of difference of function is accompanied by a difference of organization. This presumption can only be rebutted by hostile instances; such instances, however, do not exist. But Professor Smith, instead of adapting his argument to this strong presumption, maintains, in effect, that, because we cannot point out in the brain, precise metes and boundaries, it is not a congeries of organs, notwithstanding the great diversity and dissimilarity of its functions. That is, he maintains, impliedly, that though the ends vary, the means do *not* vary. He himself speaks of some of the functions of the brain as being more unlike than the "aeration of the blood or the effusion of bile." And yet he holds that these functions are performed by the *same* organ. A fact more improbable and anomalous, according to his own showing, than it would be for the liver not merely to secrete the bile, but to aeriate the blood; or, for the lungs not merely to aerate the blood, but also to secrete the bile!

In the same connection he represents the phrenologist as maintaining that the difference of endowment in the various parts of the brain, is owing to "*difference of position merely*" in the cerebral matter. And he opposes him with the remark, that it is in the highest degree incredible that "the same cerebral atoms, under *precisely the same arrangement*," should, by difference of opinion merely, become endowed with such different functions. Were such the teachings of phrenologists, they would deserve rebuke. But there exists not a single sentence in any phrenological work ever published that can be so construed as by implication, even, to convey such an assertion. Let Professor Smith, if possible, convict us of error.

How came the professor by the above proposition? Does he mean to express it as a matter of fact that the brain is composed of "the same cerebral atoms under precisely the same arrangement," or does he mean it as a matter of inference from a fact previously stated, namely, that "no anatomist *can* detect a difference of structure?" If the former be his meaning, it is unwarranted; if the latter, it is illogical. To maintain the former, he must be able to show that the atomic structure and arrangement have been ascertained, and that they are as he states them to be. But can he show this? If his statement that "no anatomist can detect a difference of structure," does not sufficiently negative the question, the professor certainly gives us the answer on page 204, where he says that

"the brain from its *infinitely delicate and curious structure*, is, to our dull perception, very nearly a *terra incognita*." To maintain the latter, he must show logical consistency between his premises and conclusion. But is he prepared to maintain that because we *know not* the atomic structure and arrangement of the brain, that *therefore* the structure and arrangement *are uniform throughout*? This would indeed be strange in a great logician, such as Professor Smith purports to be. And yet to either the erroneous assertion or the illogical reasoning, he is certainly bound.

The fact is that all this talk about atomic structure and arrangement, metes and boundaries, is irrelevant and delusive; for, firstly, investigation has not yet revealed the atomic structure and arrangement of any organ of the animal economy; and, secondly, by organic structure has the functions of no part ever been discovered. Anatomy has, in relation to function, never done more than corroborated the results of physiological inquiries. So that, after all the professor has said about the matter, a review of facts will bring us to the undeniable conclusion that, as regards those points on which he lays so much stress, we are, in relation to the brain, on the same footing precisely as in relation to the other parts of the animal economy. Every physiologist knows that the ethmoidal nerve takes cognizance of odors; the optic nerve of sights; the portio mollis of sounds; that the glossopharyngeal is a nerve of sensation, and the hypoglossal a nerve of motion; but no one has found out the different organic arrangement of their atoms; no one has ever discovered, in any structural differences whatever, the very slightest reason why each of these nerves is fitted to perform its peculiar function, or why it is unable to perform any other function. The objection that the phrenologist cannot point out the precise metes and boundaries of the organs, is equally futile and frivolous. In relation to one organ, at least, that of Amateness, it is not true, the metes and boundaries being as distinct as those of the lungs or liver, and the situation and developement of the rest can be clearly pointed out. It is true, however, that the precise boundaries of the cerebral organs have not been discovered, nor has the precise boundary line between Maine and New Brunswick; yet no one doubts that the state of Maine and the province of New Brunswick have a separate existence. But what is more to the point, we know the seat of the gustatory nerve, but no one can tell the boundaries of its ramifications. We know the seat of the olfactory nerve, but no one can trace its limits, nor can any one tell at what exact part of the buccal cavity the nerves of touch terminate. In the same sheath, nerves of sensation and motion are bound up, but they cannot be distinguished from each other, their

metes and boundaries cannot be pointed out. Stronger yet, physiologists agree that the anterior column of the spinal marrow is the seat of the motory tract of spinal nerves, that the posterior column is the seat of the sensory tract of spinal nerves. No one doubts that between these columns there is a metes or boundary; but, though earnestly sought for, no one has been able to *detect it*. All that can be said is, that the motory tract is bounded posteriorly by the sensory tract, and that the sensory tract is bounded anteriorly by the motory tract; just as the phrenologist says that the organ of Veneration is bounded posteriorly by that of Firmness, and that the organ of Firmness is bounded anteriorly by that of Veneration.* It is no doubt true, as Mr. Solly, in his admirable work on the brain, remarks, that "it is quite possible that perfect distinctness of parts, as regards their function, may exist without any visible line of separation." pp. 153. The objection of Professor Smith might be urged with equal force against distinctness of function in the various parts above mentioned. But to us the true aim of philosophy appears to be, not to accumulate but to remove obstructions; not to give up what we have because we possess not all, but to hold fast that which we possess, while we earnestly strive for higher attainments; not to bury our own talent in the earth because it is not ten talents, but sacredly to guard and profitably to employ it, that our stores may accumulate.

On page 95, the professor brings forward an objection against the plurality of organs in the brain, founded on the *complexity* of its anatomical structure. He calls particular attention to the commissures which establish a communication between its various parts, and adds: "So complex an apparatus of tracts, chords and bands, affecting so close a union, can lead to no other conclusion than that the sensorium is an intricate machine, destined to perform its functions as an associate whole. Not that every portion of it is on all occasions necessarily and equally employed, but anatomy certainly opposes, so far as it can oppose, the idea of *insulation* in the operations of the *cerebrum*." To the essential points of this extract, we would ask the attention of the reader.

1. It is here expressly maintained that the brain is complex in its structure; that it is an intricate machine. Now we ask whether this

* Sir Charles Bell maintains that there are three spinal columns; the anterior for voluntary motion; the middle for respiration, and the posterior for sensation. That the anterior portion of the medulla oblongata is for motion, and posterior for sensation, all admit; the existence of a respiratory column, we deem problematical. If it exist, however, it but adds force to the argument in the text, inasmuch as no line of separation between any two of these columns can be discovered. Anatomical researches throw no light whatever on this question; physiological observations only can determine it.

complexity of structure is not in precise harmony with the *complexity of function* for which the phrenologist contends. If every part of the brain can perform every function of the brain, difficult indeed would it be to reconcile this complexity and intricacy with the fact, every where else confirmed, that nature attains her ends by the most simple and direct means.

2. This complexity, says Professor Smith, leads to the conclusion that the brain is destined to perform its functions "as an associated whole," Not, however, "*that every portion of the brain is, on all occasions, necessarily and equally employed.*" On the first of these observations we remark, that the intimate association of every part of the brain with every other part, is strictly accordant with the plurality of cerebral organs, for in most mental operations, two or more of these organs have to work simultaneously in associated activity, which renders this intercommunication essential. In relation to the second of these observations, we ask if in any given mental act any portion of the brain be not employed, is it not because the action of that portion would not produce the desired end? And is not the rest of the brain active because, by its action, the desired result can be attained? Surely an affirmative answer to both questions is the most rational. But still further; may not the part that is active be the part which, according to the phrenologist, constitutes the very organ or organs the action of which would, in the given case, be required? There is, at any rate, (and this is the only position we are here bound to establish,) nothing in the above statements of the professor unfavorable to such a presumption.

All preliminary observations, however, seem to have been made for the purpose of adding force to the closing point, namely, "anatomy certainly opposes, so far as that science can oppose, the idea of *insulation in the operations of the cerebrum.*" It will be perceived that the professor himself is very doubtful to what extent, if to any, anatomy can oppose this idea, and that he impliedly excepts the *cerebellum* from the influence of his observations. But what can the professor mean by "*insulation in the operations of the cerebrum,*" if not the activity of one part while the other is quiescent? He has, however, precluded himself from urging an objection to such insulation, for he has just admitted that all the brain is not in action in every mental operation; and especially is such an objection incompatible with a doctrine laid down by him on page 130, namely, that the anterior lobe of the brain is the especial seat of the reasoning faculty. If, therefore, the professor means that one part of the brain cannot act while the other is quiescent, then does he contradict himself; and if he do not mean this, then we do not know what he means, and consequently cannot answer.

In confirmation of the doctrine that one part of the brain may be active while the rest is inactive, we adduce two facts; one resting on the authority of Dr. Smith, and the other readily ascertainable by him. On page 82, the professor mentions a young man who lost a portion of the frontal bone, a distinct osseous edge remaining, after which "close study would cause such internal soreness and external inflammation," as would compel him to desist. "It is quite certain," says the professor, "that here *motions* of some kind had occurred in the cephalic mass;" that is, of course, in the *anterior lobe*; the seat, according to phrenologists, of the intellectual organs, and the professor, it will be observed, expressly, limits the cause of such an occurrence to close *intellectual* action, the influence of the feelings and passions being excluded by this limitation. As a contrast to this, we may refer to a child of Mr. Mapes, a scientific gentleman, who is a member of the Society of Natural History of which Professor Smith is a vice president. At four years of age, she fell from a room window, and her skull was so much fractured that a considerable portion from the posterior superior region had to be removed. The integuments healed over, however, and she recovered. Now, through the integuments, it may be observed that when those feelings are excited the organs of which, according to phrenologists, lie in the region of the fracture, the brain is felt through the integuments to be in a great commotion, but if, when thus excited, the child's attention be drawn to and fixed upon a mathematical problem, a case in which, according to Dr. Smith, "every feeling dies within us," all this commotion of the region disappears, and nothing remains but the regular arterial throbb. (Combe's *Lecture's on Phrenology*, edited by Boardman, pp. 340.) We have heard Mr. Mapes describe the sensation produced by these motions of the brain as like those produced by the struggling of a leech through the folds of a silk handkerchief. Here, then, we have peculiar motions in the anterior lobe of the brain during intellectual action, and, so far as we can judge from the report of the case, quiescence of this lobe during the activity of the feelings; we have, too, motions in the region of certain sentiments during the excitement of those sentiments, and quiescence of that region during the activity of the intellect. Such cases strongly corroborate the doctrine of distinct cerebral organs, and conclusively demonstrate that various portions of the brain may be independently active.

(To be continued.)

ARTICLE II.

LETTER TO THE EDITOR ON THE IMPORTANCE OF PHRENOLOGY AND THE CONTINUANCE OF THE JOURNAL.*

—, 10th April, 1841.

SIR—Having just read a notice published by the proprietors of the American Phrenological Journal, that it must be given up at the close of the present volume, that is, in September next, unless it be better patronized, I cannot refrain from addressing you in consequence.

For more than forty years I have devoted my thoughts chiefly to the study and observation of the human mind. I am not a scholar, nor a learned man, in the usual and ordinary acceptance of those terms. I am merely a self-taught man. But my opportunities for observation and for practical experience, have been continuous and uninterrupted for full forty-five years. The minds of infants, of children, and of adults, have been constantly subjected to my study. So have also the minds of peasants, of mechanics, of men from the schools, and even from the universities. I have watched them from the cradle to the grave; in love and in hate, in joy and in grief, in sobriety and in drunkenness, in private life and in public life, in the confident security of home, and in some of the most hard fought battles of the last and present century. My great object during all this time has been to discover how I could best do good to my neighbor; for during all this time, I have had no doubt that in doing good to my neighbor, I best served my God.

For twenty years I have studied phrenology, and I subscribed to the American Phrenological Journal from its commencement. I can truly say that I feel deep gratitude to the proprietors for the efforts they have made and are still making for the good of mankind, and hitherto I doubted not but that they would be well sustained by the public. It is not easy, therefore, to express the degree of pain and disappointment which I now experience on reading the notice just published. And it is not at all so much on account of the proprietors being unsuccessful, that I suffer, as on account of the backwardness of our race to examine and duly appreciate the greatest and most blessed discovery of modern times. Surely enough has now been written on phrenology to arrest the most serious attention of all men who desire to obey the great christian com-

* The above letter comes from a gentleman whose name, character and standing, (were we permitted to give them) would certainly ensure for it a careful perusal on the part of every reader of this Journal, as well as tend to awaken still deeper interest on the subjects of which it treats.—ED.

mandment to love one another. If the happiness of mankind be above all other earthly advantages, surely the means whereby it can be best attained, claim the prompt and universal attention of all good men. I have long been surprised that the christian clergy every where, have not taken up the science, or, as some call it, pretended science, and referred it to the consideration of committees of their wisest and best divines. It is professedly based on experiment and observation, and by such men it may, no doubt, be fully established or entirely overthrown. Have the christian people every where not a right to call upon their religious teachers to apply themselves to the study necessary to enable them to overthrow or establish this strange but surprising, and, if true, invaluable science? Let, therefore, an universal call be made upon the clergy forthwith to commence such a course of inquiry as must satisfy all reasonable men that phrenology is or is not a true interpretation of nature as manifested in all mental phenomena.

I have no doubt in my own mind, but that every infant born with a healthy brain, may by such treatment as phrenology points out, be educated and trained up to be an industrious, benevolent, virtuous, moral and useful member of society; and that thus, in one generation, three-fourths, I will say, of the vices of mankind may be rooted out. But because of the indolence, the prejudices, and the groundless fears of mankind, I have no hope that such results can be realized even in a century; but that they will be more than realized at some future time, I have the firmest belief.

My present object is to make an effort, however feeble it may be, to rouse the public mind to the most earnest consideration of this great subject, and I request of you to insert this short letter in the Journal, and I call on every newspaper editor on this continent to transfer it from your columns, or from wherever else he may find it, to his own.

How universally and promptly are the discoveries in physical and mechanical science heralded through the world from the moment of their first publication? And what are the principal results of such discoveries? Why chiefly the gratification of covetous and vain minds. While here is a discovery which is calculated to diminish the ills and woes of life to a degree not hitherto hoped for by the most ardent philanthropist, and capable of increasing our happiness to the highest degree of which we are capable in this world.

I cannot refrain from declaring that my heart often sickens at this view of our perverse nature. Yet I will not despair but that ardent minds will soon be found in sufficient numbers to carry this knowledge practically into every church, and school, and family in the land.

I am, sir, your obedient servant,

ALBERT.

ARTICLE III.

ON THE FUNCTIONS OF THE ORGAN OF MARVELLOUSNESS.

As the ideas advanced in this essay will be found to differ from high authority, the following narrative is given, to enable the reader to judge whether my investigations were prompted by a desire for innovation or love of truth. About three years since, an individual well known to me, had his head examined by one of the first practical phrenologists in this country. As one result of this examination, it was declared that the organ of Marvellousness was small. This judgment having been confirmed by several subsequent examinations by different persons, I considered it as settled that according to the present views of phrenologists, a head shaped like the one referred to, possessed a small organ of Marvellousness. The feelings of the individual in question, however, presented this contradiction to the alleged phrenological development, that while a portion of the functions of Marvellousness were very fully manifested, another portion formed almost if not quite a trait in the character. To the difficulty presented by this case, and a few others of a similar character, the following circumstances added not a little. In Dr. Spurzheim's bust the organ of Marvellousness commences at the side of Veneration, runs laterally to the organ of Ideality, and then extends forward between Ideality and Imitation until it reaches Mirthfulness. In Mr. Combe's bust, no part of Marvellousness touches Veneration; but it commences at the front edge of Hope and runs forward between Ideality and Imitation to the upper edge of Causality and Mirthfulness. According to Mr. Combe, it is of an oblong form, with its length in the direction of, and *parallel* to, the median line. In Mr. O. S. Fowler's bust, the length of the organ is nearly at *right angles* to the median line, and its boundaries are Veneration, Imitation, Ideality and Hope; no part of the organ touching either Causality or Mirthfulness. These differences in size, shape and situation, can be seen at a glance by comparing either the marked busts or plates of these phrenologists. This comparison the reader is particularly requested to make, as it will greatly help to elucidate the remainder of this article.

The ideas of various phrenologists on the primary function of the organ, were also found to differ considerably. These circumstances induced me so to direct my observations as to ascertain if these seeming contradictions could be reconciled. Many of the examinations made with this view, only served to establish the discrepancy previously observed between the deductions of the phrenologists and the real character. In the mean time the subject had been mentioned to several phre-

apologists: but their endeavors to remove the difficulty, (which they admitted did exist,) were as ineffectual as my own. At length in comparing the views of Spurzheim and Combe on the primary function of the organ, I was struck with the very great difference between them. As this difference was between two close and accurate observers of nature, and, as I believed, sincere lovers of the truth, I felt assured that each must have founded his opinions on fact. After some consideration, it occurred to me that the differences between the busts of the various phrenologists, between their opinions of the primary functions of the organ, and between the cerebral developement and the character of many persons I had either examined or seen examined, were caused by confounding both the seats and the functions of two distinct organs. A considerable number of examinations made in direct reference to this point, forced me to the conclusion that there are *two* organs contained within the cerebral limits of Marvellousness, as delineated by Dr. Spurzheim. The direction and number of the convolutions of the brain in this region, will be found to confirm this idea. Let a line be drawn from the upper corner of Imitation on Dr. Spurzheim's bust, at right angles to the median line, till it touches Ideality, so as to cut off that part of the organ of Marvellousness between Imitation and Ideality, from the posterior portion, and the boundaries of the two organs will be seen. The organ in front I propose to call Wonder. It corresponds with the *front part* of the organ of Wonder on Mr. Combe's bust. The posterior portion, or Marvellousness, corresponds in shape and situation with the organ as delineated by Mr. O. S. Fowler. Numerous observations have convinced me that some persons have a strong love for the new, the wonderful and the mysterious, and that this feeling can be highly excited and gratified by details not at all addressed to either Ideality, Sublimity, or a belief in the supernatural. This feeling, I consider, is manifested by that cerebral convolution that it is now proposed to call Wonder. The faith, be it weak or strong, in the reality of spirits or of spiritual influence that has been and is co-extensive with our race, is, I believe, mainly derived from the action of that part of the brain here called Marvellousness, in contradistinction to Wonder. The principal reason why Wonder and Marvellousness have been so long confounded by phrenologists, may be found in the facility with which, from their very nature, these organs would form a combination in activity. The manifestations of these faculties have been observed and recorded by men of far greater abilities and opportunities than I can claim. The following extracts and references, therefore, are made, in the belief that they will be more effectual in elucidating the subject than any thing else that could be offered. The reader, however, is desired to remember that though the observa-

tions are correct, they were made under a wrong impression, and he must distinguish for himself those manifestations resulting from Wonder, from those caused by the activity of Marvellousness. Mr. Geo. Combe, in treating of the organ of Wonder, after giving Dr. Spurzheim's views, proceeds as follows: "My own observations on this organ, are the following. I have met with persons exceedingly fond of news, which, if extravagant, were the more acceptable; prone to the expression of surprise and astonishment in ordinary discourse; deeply affected by tales of wonder; delighting in the Arabian Night's Entertainments, and the mysterious incidents abounding in the Waverly Novels, and in them I have uniformly found the part of the brain in question largely developed." * * "In other persons I have found the part of the brain in question small, and in them it was accompanied with a staid soberness of feeling, diametrically the opposite of the manifestations above described. Such individuals were annoyed by every thing new or strange; they scarcely felt or expressed surprise, and had no taste for narratives leaving the beaten track of probability or reality, and soaring into the regions of supernatural fiction. On analyzing these manifestations, they all appear to be referable to the sentiment of Wonder, an emotion which is quite distinguishable from those hitherto enumerated." So far Mr. Combe; from the shape and situation of the organ of Wonder as laid down by him, as well as from the tenor of his remarks on it, he seems to have confined his attention to the development between Ideality and Imitation, almost to the exclusion of that part of the organ next Veneration and Hope.

The following extract from an article "On the primary function of the organ of Wonder," by M. B. Sampson, Esq., published in the American Phrenological Journal, vol. 1st, page 204, appears more consistent with facts and will better serve to explain my ideas respecting the organ of Marvellousness, than any thing I have yet seen. After some preliminary remarks, Mr. Sampson proceeds as follows: "Our belief in the necessity of submission to a Supreme Being—our hope of future happiness—the duties of justice and universal love, are all written as with a pen of fire upon our nature, and teach man the great truths of his being, albeit he may roam as a savage over the wildest plains, or pass his days in the colleges of civilization. Now next to the feeling of dependence upon God, the truth that presses most closely upon the interests of a living man, is that by which he recognizes in himself the possession of an indestructible power, independent of and commanding his physical organization, and without the consciousness of which, all his aspirations for future happiness, all his yearning towards perfection, all his sense of responsibility for good or evil, can only be regarded as vain and idle

dreams. His reason will never prove the existence of a soul; it will show that its existence may be inferred from the tendency of his desires, and that every thing he sees is calculated to encourage the belief; but is it to be supposed that our Maker, who would not suffer us to remain without intuitive knowledge of our dependance upon his power, of his benevolence, justice and perfection; and of his intention to bestow upon us future happiness, would leave to the inference of reason, the belief that we possess an immortal and indestructible soul, by which those qualities and hopes may eventually find exercise in a higher sphere? To this question we believe that phrenology will answer, No! It will teach us that our Maker has endowed us with a faculty which gives us an intuitive belief in the existence of the soul, and its independent action on the physical world, which prompts us to dwell with reverential awe and wonder upon all the phenomena of *life*, and all the mysterious workings of the animate upon the inanimate world."

"This faculty, then, we believe is that which manifests itself through that portion of the brain which has been denominated the organ of Wonder," (Marvellousness.) "It gives faith—faith in the existence and indestructibility of the soul—faith in its power over matter—faith in its capabilities of eternal happiness or misery—and faith in all the surrounding and occult influences of that spirit from which it is an emanation."

According to this view of the subject, Marvellousness is strictly a religious organ, and we find it situated in that region of the brain appropriated to the moral and religious sentiments, while Wonder is grouped with the kindred faculties of Imitation, Ideality and Sublimity. In the head referred to in the beginning of this essay, the organ of Wonder is large, and there is a corresponding manifestation: while the organ of Marvellousness is deficient in the brain, and its operation not seen in the character. In every other instance of supposed contradiction, the explanation furnished by the two organs has been equally satisfactory. The foregoing ideas having been somewhat matured, were submitted to a number of phrenological friends in the habit of making examinations. Every decided case of developement that has yet come under their notice, has served to establish these facts, that there is an organ of Wonder distinct from Marvellousness, and that the locations and functions as here described are correct.

The object of this communication is to have these views tested by a more extended series of observations than either my friends or myself have had opportunities of making.

As sufficient information is here communicated to enable any phrenologist to ascertain the location and size of the organs, and satisfy himself

as to the truth or falsity of my views, any farther remarks are needless at present.

That the reader may have some idea of the differences of opinion among phrenologists that this discovery will remove, I would refer him to Dr. Gall's works, vol. 5th, from page 205 to 216; Spurzheim's Phrenology, vol. 1st, pages 235 and 236; Combe's System of Phrenology, from page 290 to 293; and the American Phrenological Journal, vol. 1st, from page 201 to 210.

A.

Philadelphia, April, 1841,

ARTICLE IV.

APPLICATION OF PHRENOLOGY TO THE IMPROVEMENT OF SOCIETY.*

No question is more frequently asked than, What is the use of Phrenology? and none is more difficult to answer; not because this science is of no use, but because, 1st, The very term, "use" is not apprehended in the same sense by different individuals; and, 2dly, phrenology is calculated to supply so many deficiencies in human practice and institutions, that it would require volumes to unfold them, and to render their real importance thoroughly conspicuous. Owing to the want of a philosophy of mind, education is highly empirical; and instead of obtaining from it a correct view of the nature of man, and of the duties and objects of life, each individual is left to form theories upon these points for himself, derived from the impressions made on his own mind by the particular circumstances in which he is placed. Hence when a young man, educated as a merchant, asks the use of any thing, the only answer which will thoroughly interest him will be one showing how much money can be made by it; and the gay young officer will expect to hear how it may tend to promotion, or the attainment of an advantageous matrimonial connexion. To expound to such persons principles affecting the general interests of society, and to talk to them of the promotion of the happiness of human beings in their various conditions of husbands and wives, parents and children, masters and servants, teachers and pupils, and governors and subjects, appears like dreaming or indulging a warm imagination in fanciful speculation. The experience of six thousand years they conceive sufficient to show, that a man is not destined in this

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life to be greatly different from what he always has been, and what he now is; and that any discovery pretending to improve his condition, however desirable in itself, is not at all to be expected or believed in by sensible and sober people. With a view of answering the question, therefore, What is the use of phrenology? it is necessary to show, first, what society wants; and, secondly, that phrenology is calculated materially to assist in supplying the deficiencies.

To understand correctly the nature of man, it is instructive to compare him with that of the lower animals. The lower creatures are destined to act from instinct; and instinct is a tendency to act in a certain way, planted in the animal directly by the Creator, without its knowing the ultimate design, or the nature of the means by which its aim is to be accomplished. A bee, for example, constructs a cell, according to the most rigid principles in physical science, in virtue of which, it is necessary that the fabric should possess a particular form, and be joined to other cells at a particular angle, in preference to all others. The creature has no knowledge of these principles; but acts in accordance with them by an impulse obviously implanted by the author of its being. Man is not directed by unerring impulses like this; before he could construct a fabric with similar success, he would require to become acquainted, by experiment and observation, with the nature of the materials and the laws which affected them, and to possess a clear conception of the whole design previous to its commencement. Another example may be given. A mother, among the inferior animals, is impelled by pure instinct to administer to her offspring that kind of protection, food, and training, which its nature and circumstances require; and so admirably does she fulfil this duty, even at the first call, that human sagacity could not improve, or rather not at all equal her treatment. Now these animals proceed without consciousness of the admirable wisdom displayed in their own actions, because they do not act from knowledge or design. It is certain that wherever design appears, there must be intelligence; but the wisdom resides not in the animals but in their Author. The Creator, therefore, in constituting the bee, or the beaver, or any other creature, possessed perfect knowledge of the external circumstances in which he was about to place it; and conferred on it powers, or instincts of action, most admirably adapted to its preservation and enjoyment with reference to these. Hence, when enlightened men contemplate the habits and powers of animals, and compare them with their condition, they perceive wisdom most conspicuously displayed.

One consequence of this constitution, however, is, that among the lower creatures there is no progression. Their endowments and con-

dition having been appointed directly by Divine wisdom, improvement is impossible, without a change either of their nature or of the external world; they are placed at once at the highest point to which their constitution permits them to rise; and the possibility of their attempting to rise out of their condition is effectually cut off, by their being denied not only the means of recording, but even of acquiring knowledge of design and relations beyond the sphere of their own instincts. The fact that the domestic animals improve under human tuition, is not in real opposition to this principle; because the nature of the horse, dog, and other creatures destined to live with man, is constituted with reference to human influence. Man is one of the natural objects by which they are surrounded, and their powers are constituted so as to admit of his improving them.

Man also has received instincts which resemble those of the lower animals; such as the love of sex, of offspring, of society, of praise, the instinct of resentment, and many others. But he is distinguished by the addition of two orders of faculties, which the inferior creatures want, 1st, Moral Sentiments, such as a Love of Justice, of Piety, of Universal Happiness, of Perfection; and, 2dly, Reflecting faculties fitted to acquire knowledge of the properties of external objects, of their modes of action, and of their effects.

These two classes of faculties render man a very different being from the inferior creatures. The function of reason is to acquire knowledge of objects and their effects: man, therefore, is not carried to the most beneficial mode of promoting his own happiness in the direct and unreflecting manner in which the inferior creatures are impelled. The human female, for example, devoid of all instruction and experience, will feel as lively a joy at the birth of a child, as warm an attachment towards it, and will as ardently desire its welfare, as the most devoted among the inferior creatures; but in that condition of ignorance, she will not administer towards it the same perfect treatment, with reference to its wants, as the mother in the lower scale; and for this reason the animal is prompted by the Author of Nature to do exactly what His wisdom knows to be necessary; whereas the human being has been commanded to exert her reason in studying her own nature, and the proper treatment befitting her offspring; and if she shall have neglected to perform this duty, she and her children will suffer the penalty in being exposed to all the consequences of following pernicious courses.

In fitting the lower animals for their conditions, the Creator necessarily proceeded on a perfect knowledge—1st, Of the nature of the creatures; 2dly, Of the nature of the external circumstances in which they

were respectively to be placed ; and it is the admirable adoption of the one to the other, and the tendency of both to promote the happiness of the creatures, which is the foundation of the grand and irresistible argument in favor of the existence of a wise and benevolent Deity ; 3dly, He implanted in them impulses, or desires, and gave them also the skill to do precisely that which is most proper for the attainment of the ends of their existence. To carry man to the highest degree of happiness which his nature can reach, the same wise adaptation of his constitution to his external circumstances must be attained ; but man is not directed unerringly by instinctive impulses ; on the contrary, he has been furnished with reason, and been left by the exercise of it to discover, 1st. His own nature ; 2dly, The nature of external objects and their effects ; and, 3dly, To adapt the one to the other for his own advantage.

The only limit to this proposition is, that each of his faculties, corporeal and mental, and every external object, has received a definite constitution and is regulated by precise laws, so that the limits have been set to human aberration, and also to human attainments ; but within these limits, vast materials for producing happiness by harmonious and wise combinations, or misery by discordant and foolish combinations, exist ; and these must be discovered and put in practice by man before he can reach the full enjoyment of which his nature is susceptible.

When, therefore, man shall know his own constitution, not vaguely and generally, but thoroughly and practically, in all its departments, and also the qualities of external objects, animate and inanimate, and the relations between himself and them ; and shall found his institutions and regulate his habitual conduct in harmony with them, so far as his nature will admit, it is presumable that he will appear as wisely adapted to his condition as a reasonable being, as the lower animals appear adapted to theirs as beings of instinct.

We do not pretend to predicate to *what* degree of perfection man is capable of being carried by these means. Looking at the condition of the inferior animals, we should not expect optimism, because disease, death, cold, heat, and famine are incident to them all ; but on dispassionately comparing the enjoyments of the inferior creatures, in relation to their natures, with the past and present enjoyments of the human race in relation to their superior capacities, we fear that man does not surpass them to the extent which he ought to do if he made a proper use of the means of promoting his own happiness fairly in his power. All that we venture to hope for, however, is that man, by the proper employment of the means presented to him, may arrive at last at a condition of enjoyment of his moral existence as great in relation to their nature, as that

of the lower animals in relation to their natures. This is no more than saying that the Creator has made man as perfect as a reasonable creature, as He has made the lower animals as instinctive creatures.

Keeping, then, these principles in view, we remark, 1st, That man's *own constitution* is a point of fundamental importance to him in all his arrangements; and previous to the discovery of phrenology this was unknown. Man, wandering as a savage, without social institutions, agriculture and arts, follows the impulse of his instinctive desires; but in doing so, he falls, comparatively, below the condition of the brutes; because, while their instincts are directed by nature, his are not; and in the savage state reason is nearly dormant. No philosopher, therefore, will seriously maintain that the modes of savage life were adopted in consequence of a clear perception of the nature of man, or that they were judiciously framed with a view to the gratification and improvement of his moral and intellectual powers. As a barbarian, man shows more intellect and manifests a wider range of social feeling; but the characteristics of that state are insecurity of life and property, with the prevalence of fraud, violence and superstition; and it was equally impossible to believe that the condition was established from philosophical views of the human constitution, or that it is wisely adapted to gratify the higher powers of the mind.

In some countries men appear as civilized beings, living in large communities, governed by laws, and surrounded by thousands of products of their industry and ingenuity; and in this condition, physical and moral means appear to be more within their reach for the gratification of all their faculties; but before arriving at this conclusion, we must inquire whether the institutions of civilized society are as wisely adapted to the physical and mental constitution of the individuals who compose it, as the habits of the lower animals are to their nature and condition.

Man, for example, is a compound being, consisting of body and mind. These are so intimately connected that the over-excitement of the mind wastes and wears out the body; while the neglect of exercising it leaves the vital powers languid and imperfect in their action. Again, *excessive bodily labor* deadens the mind and renders it incapable of thinking and feeling; while *inactivity of body* induces a feeble and irritable mental condition, incompatible with usefulness and enjoyment. Now, have the members of civilized society generally studied their own bodily and mental constitution, with their mutual influence, and framed their public institutions and domestic habits with a view to allow to individuals in general that just proportion of bodily and mental exercise, in the forms which is indispensable to the complete enjoyment of their existence?

The answer must be, that they in general know extremely little about their own bodily and mental constitutions, and that among many classes it is held disgusting to study the one, and ridiculous to know any thing about the other; hence their constitutions and habits have not been adopted with designed reference to the elementary qualities and real wants of human nature; they have grown up by chance, and present a mass of incoherent inconsistencies.

It is scarcely necessary to offer any proof of this proposition, but a few illustrations may be mentioned. The lower orders are at this moment extremely ignorant of natural knowledge; severe labor, with inadequate recompence, is entailed on them by their condition; and their circumstances render them incapable of that high degree of exercise of the moral and intellectual powers which is essential to the happiness of rational beings. In consequence, they are, to a great extent, the victims of animal propensities; they are visited by suffering in every form. Individuals belonging to this class are launched into life without any moral chart of the world, or definite object in view. They have no notion of adapting their habits and mode of life to their nature as rational beings. Their ambition, if we may read their feelings in their actions, is to obtain as early as possible, sufficient wages to enable them to marry. They rear children, but are in a great degree incapable of instructing them in every thing that they should learn; because, 1st, An individual of this class has little leisure from excessive labor to bestow on their mental cultivation; 2dly, His labors render his mental faculties incapable of acting with effect during that portion of time which is left to him; and, 3dly, He is destitute of knowledge wherewithal to instruct them, owing to the deficiency of his own education. Now, the lower orders, constitute nine-tenths of the whole population, even in the most civilized countries of Europe; while they remain ignorant and irrational, their condition must affect the welfare of the whole community; and we humbly think that, as the Creator has bestowed on them reasoning and moral powers, and on this account denied them instinctive guidance, they stand in great need of a philosophy of mind, which should make them acquainted with these gifts, and open their eyes to the imperative obligation which the possession of them imposes, to cultivate their higher faculties, and to become capable of directing their conduct by their dictates.

A great difficulty presents itself in regard to this class. They are so low in civilization, that they cannot be trusted with leisure and property at the same time, for they possess few mental resources to preserve them from vicious employment of their vacant hours, and confer on them a relish for refined enjoyment. At the same time, while they are exposed

to severe labor and doomed to poverty, it is nearly impossible to communicate to them mental cultivation, so as to induce them to act rationally, because in that condition they have neither capacity nor desire to receive it. The remedy appears to be to teach them, while at school, before entering on daily toil, as much of their own nature, of the aim of life, and of their duties, as possible, so as to send them into the sphere of active exertion, possessed of some precise notions of what a rational being ought to know, and how he ought to act, to frame the plan of his life in harmony with his nature, and thus promote his own happiness. We respectfully maintain that acquaintance with Phrenology and its applications, which even young persons can comprehend, would be of the highest value with this object in view.

Mechanics' institutions and Sunday schools are excellent in design; but their effects are extremely limited in consequence of the nature of man being unknown, and necessarily excluded from the list of subjects taught. The precept, for example, "Train up a child in the way he should go," is admirable, and forms part of the instruction at Sunday schools; but extremely little information is communicated concerning, 1st, The *way* in which he *should* go; and, 2dly, 'The proper mode of training him to go in it. To find out the first, we must know human nature and its relations clearly and precisely, as these display themselves in the institutions of society, and also the talents and dispositions of the child; because successful training implies judicious dictation of the individual in his proper department of life, enlightened with all the knowledge that is necessary to enable him to discharge the duties of it well. Unfortunately, however, those who ought to train the child in the way he should go, in these respects are ignorant themselves. To discover the second, we must either have enjoyed extensive experience in teaching and training children, or have made this subject a special study; neither of which advantages are generally enjoyed by the domestic trainers of children. Farther, until the elementary qualities of mind shall be familiarly known, it will be impossible to render the experience of one man in teaching thoroughly available to others, because vagueness and inconsistency will be unavoidable as long as practice is purely empirical, which education must continue to be until it shall be founded on the philosophy of mind. We repeat, therefore, that the very first effectual step in the improvement of the mass of the people, must be to communicate to them a knowledge of the science of their own nature, with the duties resulting from it, and to teach them the mode of beneficially applying this knowledge in ameliorating their own condition.

The study of the means by which the condition of the laboring classes may best be improved, clearly belongs to political economy. The labor-

ing classes themselves must be enlightened on the subject of their own state, and of the remedies suited to amend it; and they must be induced also cordially to assist the higher classes in applying the means, before permanent amelioration can be accomplished. The grand question here presents itself, what mode of life and what kind of pursuits are best adapted to the nature of man? In answering this question, we must keep constantly in mind, that human nature consists of the following elements:

1st, An organized body requiring food, exercise and rest, in due proportions;

2d, Animal propensities requiring gratification;

3d, Moral sentiments demanding exercise;

4th, Intellectual faculties calculated to acquire knowledge, and intended to preside over the body and the other departments of mind.

In the present state of society, the operatives or great mass of the people, of necessity live in the habitual infringement of the most important laws of their nature. Their life is spent to so great an extent in labor, that their moral and intellectual powers are stinted of exercise and gratification; and hence their mental enjoyments are chiefly those afforded by the propensities. In other words, their existence is essentially animal; they are organized machines, whose office is to labor; the chief duty performed by their moral and intellectual powers being to communicate so much intelligence and honesty as to enable them to execute their tasks skilfully and faithfully. We speak, of course, of the great body of the laboring population, there being many individual exceptions who possess higher attainments; and we mean no disrespect even to the mass of this most deserving portion of society; on the contrary, we represent their condition in what appears to us to be its true light, only with a view to excite them to amend it.

Does human nature, then, admit of such a modification of the employments and habits of this class as to raise them to the condition of rational creatures? that is, creatures whose bodily powers and animal propensities shall be subservient to their moral and intellectual faculties, and who shall derive their chief pleasures from the latter. To attain this end, it would not be necessary that they should *cease to labor*; on the contrary, the necessity of labor or exercise to the enjoyment of life, is imprinted in strong characters on the structure of man. Commerce is rendered advantageous by the Creator, because different climates give forth different productions. Agriculture, manufactures and commerce, therefore, are adapted to man's nature, and we are not their enemies. But they are not the *ends* of human existence even on earth. Labor is beneficial, but the great principle is, that it must be moderate both in severity

and duration, so that men may enjoy and not be oppressed by it. We say *enjoy* it; because moderate exertion is pleasure, and it has been only labor carried to *excess* which has given rise to the common opinion, that *retirement* from active industry is the goal of happiness. It may be objected that a healthy and vigorous man is not oppressed by ten or twelve hours' labor a day; and we grant that, if he be well fed, his physical strength may not be so much exhausted by this exertion as to cause him pain; but this is regarding him, merely as a working animal. Our proposition is, that after ten or twelve hours of muscular exertion a-day, continued for six days in the week, and every year of adult life, a man is not in a fit condition for that active exercise of his moral and intellectual faculties, which alone constitutes him a rational creature. This proposition is demonstrable on physiological principles, and is supported by general experience; and, nevertheless, the teachers of mankind have too often neglected it. The first change, therefore, must be to limit the hours of labor.

So far from this limitation being unattainable, it appears to us that the progress of arts, science, and of society, is rapidly forcing its adoption. Ordinary observers appear to conceive man's chief end, in Britain at least, to be to manufacture hard ware, broad cloth, and cotton goods, for the use of the whole world, and to store up wealth collected from all quarters of the globe, in return for such productions. They forget that the same impulse which inspires the British with so much ardor in manufacturing, will sooner or later inspire other nations also; and that, if all Europe shall follow our example, which they are fast doing, the four quarters of the globe will at length be deluged with manufactures, only part of which will be required. When this state of things shall arrive, and it does not appear to be more than a century distant, men will be compelled to abridge their toil from mere necessity, because excessive labor will not be remunerated. The admirable inventions which are the boast and glory of civilized men, are at this moment adding to the misery and degradation of the people. Power-looms, steam-carriages and steam-ships, have all hitherto operated directly in increasing the hours of exertion and abridging the reward of the laborer; and the ultimate effect of them on human society, is not yet divined by the multitude. We hail them as the grand instruments of civilization, but in a manner not commonly perceived. In proportion as they shall be generally diffused over the world, they will increase the powers of production to such an extent as to supply, by moderate labor, every want of man. Whenever civilized nations shall generally manufacture with efficient machines, superfluity of goods will every where abound, and then the great body of the people will find themselves in possession of reasonable

leisure, in spite of every thing to avoid it. Great misery will probably be suffered in persevering in their present habits, before their eyes shall be opened to this result. The effect will likely be to confer on a larger portion of society superfluity of time, by accumulating in their hands wealth sufficient to exempt them from all active exertion; while the toil of the actual operative shall be increased. This will go on till the disparity of condition shall have become intolerable to both; the laborer being utterly oppressed, and the higher classes harassed by utter insecurity. Then probably the idea may occur, that the real benefit of physical discovery is to give leisure to the mass of the people, and that leisure is the first condition of civilization—knowledge being the second. The science of human nature, now diffusing by means of phrenology, will enable men at length to profit by exemption from excessive toil; and it may be hoped, that after misery shall have been found to increase in proportion to the advancement of machinery, the notion of man being really a rational creature may at last meet with general countenance, and that sincere attempts may be made to find happiness in institutions founded on this basis. Perhaps the discovery may then be made, that knowing faculties have been conferred on man with a view to observing and studying creation; reflecting faculties with a design to tracing its relations and dependencies; and moral sentiments for enjoying refined pleasure in social intercourse, under the guidance of pure religion and morality; and that this is the chief object of existence in the present life, and affords the best preparation for the future.

If such notions ever prevail, it will be seen that the experience of past ages affords no sufficient reasons for limiting our estimate of man's capabilities of civilization; because, 1st, Human nature was not known as a science; 2dly, Physical science was not studied except by a few; 3dly, Printing was not invented till recently, and no adequate means were possessed of communicating to the multitude such knowledge as existed; 4thly, In consequence of this profound ignorance, man in all ages has been directed in his pursuits by the mere impulse of his strongest propensities, formerly to war and conquest, and now to accumulating wealth, without having framed his habits and institutions in conformity with correct and enlightened views of his own nature, and its real interest and wants; 5thly, Up to the present day, the mass of the people in every nation has remained essentially ignorant, the creatures of mere impulse, and unfavorably situated for the developement of their rational nature; and they being the great majority, of necessity influence the condition of all the rest. Finally, the arts and sciences seem to be tending towards abridging human labor, so as to force leisure on the mass of the people, while the elements of useful knowledge are so rapidly increasing, the

capacity of the great mass for instruction is so generally recognized, and the means of communicating it are so powerful and abundant that a new era may fairly be considered as having commenced. Add to these reasons, the discovery that the *capacity* for civilization may be increased by exercising the moral and intellectual organs in the brain, in conformity with the laws of organization, a fact which has hitherto been unknown, and the happiest results may be anticipated in regard to human improvement.

If man has been sent into existence only to manufacture, to live and die, as millions in Britain, rich and poor, live and die, then christianity has never been intended to become practical in this life, because human beings, straining after gain every waking hour of six days in the week, cannot, under the organic and mental laws of the Creator, rise to that state of religious cultivation which essentially constitutes a christian; and, moreover, the institutions and habits of society which are compatible with such a mode of life, are incompatible with any high general advance in christian virtue. If, then, man has been created chiefly to labor, his moral and intellectual powers have not been formed to take the direction of his animal nature; but he has been intended for the slave of toil, ignorance and misery on earth; a most unlikely preparation for a *moral* and *intellectual* immortality hereafter. The union, then, which is wanted, is one for diffusion of knowledge of the nature of man, and of what is calculated to lead him to happiness as a *rational* being.

ARTICLE V.

CHARACTER INFERRED FROM AN EXAMINATION OF THE SKULL, BY DR. J. B. BUCHANAN.

The following interesting experiment in Phrenology was made at Little Rock, in the state of Arkansas. We are induced to copy the results of this examination, not so much for the purpose of proving phrenology as to illustrate two important principles connected with the science—viz. first, that the thickness of the skull varies according to the amount of exercise which the cerebral organs receive; and, secondly, that each hemisphere of the brain directs and controls all the movements of that side of the body to which it is opposite.

The Arkansas Times and Advocate of March 29th, 1841, gives the following sketch of this experiment: The skull of Morgan Williams

was placed in the hands of Dr. Buchanan, by Col. Taylor, without the Doctor's having any idea whose skull it was, or where it had been obtained. Dr. B. pronounced his opinion as to the traits of the character, and remarked the indications of a great difference in the lower extremities. His opinion was committed to writing, and on Monday evening the skull was presented to the audience and the following opinion delivered. At the same time he displayed the inequalities of the skull from which he had inferred the superiority of the left leg, and held the skull of Moses in which a great inequality of the hemispheres of the brain had resulted from the lameness of the left leg. Moses making use chiefly of the right leg, had increased development in the left hemisphere, and Williams from making use of the left leg, had much larger development on the right side, in consequence of the fact that the left half of the brain governs the right half of the body, and the right hemisphere governs the left side of the body. The inequality in the head of Moses, is almost a deformity. If it can thus be established that the different parts of the body have their different organs in the brain, it will certainly be something new in physiology.

The lecturer exhibited in a novel manner, the irregular thickness of the skull, by inserting a candle in the great foramen, which gave a partial light through the thinnest portions. It appeared that the animal organs had encroached upon the skull, while in the moral region, the skull had encroached upon the brain.

Phrenological opinion on the skull of ———, presented to Dr. Buchanan by Col. J. K. Taylor, March 21, 1841.

This head is one of those upon whom we may speak with the utmost confidence. There is no doubt that the man who bore it might have been a good citizen—that he was born of worthy parents, and had he followed their monitions, would have been one of the best members of society—generous, brave, shrewd, and of pleasing manners.

Yet it is equally certain that his character had degenerated until he might have been considered one of the worst and most dangerous men in the country. The skull clearly exhibits this change. In the case of Mr. ———, of Wetumpka, Alabama, I was able to detect by the skull, a change of character which had taken place within the last four years of his life—when by gaming and drinking, he had changed from an honest, careful and respectable mechanic, to a turbulent sot, who was considered a nuisance to the town. In this case under consideration, the change is greater and must have run through a longer period of time. The vicious character which he assumed, must have commenced early in life, and it had become his essential nature. All his animal organs were in

a high state of excitement and active growth; at the same time, we discover on the interior of the skull, that the moral convolutions of the brain have shrunk and yielded place to the growth of bone which almost always follows the retiring brain. Inferring his character, then, from the form of the brain, which we find by the interior of the skull, we discover that his leading traits were pride, obstinacy, combativeness, and destructiveness, selfishness, acquisitiveness, courage, hope, attachment, perseverance, restlessness, resentment, love of liberty, and practical shrewdness.

His temperament was of the most vigorous species of the sanguine bilious—his courage was unquestionable, leading him at times to fool-hardy adventures, and his eye never quailed or turned aside from the gaze of any human being. He was dangerous when provoked, and as sure as an Indian to execute his revenge. Although susceptible of pretty strong attachments, not even his friends could exercise control over him. He would never yield to conciliate an opponent, but would urge his point, occasionally to domineer and triumph. At one time of his life, his pride made him honorable, and to the last, he had something of honor but very little common honesty. No scruples of conscience would have restrained him from crimes against property, nor would his compassion have prevented him from committing murders for trifling provocation. If he married, he would treat his wife badly and probably leave her, as his disposition is for a roving and not a settled life. If he stole, it would be by highway robbery in preference to larceny. He would rather make money by gambling than by industry; and was in all probability addicted to drinking, but capable of enduring a great deal without being intoxicated or sickened.

The only place which such a person can properly fill would be that of a soldier; and even in that, his disposition to mutiny would be a great objection. Whether he would be guilty of robbery, manslaughter, murder or piracy, is a question depending for its answer entirely upon circumstances. In a frontier country manslaughter is most likely to be his first offence. His intellectual organs have not declined so much as his moral. His natural intellect was very superior, and the character which he bore through life must have been that of a man of good sense—keen in every thing that concerned his own interests. His judgment and not his moral principle restrained him from a great many of the excesses to which he was prone. In some respects this head resembles that of Murrel, but it is larger in every respect. It is probable that when Murrel dies we shall discover on the interior of his head the same degeneracy of the moral organs as in the present instance.

We are able to draw another important inference from the unequal

developement of the two hemispheres of the brain. As certain portions of the brain correspond and govern particular portions of the body, we may infer from the developement of the head something of the developement and vigor of the various portions of his constitution. One portion of the brain controls and uses the eye, another corresponds to the ear, another to the hands, and another to the lower extremities. When the eye, the ear, the hand, or leg is used, the corresponding portion of the brain is brought into requisition and by use developed.

In this skull we find by the developements that the process of thought was carried on most vigorously in the right hemisphere of the brain, that the left eye was more vigorous than the right, and the left ear also a little superior to the opposite. As to his arms, we are not able to assert positively that he was left handed, but at least it is certain that he had unusual vigor and dexterity in the use of the left hand, as much as the majority of persons have in the right. In his legs the difference must have been very remarkable. It is evident that his left leg was more vigorous and adroit than his right. It probably possessed even double the strength of the other member. I have before met with cases of even greater difference between the two sides of the body than there is in this specimen. In the skull of the negro Moses, now in my possession, the difference of the hemispheres is very remarkable, and was owing to his being lame in the left leg, which was stiff at the hip joint.

In the case of Curry, in Alabama, the difference of the perceptive organs corresponding to the eye on the two sides, was greater than in this, and was owing to the fact that his right eye had been destroyed many years previous. In the case of the negro Tom who was executed in Hempstead county, there is an obvious difference in the perceptive organs, owing to the fact that he was blind in one eye. Without adding to these illustrations, I may remark that most persons can find in their own heads, upon close examination, a difference in the developement of the hemispheres corresponding to the difference of the right and left halves of the body. It must be borne in mind in this, that what we find on the right hemisphere corresponds to the left half of the body and *vice versa*.

Finally, having pronounced the foregoing opinion upon the skull, I may say in conclusion, that I feel as confident of its essential correctness as if I had known the man himself—for the laws of nature are simple, clear and unvarying.

J. R. BUCHANAN.

When this opinion had been read to the audience, Col. Taylor pronounced it a perfectly correct account of the man. He said that the skull was that of Morgan Williams, who had been executed by him as

Sheriff, in 1834. As to the difference of his legs, Williams, ever since a child, (in consequence of a burn) had walked upon his left leg alone, the right being drawn up and its place being supplied by a crutch. The right hand being thus engaged in holding the crutch and the left hand free, necessarily became left handed. That his left eye was superior, may be inferred from the fact of his shooting left handed and taking aim with the left eye, as is known to have been the case. That he drank freely without showing the influence of it, is also known to be a fact. The murder of Pelton, for which he was hung, was committed when both had been drinking freely. Thus the opinion is in every respect sustained by facts.

Williams, according to his own account, was born of respectable parents in Tennessee, and had been married to a very worthy woman in Mississippi. In the earlier part of his life, he wandered from place to place, engaged in the business of teaching school, in which he held a very strict government over his pupils. Having fought a duel in Mississippi, in which he killed his antagonist, he left that country and was engaged in Texas with a band of lawless marauders, robbing and killing Indians. Next he made his appearance in Arkansas and engaged in teaching school at ———. While there, being engaged in a shooting match at Mr. McCarty's with I. Pelton, some trivial altercation arose and he deliberately shot Mr. P. in open day, while the latter was riding off intoxicated and defenceless. From the conversation of Williams and his last speech on the scaffold, he was believed to be a man of better intellect than might have been expected from his situation. It is well known that he was a man of great courage, and even at the scaffold his pulse was regular and his manner easy. He remarked to the Sheriff, "I expect you feel worse than I do." He spoke, sung, and at the signal, leaped from the cart, endeavoring by his fall to break his neck and hasten death. His temperament was sanguine bilious, and he possessed a fine constitution with uncommon vigor. Lame as he was, he moved about, as well as any one, with his leg and crutch, and could leap upon a horse in the nimblest manner.—Since the above was in type, we learn that the opinion as to the arms of Williams, turns out to be perfectly correct. He wrote with his left hand as easily as with his right.

ARTICLE VI.

NOTES ON THE UNITED STATES OF NORTH AMERICA, DURING A PHRENOLOGICAL VISIT, IN 1838-9-40, BY GEORGE COMBE, IN TWO VOLUMES, pp. 374, 404.

This is the title of Mr. Combe's new work giving an account of his tour in the United States. Our notice of these volumes will be brief, for two reasons; first, we have not here room to devote to them an extended article; and, secondly, it is more appropriate that the public be treated with criticisms or commendations of the work, from those who are not professedly phrenologists. Our main object is to notice two or three facts connected with these volumes which must constitute interesting items in the history of Phrenology, as well as in the character of such publications.

This is the first attempt to introduce the principles of the science into a work of travels; and, among the numerous and varied applications of phrenology, this is certainly one of the most interesting and important. It enables us to form correct opinions of individual and national character, as well as furnishes a true standard by which to judge of the adaptation of the manners and institutions of society to the nature of man. In this respect, Mr. Combe has the advantage of all previous writers who have presented the public, with the results of their travels and observations in the United States. The American Editor of the work very justly observes, that "instead of a standard either arbitrary or conventional of British laws, customs and prejudices, by which British travellers have heretofore measured every thing in this country, Mr. Combe lays down one to which the American people will not refuse their assent, viz: the innate faculties of the mind and the opportunities furnished by the country and its institutions for their adequate developement and active and harmonious exercise." In the introduction to the work, Mr. Combe himself apologizes very handsomely for his frequent notices of phrenology, saying that this was the great object of his visit as well as his principal occupation while here. "I proceeded thither," says he, "with the impression that this science would contribute powerfully to the advancement of civilization in that country; and I returned not only with the impression converted into conviction, but further persuaded that in the United States, probably earlier than in any other country, will phrenology be applied to practical and important purposes. To save my readers on both sides of the ocean, however, from unnecessary alarm on this head, I may here mention that I do not consider that the generation

is yet born which is destined to carry this science into practical effect in public affairs ; but I entertain the conviction that within a century from this time, phrenology will be so applied in the United States." These opinions, we believe, are well founded, and that in due time their truth will be fully verified.

Though the principal contents of these volumes are made up with general observations on the manners, customs, institutions, &c. of this country, Mr. Combe has nevertheless managed to introduce frequent notices of phrenology, either as connected with his lectures or as growing out of personal interviews with different individuals, or in the various applications of the science to education, political economy, jurisprudence, insanity, legislation, religion, &c., &c. With what success, or how much correctness this has been done, we leave others to judge. But as an indication of Mr. Combe's success in the introduction of phrenology, as well as the correctness of his observations, his work seems to meet with very general favor from all quarters. We are informed on good authority that it is now having a rapid sale both in Great Britain and in this country ; and judging from the intrinsic merits of the work, as well as from the flattering notices it is constantly receiving in the public journals, we predict that its circulation will continue, if not increase, for many years. And if we mistake not, it will prove the most popular of any works of travel which have hitherto been published by foreign tourists on this country, and find a more extensive circulation than any other of Mr. Combe's works, with the exception of his *Constitution of Man*. As we have reason to believe that most of our readers will either obtain the perusal or possession of these volumes for themselves, we forbear to extend our remarks or make any quotations from the work.

ARTICLE VII.

PHRENOLOGY AND THE FINE ARTS.

In the winter of 1822, a Phrenological Society was organized in this city, of which the celebrated Dr. Physic was President, and Dr. John Bell, now editor of the *Select Medical Library*, was Corresponding Secretary. Dr. Bell delivered two excellent lectures before the Society which were published in the *Philadelphia Journal of the Medical and Physical Sciences* for May, 1822 ; and from which we copy the following remarks on the application of the science to the Fine Arts :

If we extend our view from animated nature, to those of her brightest

happiest imitations by the chisel of the sculptor and pencil of the painter; and observe the numerous coincidences in favor of our science, we shall have additional reason to be pleased with a study which embraces such extent and variety of prospect, combines minuteness of detail with grandeur of combination, and imparts to the mind a habit of observation and analytical reasoning, very different from the cloudy and benumbing influence of the common metaphysical atmosphere.

It is a fact not a little curious, that the ancient artists gave very generally to their gods and heroes, conformation of head corresponding with the present notions of phrenology: thus Jupiter, the father of gods and men, is represented with an uncommonly lofty forehead: Apollo and Hercules are made to differ from each other, not more in their forms, than in the relative size of their heads and proportional developement of these latter. Every person must have noticed the contrast between the rectilinear forehead of the former, and the oxlike front of the latter; a longer observation would discover the posterior part of their heads proportionally different. A similar difference is observed in the heads of gladiators and philosophers—the former showing the animal, the latter the reflecting man. Let any one compare the head of an athlete or a gladiator with that of Socrates, or even a Chrysippus, to be satisfied of this fact. We may indeed be told that these gods and philosophers were represented according to the taste and fancy of the artist; but in conceding this we have only additional proofs in our favor; for whence would the latter derive his models but from those most distinguished for the qualities which he wished to represent: and as Zeuxis painted his Helen from the most beautiful and lovely females of Crotona, so would the sculptor form his Jupiter and Apollo from men the most distinguished for the extent of their understandings, loftiness of sentiment, or purity of taste. A remarkable exception to this general rule is, however, presented in the Venus de Medicis, where the head, and particularly the forehead, is so disproportionately small as to be incompatible with any thing like the possession of common intellect. Was it ignorance in the artist, or did he intend to diminish our admiration for beauty by showing that it alone was not sufficient without the all-inspiring mind, the living fount of the beautiful and sublime? We leave this as a new subject of inquiry for the Antiquary and Connoisseur.

The youthful physiognomist in strolling through the Florentine Gallery, or the museums of the Vatican or Capitol, has doubtless amused himself in contemplating the busts of a Demosthenes or Cicero, a Cæsar or a Pompey, and trying to read in their countenances fervid eloquence or noble daring. But yielding him all the pleasure which youthful enthusiasm may derive from such a study, we might direct his atten-

tion to their heads, and point out to him more obvious differences, more marked variety of feature here than even the face presents; he will see the ideality of Demosthenes, the causality and strongly marked vanity of Cicero; or if he continue his views he will compare the head of a Nero and a Galba, with a Titus and an Antoninus, and see in the bust of the first when yet an infant, a sweet countenance truly, but that cerebral developement which seemed to designate him for cruelty and tyranny in despite of the moral lessons of a Seneca.

The modern artists have been less attentive to the head than the ancient, but have very generally given to the forehead a configuration corresponding with the peculiar character of the personage represented. All the paintings of our Saviour and the Apostles, of the Fathers of the Church, and the Saints, exhibit a full rounded forehead and an elevation in the centre of the upper ridge, corresponding to the organs of Benevolence and Veneration. Amid the innumerable illustrations, we may refer to the Redeemer and St. Peter and St. Paul, in Bologna, by Coreggio, and the Transfiguration by Raphael, who has given to the epileptic, or the man seized with a devil, not simply a peculiar physiognomical expression, but also a configuration of head, showing deficiency of intellect, and forming a strong contrast to the figures on either side of our Saviour. The Saint Cecilia of Coracca, and Saint Bruno, by many artists, may be mentioned; but it is needless to dwell on this point, so happily displayed by those whose genius and taste made them the delineators of nature. So well established is this correspondence between cranial feature and affective quality, that an artist who should present us a personage as a saint, with a low, flat forehead and head, however mild and expressive his physiognomy, appropriate his attitudes, or gracefully flowing his drapery, every spectator, from the unpractised peasant to the tutored connoisseur, would feel there was something wanting, and that the unction of manner which commands our respect and sympathy, was not to be found. We may *en passant* cite as a proof the painter's studying a certain harmony of proportion in the form and feature of the figures composing his group, as well as the rules of light and shade, attitude and drapery, that a neglect of this study has made some of the best artists give us children with heads entirely disproportioned to their bodies and age.

MISCELLANY

British Phrenological Association.—The next annual meeting of this Association is to be held in London during the first week in June. We have been politely furnished with a circular, by one of the committee, M. B. Sampson, Esq., London. Among the thirty gentlemen composing this committee, we find the following well known names: E. Barlow, M. D., R. Beamish, F. R. S., J. Conolly, M. D., B. Donkin, F. R. S., J. Ellitson, M. D. F. R. S., Professor Evanson, M. D. M. R. I. A., Lord Hallyburton, M. P., Geo. Combe, Esq., Sir G. Mackensie, Bart. F. R. S. L., A. Cox, M. D., W. C. Trevelyan, F. R. S. E. The objects of this Association are the advancement of the science of Phrenology, and the promotion of intercourse amongst phrenologists, by means of annual meetings, for the reading of papers, the exhibition of casts, crania, and other specimens, and discourses calculated to illustrate facts, and lead to new discoveries—to point out the importance of phrenology as the true philosophy of the mind, and its several applications in Education, Jurisprudence, and Medicine—to correct misrepresentations respecting the science—and to awaken an extended interest in its cultivation.

Man's Original Nature.—An unknown correspondent sends us from Connecticut, some excellent thoughts on the *original nature of man*—the substance of which we briefly present in our own language. The nature of man when considered physiologically and phrenologically, harmonizes with the scripture account of his creation. We read that man was created in the “image and likeness of God,” and that with every other portion of creation, he was pronounced “very good,” i. e. fitted to secure the great ends of his existence as well as fulfill the designs of his Creator. Every organ of his body, and every faculty of his mind, was created perfect—each being exercised in accordance with its nature, and, therefore, in obedience to the will of God. While every thought and act thus served only to enhance the happiness of the creature, the Creator was glorified in all things—his will or laws being perfectly obeyed. This was *Natural Religion*, and, had man always remained in this state, there never would have been any need of a written *Revelation*. The relations which God then established between himself and his creatures, was his *first covenant*—called also the covenant of works, in contra-distinction from the new covenant or covenant of grace through *Redemption*.

Man retains now the same *number* of physical organs, and the same *number* of mental faculties which he received at his creation, though great changes have taken place in the *uses* which he has made of these powers from what God designed; there has also taken place more or less change in their *strength* as well as in the *harmony* or *balance* that originally existed between them. Now the great object of Revelation, of the mission of Christ, the means of *grace*, and the influence of the Holy Spirit, is to restore to man the “image and likeness of God”—that is, to make him again perfect in his nature, both physically and mentally.

And in the accomplishment of this glorious object, we do not deem it irreverent or visionary to indulge the belief that phrenology will become an efficient handmaid of true Religion.

Massachusetts State Lunatic Hospital.—For a copy of the eighth annual Report of this Institution, we are indebted to the politeness of Dr. Woodward, its Superintendent. As we hope ere long to present an article on Insanity, referring to this and other Institutions for the Insane, we copy only a single paragraph from the Report before us. To what extent the changes which are described in the following extract have been brought about by means of the discoveries of phrenology, we are not now prepared to discuss: "A generation has not yet passed away since insanity was regarded as synonymous with demonism; and hence the neglect or cruel treatment of the insane. The idea that human skill was unavailing in a disordered mind, was not confined to the unenlightened merely. Physicians and learned men either concurred in the sentiment or were controlled by it. Under these views the great object was to protect the community from those who were supposed to be "possessed," and confinement in darkness, dungeons and caves, away from the pleasant light of heaven, the beauty of earth, and the cheerful face of man—with terror, blows and chains—these were the means employed in those dark days of error and superstition. But more enlightened views, and the brilliant light thrown on the brain by modern science, and consequently on the doctrine of mental phenomena, have greatly dispelled these illusions, and a derangement of the intellectual functions is now regarded as disease—disease, indeed, involving the higher faculties of man—but yet susceptible of successful treatment by means in delightful accordance with the benevolence of the Divine Author of the mind, and means which he has graciously committed to his chosen ministers here on earth."

Phrenology in Italy.—In the Boston Mercantile Journal of April 13th, (edited by J. S. Sleeper, Esq., Secretary of the Boston Phrenological Society,) we find the following statement respecting the progress of Phrenology in Milan, Italy:

"In Europe, phrenology is rapidly making its way, in spite of obstacles, which, from the nature of our government, it can never meet with in this country. Even in Italy it has gained a foothold. A letter is now before us, written by a gentleman in Milan, in which he gives an account of the progress of phrenology in that quarter within the last two years. Previous to that time, nothing had been done in relation to practical phrenology. Two gentlemen, Dr. Caminosi and Professor Molossi had written upon phrenology, but dealing chiefly in theory, had not succeeded in awakening much attention to the subject. On the arrival of a medical gentleman, Dr. C., from this country, in Milan, he succeeded in exciting an interest among the members of the medical profession, and commenced giving lectures and examinations gratuitously, until the whole community became convinced of the importance of the science. And after having delivered three hundred lectures, and made more than two thousand examinations, phrenology may be said to be established in Milan.

THE AMERICAN PHRENOLOGICAL JOURNAL

AND MISCELLANY.

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No. 6.

ARTICLE I.

PHRENOLOGY AND ANTI-PHRENOLOGY; or Review of Select Discourses on the functions of the Nervous System in opposition to Phrenology, &c.; by Dr. Smith, of New York.

(Continued from page 357.)

Another argument founded on anatomical considerations, and urged by Professor Smith, is the following: "Nature adheres to the model which she may have adopted, with a pertinacity proportioned to the importance of the part." "The *arrangement* of the interior of the brain is, in different persons, *uniform*, notwithstanding its superficial *convolutions* meander in a manner *by no means constant*. The inference, therefore, would appear to be, that the former constitutes the *efficient* and the latter *supplemental* and *unimportant* portions of the sensorium. Yet upon those the phrenologist lays *no stress whatever*, while these he designates as his organs. Has he erred, or is nature inconsistent?" or, it may be added, is Dr. Smith in ignorance and error?

Were we disposed to adopt the professor's mode of procedure, we should say that, according to Sir Charles Bell, "Whatever we observe on one side of the brain, has a corresponding part on the other; and an *exact resemblance* and *symmetry* is preserved in *all* the lateral discoveries." We might thus leave these two of our opponents to settle the difficulty between them. But we prefer the exact truth, which is that there is not in the convolutions of the opposite sides an "exact" but a general resemblance and symmetry—a symmetry as great as between corresponding parts of any other portion of the body.

It is not true that "the phrenologist lays no stress whatever" on the internal parts of the brain. Every part is to him the object of careful study, from the medulla oblongata to the peripheral surface of the convolutions. But he endeavors to discover the true nature of every part. He is careful not to magnify the importance of slight deviations from exact symmetry, and especially does he guard against speaking of differ-

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ent parts of the same as though they constituted essentially different organs, or as though any part of nature's noblest work were unimportant. The phrenologist finds the pyramidal bodies commencing together at the upper part of the motory tract of spinal nerves, proceeding together and increasing in size equally. He finds that their fibres decussate, plunge into or through the annular protuberance, receive many additional fibres from its cineritious matter, emerge from the pons greatly augmented in volume from the anterior and outer two thirds of the cerebral crura and proceed, increasing as they go, until they reach their destination in the convolutions, which convolutions on each side essentially correspond in size, number and form. In like manner he perceives fibres arising in the corpora olivaria pass on, from the posterior and interior parts of the crura, plunge into the so called optic thalami and become greatly increased, unite, at the superior part of the bodies, into bundles, and diverge like rays; the anterior bundles, however, traversing the striated bodies and becoming still more enlarged, the extremities of these rays he finds covered with cineritious matter, thus forming the convolutions. In like manner he traces the corpora testiformia to their ultimate expansion in the cerebellum. He sees, too, that when the pyramidal bodies are large, the convolutions into which they ramify are large, and when small, that the corresponding convolutions are small. He perceives the same correspondence between the optic thalami and the size of the convolutions forming their ultimate expansion, and between the annular protuberance and the cerebellum, and thus comes to the conviction of an intimate connection, a mutual dependence, a continuity of parts between the internal portions of the brain and the convolutions; and he maintains as the rational presumption that these internal parts are rudimentary, accumulative and communicative, and consequently subsidiary in their character, chiefly tending to the formation, perfection and association of the convolutions, which he considers the more immediate seat of mental action. This view is corroborated by the researches of phatologists who observe the arachnitis of the periphery or convexity of the brain is early characterized by prominent and violent symptoms of delirium, whereas arachnitis of the deep seated parts of the brain is of a more latent, insidious and comatose character, delirium being often entirely absent. In view of such facts, the phrenologist, whilst acknowledging the difficulty of the inquiry and liability to error, cannot bring his reason to approve or even to tolerate the supposition of Professor Smith that the convolutions form merely "*supplemental and unimportant*" portions of the brain.

But let us take another view of this position of the professor. It is a

well known fact that the number, form and arrangement of the internal parts of the brain are *alike in man and many of the lower animals*.^{*} The internal structure of man's brain may be learned from the brain of a *sheep*; while the convolutions are more complicated and voluminous in man than in any other being, and he has some which in no other being exist. Now, as the professor maintains that the brain is the instrument of every mental act, we would ask whether the material cause or medium of man's mental superiority must be looked for in those parts of the brain which *in man and animals agree*, or in *those in which they differ*? in the internal parts in which the *sheep* is man's fellow, or in the convoluted portions in which man is so much the superior? Surely there can be but one answer to this question, and that by no means favorable to the notion that the convolutions are "supplemental and unimportant."

That the convolutions of the brain are *somewhat* important; may be gathered from the phenomena of idiocy and genius. What may be noticed in the brains of idiots, in the meagre brains of "thirty ounces or less," of which the professor speaks? Any less symmetry in the internal parts than in the brains of men of genius? Certainly not. But shrunken, shallow, imperfect or deficient convolutions. And what is observed in the brains of men of high mental power? Read the post mortem examinations of the brains of such men as Byron, Scott, Cuvier, and Dupuytren. Any remarkable symmetry of the internal parts? No! but we are told of "convolutions of extraordinary size and depth." Does nature err, or Dr. Smith?

Intimately connected with this subject, is an anatomical fact of great interest. It is this. Throughout nature the complexity of the brain increases with the complexity of an animal's mental functions; in those animals the brains of which are convoluted, the convolutions increase in size and number as the mental powers and capacity of the animals increase; in short, to use the language of Dr. Roget in the Encyclopedia Britanica, "There is no part of the brain found in any animal which does not exist also in man; whilst several of those which are found in man, are *either extremely small or altogether absent* in the brains of the lower animals;" or to use that of Dr. Conolly in the 94th number of the Edinburgh Review, as an animal ascends in the scale of mentality, so does "its brain improve in structure and augment in volume, *each addition being marked by some addition or amplification of the powers*

* That these internal parts in man and animals differ in size and in the nature of many of their constituent fibres, we of course fully believe. But the professor's objections are founded solely on considerations of *form and symmetry*.

of the animal, until in man we behold it *possessing some parts of which animals are destitute, and wanting none which they possess.*" Now we would ask, is it not in the very highest degree probable that those parts of the brain which man and animals possess in common, constitute the organs of those faculties which they also possess in common, and that those parts possessed by one animal but not by another, constitute the organs of those faculties which the one possesses and the other does not possess? and man "possessing some parts of which animals are destitute, and wanting none which they possess," can we come to any other conclusion than that the additional parts in the brain of man constitute the organs of those faculties which in man are additional and which confer on him his proper humanity? And what parts of the brain are in man additional? Clearly some of the convoluted parts, the upper portion of the forehead and certain portions of the coronal and superior lateral regions, where exist, as observation proves, the seat of reason and of sentiment, the sanctuary of man's high and distinguishing mental attributes, the faculties which enable him from effects to reach back to causes, and from causes to reach forward to effects; which endow him with conscience and benevolence, with the emotions of hope and veneration, with the love of the beautiful, the spiritual and the true. The observations of the phrenologist are corroborated by this; whenever the convolutions of the superior part of the forehead are absent, or developed in a very small degree, the man is an unreasoning idiot; and when the convolutions of the coronal region are very small and shallow, he is a moral idiot; and when both are very deficient, he is stripped of his proper humanity, is rather brute than human; while if the rest of the brain is well developed, he energetically manifests the animal functions. Such facts appeal to our understanding with irresistible force in favor of a plurality of organs in the brain, and they must at any rate demonstrate to every man that the convolutions of the brain are not merely "supplemental and unimportant portions of the sensorium."

On page 119, Professor Smith attempts to show that even if the cerebral organs exist, they can not be ascertained during life, 1st, On account of the irregularities of the skull. 2d, On account of the frontal sinus. The first of these objections we have already sufficiently answered, and we shall not again dwell upon it. The professor himself, we think, places no reliance on it, for various parts of his work show that he in all cases judges of the form and size of the brain from the form and size of the skull or head, the form and size of his own brain not excepted. Magendie shall in this case answer his anti-phrenological coadjutor. "The only way," says he, "of estimating the volume of

the brain in a living person is, to measure the dimensions of the skull." (*Compendium of Physiology*, pp. 104.)

But as to the frontal sinus. This is a regular article of every anti-phrenologist's stock in trade. It is repeated by professor and student, by the ponderous review and the ephemeral paragraph. Even the most unlearned have caught the term, and "sinus, sinus, sinus," is for ever ringing in one's ears. If the anti-phrenologist knows no other, he knows this objection, in name, at least. It is to him what "oh la!" was to Dicky Snett; it is his alpha and omega, his beginning and end, his first and last, and we may say of him as Elia says of Dicky, "He drolls upon the stock of these two syllables richer than any euchoo." The reader would hardly suppose from the important air with which this objection is in general paraded, that Gall was the first writer to point out, and that to the fullest extent, the difficulty it presents. Yet such is the fact, and other phrenologists have followed his example. Now we ask whether Professor Smith was not bound to give the phrenologists credit for this, and not to bring forward the objection in such a manner as to convey the impression that this is a matter of which the phrenologist is either ignorant or which he wishes to conceal! We acknowledge that the frontal sinus does present a real though very small obstacle, but let us present the matter in its true light, stating briefly for that purpose the argument of Mr. Combe.

1st. Until about the *age of fourteen*, the frontal sinus either does not exist or does not extend as high as the base of the brain. Up to this time, then, the form of the skull in this region is a correct indication of the size of this part of the brain, and the perceptive organs which lie here being very active at an early period, there is ample opportunity before this age to observe the development of the organs in this region, and the manifestation of the corresponding faculties.

2d. The frontal sinus interferes with *five* only of the organs, leaving thirty, at least, uninfluenced; for "it would be quite as logical to speak of a snow storm in Norway obstructing the high road from Edinburgh to London, as of a small sinus at the top of the nose concealing the development of Benevolence, Firmness or Veneration at the top of the head."

3d. After the age of fourteen, the frontal sinus is for some years rather an absence of the diploe of the skull, than an actual separation of the two tables; and, in after life, its size is, as Professor Smith acknowledges, "ordinarily" indicated by external appearances.

4th. When there is a deficient development of the region in question, the subjacent organs will be stated by the phrenologist as small, and the manifestation of the corresponding faculties as feeble. Now suppose in such a case, the sinus to be of greater than average size, what will be

the result? Why the organs will be smaller and the faculties feebler than the phrenologist had anticipated. The error, therefore, will be all on his side, and consequently but one class of cases remain concerning which there is any difficulty, namely, those in which the region in question is largely developed, but the developement is owing to an extraordinary size of the sinus, and not to a large developement of the brain. But as the sinus is very seldom of great size, except in cases of disease* and old age, neither of which classes of cases the phrenologist takes into account in ascertaining or demonstrating the cerebral functions: this source of error is confined within very narrow limits.

Upon the remainder of the professor's objections on this point, we shall not dwell, but merely observe that phrenologists do not maintain that the organs of the perceptive faculties shrink "as we advance from adolescence to mature manhood." What they do say is that these organs very commonly shrink in old age, and that this shrinking is accompanied by a diminution of perceptive power. As to the formula of the professor, on page 122, we will let it pass. It would be a pity to disturb so interesting a specimen of the plausible absurd. Its garb of profundity will, in many cases, doubtless enable it to glide past the understanding of the reader unquestioned, but such is its error and absurdity, that the moment the understanding does for a moment dwell upon it, surprise will arise that so superficial a thing should have had a moment's power to deceive.

We have alluded to Professor Smith's views as to the seat of the reasoning faculties. We would in this place ask for them more particular attention. On page 130, he says, "There is, in my opinion, sufficient evidence to induce the belief that the more forward parts of the brain, in anatomy the *anterior lobes of the cerebrum*, are principally employed in carrying on those operations of the mind which require the exercise of our *reasoning powers*." We remark, first, that the anterior lobe is not the seat of what the professor has before chosen to consider the "efficient parts" of the brain, but is composed almost entirely of the so called "supplemental and unimportant parts of the sensorium," which are here acknowledged, however, to subserve the important office of "carrying on those operations of the mind which require the exercise of our reasoning powers"—the distinguishing attributes of the human intellect. We have, too, an implied acknowledgment not only that a

* The shrinking of the brain in disease of that organ, is dwelt upon by others than phrenologists. Esquerol mentions an insane female whose forehead, on her admission into the hospital, was so large that he had a drawing made of it, but afterwards it became small and narrow.

particular portion of the brain may have an especial function, but that the seat of that function may be discovered during life, and further, that the phrenologist is right in his belief as to the particular seat of the reasoning faculties. The only difference between him and the professor being, that the latter speaks of the anterior lobe generally, and the former of a particular portion of it, to wit, the anterior superior part. In the succeeding paragraph, the professor expresses an opinion in still more exact accordance with phrenological views. "I hold it to be *certain*," says he, "that, comparing races of men and classes of animals, the intelligence will be in proportion to the projection of the frontal lobe." This is almost equivalent to the phrenological proposition that the anterior lobe of the brain is the especial seat of the intellect. We ask, therefore, whether the professor does not in this place virtually abandon his objections and especially his opposition to the doctrine that particular parts of the brain have particular functions? It really appears to us that after disputing the ground with the phrenologist inch by inch, ingeniously, urgently, tenaciously, and in tones of triumph, he comes forward at the close and voluntarily relinquishes the field, acknowledging that he cannot deny but the phrenological doctrine is true. That such relinquishment is intended, we do not maintain; that in judgment of reason it is given, we seriously affirm.

That the brain is a congeries of organs, physiological observation, anatomical structure, general analogy, pathological facts, and sound reason unite to prove. Without it, the physiology of the brain is involved in chimerian darkness, the manifestations of mind are inexplicable. Commencing with the position that the brain is engaged in every mental act, how by its unity of function is it possible to explain the diversity of talents and dispositions, the successive developement of the mental faculties, the phenomena of partial sleep, dreaming and somnambulism: of monomania or partial insanity: of partial idiocy, partial genius, and other analagous phenomena? So far is this unity of function from explaining these phenomena, that against it every one of them rises in irreconcilable contradiction and hostility; but with the doctrine that each faculty of the mind is manifested by a particular organ, all these phenomena clearly and beautifully harmonize.

In our efforts to rid this most important proposition of the doubts and difficulties in which Professor Smith has involved it, we trust we have shown that to its facts are not hostile but favorable; that physiological phenomena are irreconcilable with any other doctrine; that with it, correct anatomy is in perfect harmony. We trust we have shown, too, that the professor's objections are unsound and ill taken, and that his arguments

are erroneous in their logical sequences. Let us, in conclusion, however, be permitted to remind the reader never to lose sight of the important fact that phrenology is an experimental science, and that for full and entire satisfaction of its truth, he must resort to the observation of nature, our great teacher and advocate.

Professor Smith strenuously objects also to the phrenological proposition that "Size, other things being equal, is the measure of power." To us nothing seems more conclusive of the unreasoning spirit of our opponents, than their denial and denunciation of this principle: a principle comprehensive as the creation itself, and which really seems self-evidently true. If one cubic foot of matter possesses a certain amount of attractive force, have not two cubic feet of like matter twice that attractive force? If a square inch of pulmonary surface has a certain amount of aerating power, have not two square inches, similar in every respect, twice that aerating power? If one muscular fibre possesses a certain amount of strength, does not two such fibres possess twice that strength? Must not two equal nervous fibres have double the power of one of those fibres? and two equal square inches of tactile, auditory, gustatory, optical, or olfactory surface have twice the respective, specific power of one? and is not this law of size equally applicable to the brain and its several parts? The affirmative of these questions possesses mathematical certainty.

When we commenced the perusal of the "Select Discourses," we did not anticipate opposition from Dr. Smith on this point, for on page 7, he lays it down as "a well established principle, that the effect which any organ produces in the body, is in the compound ratio of its *relative bulk* and the quantity of aerated blood which it may receive." On page 48, he states still more explicitly that "the function of a part, *whatever that function may be*, is always performed with a vigor *proportioned to its bulk* and the greater or less supply of aerated blood which it may receive, unless the afflux of that fluid be so redundant as to prove suffocating, or so long continued as to become exhausting." Here size is stated as the absolute and exact measure of power, except so far as its influence is modified by the supply and quality of the blood. But truth requires that the proposition be not so broadly stated, for though the supply and quality of the blood are very effective modifying conditions, they are by no means the only ones. In the muscles, for instance, the influence of size is modified by the greater or less delicacy and compactness of the fibres, the greater or less amount of training, the greater or less supply of motory nerves, and the greater or less cerebral energy, as well as by the supply and quality of the blood. And it is absolutely

necessary to correctness in treating of any part of the system, that *all* the modifying influences should be estimated as accurately as possible. The only true mode of stating the proposition is, therefore, the phrenological mode, "size, other things being equal, is the measure of power."

But we must now change our course, in accordance with our Petruccio's varying mood. We have seen that above he has been too latitudinarian in his views. It was, however, when not under the disturbing and darkening influence of anti-phrenological excitement. No sooner does he come within the verge of that influence, than principles have to change, and nature to reverse her laws, rather than the phrenologist be allowed a foot of neutral ground on which he may rest in peace. The professor attacks the very principle which he has so broadly and explicitly stated, as though it were fearful heresy, and soon arrives, to his own entire satisfaction, at the conclusion that it is false and groundless! After which, however, as if suddenly relenting, he says as a matter of "generosity" that he "will concede something to the size of the head, and the varying conditions of the circulation." We in return would propose that nature unite with the phrenologist in returning thanks to the professor for this liberal concession.

On page 129, after stating that "a brain weighing thirty ounces or less, is so incapable of performing its functions that idiocy results," he acknowledges that he is "*inclined* to believe that if you take one thousand persons with heads *unusually* large, and one thousand with heads *unusually* small, that the former will, collectively, surpass the latter," and that "since the brain forms the material instrument of thought, it may well *happen* that quantity is, to a *certain extent*, indispensable to its efficiency!" As if fearful, however, that this doubt may be construed too liberally, he afterwards very gravely affirms that "between individual and individual, mere *bulk* of head is an element of *no appreciable* importance," pp. 130. But as if he had not already sufficiently puzzled the reader about his meaning, he follows up this by stating his opinion that "comparing races of men and classes of animals, the intelligence will be in proportion to the *projection* of the frontal lobes," and by eulogizing the accuracy of phrenologists in taking the *distance* directly from the auditory passage to the most projecting part of the forehead, as the measure of intelligence. May we not ask the professor on what "*projection*" and "*distance*" depend, if not upon size! the very element which he has been treating so cavalierly! The phrenologists must indeed be sorry dialecticians, if Professor Smith is entitled to school them about logic and consistency.

The fact is that the doctrine of size, as stated by the phrenologist, is

fully and completely recognized by all physiologists when treating of every part of the animal economy, except the brain, and by many of them, as Cuvier, and Tiedemann, when treating of this organ also. Let us show their usual language by a few extracts from a treatise of Dr. Roget, an anti-phrenologist of some eminence. First observing, however, that this writer, in his article "Craniscopy," published in the Encyclopedia Britannica, opposes the doctrine of size by the following argument: "To the *perfection* of a refined and delicate instrument, such as must be that which is subservient to the operations of the intellect, innumerable conditions must concur, among which that of size, it is reasonable to suppose, is the least important. Delicacy of texture, fineness of organization, and harmony of adjustment between the several parts of its complete structure, must contribute infinitely more towards rendering it *capable* of performing its office, than superior magnitude." This is a specimen of the truly fallacious mode of reasoning resorted to in what has been called "the most formidable attack phrenology ever had to sustain." The phrenologist, comparing two instruments of *like structure and function*, says that the largest, other things being equal, will be the most powerful. This is a "phantom," says Dr. Roget. Size is not the measure of power in the brain, because its *appropriateness* of structure, its *perfection* as an instrument, its *capability* of acting as the mind's organ, depends more upon other things than size! And thus one truth is gravely opposed by the assertion of another equally plain and perfectly harmonious truth. We have the form but not the substance of an argument; a collocation of words by which sound is enabled to play a trick upon the understanding.

Let us turn, however, to Dr. Roget's article on Physiology, also published in the Encyclopedia Britannica, and mark the living energy, the pervading influence of this much abused principle:

§926. "*Every part of the organ of smell is developed in quadrupeds in a degree corresponding to the greater extent and acuteness in which they enjoy this sense compared with man.*"

§938. "The eye of the bat is remarkably *small*, but the *imperfections* which probably exist in the sense of sight, are amply compensated by the *singular acuteness* of that of hearing, the organ of which is *exceedingly developed.*"

§940. "The ethmoid bone is of very complicated formation in the male, especially in the numerous convolutions of its turbinated process by which a *very large surface* is given to the Schneldertian membrane which lines every portion. *This structure indicates* the possession of a *very acute sense of smell.* The remarkable development of the

internal parts of the ears, is also *conclusive evidence* of the *delicacy of the sense of hearing* in this animal, although it has no external ear whatever."

§948. "In the genus *felia*, the long bristly hairs which constitute the whiskers, receive *very considerable nervous filaments* and appear subservient to the *sense of touch* in a *very remarkable degree*."

§998. "In the whale, the *olfactory organs* are *not adapted* to the possession of any *accurate sense of smell*, being furnished neither with turbinated bones *nor with any considerable nerves*."

§1015. "The eyes of birds are *very large* in proportion to the size of the head, and appear to be adapted to a *great range of vision*."

Here we see the principle which Dr. Roget styles a "phantom," completely imbu- ing, as it were, his physiological remarks. Its truth is indeed so plainly written on every page of nature, that LARGE and POWERFUL are treated almost as synonymous terms. We might note down volumes of such facts as the foregoing, confirmatory of this principle, but these must suffice. Let us turn again, for an instant, to Dr. Roget's "Cranioscopy." There we shall find in opposition to facts by him so explicitly stated, that he quotes approvingly, Professor Hufeland's assertion that small eyes see with more strength than large ones,* and then asks, "*Why may not this be also the case with the organs of the brain?*" Aye, why not? What reason can be given why a brain may not be increased in power by a diminution of its size? Why may not size, *cæteris paribus*, be the measure of feebleness instead of might? This very interesting anti-phrenological problem we leave, as an exercise of the reader's ingenuity. After solving it, he will be prepared to try his skill on another problem equally difficult, namely, Why may not a half be greater than the whole?

To prove that size is the measure of power in the brain, as well as in other organs, we will proceed to the consideration of a few well ascertained facts in relation to man himself.

That man is superior to woman in general mental power, is almost universally acknowledged, we believe, by the gentler sex even. In accordance with this, is the superior size and weight of the brain in man. In the appendix to Dr. Monro's work on the brain, Sir William Hamilton states the average weight of the adult male Scotch brain to be three pounds eight ounces, and that of the adult female Scotch brain to be three pounds four ounces. Professor Tiedemann states that "the female

* In the application which he makes of this quotation, Dr. Roget seems to have forgotten that it is not the mechanical frame work of the eye, but the retina, which constitutes the true external organ of vision.

brain weighs, on an average, from *four to eight ounces less* than that of the male, and that this difference is already perceptible in a *new born child.*"

The varying size of the brain at different ages, is another strong corroboration of the principle for which we contend. Mental power is least in infancy; it strengthens in childhood and youth; attains its acme in the vigor of manhood, and declines in old age. The size of the brain follows precisely the same course. It is least in infancy, increases through childhood and youth, attains its full size from about twenty-two to thirty, in some cases as late as forty years of age, and diminishes in the decline of life. These facts have been amply proved by phrenologists, but let us turn to general physiologists for corroboration. Cruvillier ascertained the brain in three young subjects to weigh, on an average, two pounds nine ounces each. The average of the adult Scotch male brain, we have seen above, to be three pounds eight ounces. Professor Tiedemann examined fifty-two brains, and states as the results that the weight of the brain in an adult male European, varies from three pounds two ounces, to four pounds six ounces, troy. He also remarks, "I have generally found the cavity of the skull *smaller in old men* than in middle-aged persons. It appears to me, therefore, probable, that the brain really decreases in old age, only more remarkably in some persons than in others." "According to the researches of Desmoulins," says Dr. Stokes, (Lectures on the Theory and Practice of Physic, edited by Dr. Bell, pp. 256,) "it appears that in persons who have passed the age of seventy, the specific gravity of the brain becomes from one twentieth to one fifteenth less than that of the adult. It has also been proved that this atrophy of the brain is connected with old age, and not, as it might be thought, with general emaciation of the body: for in chronic emaciation from disease in adults, the brain is the last part which is found to atrophy."

The difference between the brain of the idiot and that of the man of great general mental power, strongly corroborates our proposition. Dr. Voisin states that in the lowest class of idiots under his care at the Hospital of Incurables, the horizontal circumference varied from *eleven to thirteen* inches and the distance from the top of the nose to the occipital spine, over the top of the head, was but eight or nine inches. Professor Tiedemann says that in cases of congenital idiotism, the brain rarely exceeds in weight that of a new born child. On the contrary, he remarks, that "the brain of men who have distinguished themselves by their great talents, is often very large. The brain of the celebrated Cuvier weighed 4 lbs. 11 ozs. 4 dr. 30 grs. troy, and that of the celebrated Surgeon,

Dupuytren, weighed 4 lbs. 16 ozs. troy." He subsequently remarks that the observations of Gall, Spurzheim, Holsam, Esquirol, and others, on this subject, are confirmed by his own researches. Independently of the overwhelming proofs by which it might be demonstrated, might we not reasonably infer from such facts that the gradations of general mental power would accord with the gradations of general cerebral bulk, from the idiot through all intermediate degrees, up to the master minds of their race?

But let us look at facts as we see them presented in the organization of the various races of mankind. And here, in addition to all that the phrenologists have accomplished, we have the results, especially, of Dr. Morton's labors as presented in his truly valuable work, the *Crania Americana*, almost every page of which is confirmatory of phrenological doctrines. From this work we copy the following most interesting table, containing the results of his measurements of the capacity of near two hundred and sixty skulls:

Races.	No. of Skulls.	Mean internal capacity in cubic inches.	Largest in the series.	Smallest in the series.
1. Caucasian,	52	87	109	75
2. Mongolian,	10	83	93	60
3. Malay,	18	81	89	64
4. American,	147	80	100	60
5. Ethiopian,	20	78	94	65

He who is acquainted with the history of mankind, and the character and comparative influence of its various races, will at once appreciate the bearing and force of the above results. At the head of the list we see the Caucasian race, the master of the world, the arbiter of its feeble brethren: At the foot of the list we find the poor Ethiopian, the "servants of servants." Dr. Morton remarks that, with a single exception, the Caucasian skulls were taken from the lowest and least educated class of society, and included three Hindoo skulls. Now as the lowest class of society have generally smaller heads than the educated and influential, and as the Hindoo skulls were of 75 inches only in capacity, the above average is too low for the European head, and ought to be stated at not less than 90 cubic inches. We find the European brain then to be on an average *twelve* cubic inches larger; and the largest of the European brains to be *thirty-one* cubic inches larger than the average Ethiopian brain. If we had time to enter into details, it would be easy to show the light which the principle for which we are contending throws on the path of the historian. The conquest of Peru by Pizarro, with his 164 soldiers, loses much of its marvellousness to the enlightened physiologist,

when he learns that these same Peruvians, with brains of the average size of 73 cubic inches, had to contend with Europeans whose brains were 17 cubic inches greater. Their immense superiority of mental resources, intellectual grasp, and nervous energy, conferred on the Europeans a power before which the Peruvians became as sheep when the wolves have entered the fold. Numbers could not avail them. But we need not go to past centuries for confirmations of our principle. We see at the present day a small nation, the law-giver of a seventh part of all the inhabitants of the earth. "She girds the globe," says the Abbe de Pradt, "with a chain of posts disposed with art around its circumference; thus placing every avenue under her control, and, as it were, under her key. From Heligoland to Madras, and from the Ganges to Hudson's Bay; at Jersey, at Gibraltar, at Corfu, at Malta, at the Cape of Good Hope, at St. Helena, at the Isle of France, Ceylon, Antigua, Trinidad, Jamaica, Halifax, every where, she is seated upon rock, or placed upon inaccessible islands; every where in safety herself, every where menacing others."

Whence comes the activity, the energy, the mightiness, the overshadowing influence of America's father-land? Let Professor Caldwell answer for the phrenologist. "Great Britain," says he, "is peopled chiefly by anglo-Saxons, the most highly endowed variety of the Caucasian race. Their brains are superior in size and more perfect in figures, than the brains of any other variety; and from temperament and exercise, they are in function the most *powerful* at least, if not the most active. And hence the surpassing strength and grandeur at home, and the influence and sway over the other nations of the earth, of those who possess them. The vast and astonishing productions of art in Great Britain, her boundless resources of comfort and enjoyment in peace, and her unparalleled means of defence and annoyance in war, are as literally the growth of the brains of her inhabitants, as her oaks, and elms, and ash trees are of her soil." Let us look to Asia; there we see that England has subdued a hundred and twenty million of people, and that forty thousand of her sons retain them in subjection; one man in charge of three thousand! What shall explain this? The Hindoos were a civilized people, having a knowledge of letters and arts before Cæsar set foot upon Britain, or even the foundations of Rome were laid. How then shall this problem be solved? What great fact shall furnish us the key? We answer, the solution will be found in the cerebral superiority of the Anglo-Saxon, and in the superior physical activity, energy and prowess which accompanies such superiority. The Englishman has not only a better balanced brain than the Hindoo, but a brain exceeding

that of the Hindoo, in average absolute bulk, more than *fifteen* cubic inches.

Correspondence of cerebral developement and mental power, is found every where on a broad scale, among the nations of the earth. Let these same Englishmen come into collision with people whose brains are nearly of the same size as their own, and what is the result? They have to provide man for man, to put forth all their energies, employ all their resources, and keep their sagacity on the stretch. If they gain a victory, it is accompanied by losses over which the victors themselves might well weep. Advantages are not often permanently retained; a triumphant advance is often but the precursor of a mortifying retreat; and when they have spent their energies in vain attempts at subjugation, they pantingly agree to a cessation of hostilities, that they may take breath and recruit their exhausted power and resources.

How fare the subtle objections of Professor Smith against the phrenological doctrine of size, when the light of these great truths are concentrated upon them? They seem to us to hurry away like thin mists from the sun's gaze.

"The functions of a part, whatsoever that function may be, is always performed with *vigor proportioned to its bulk*, and the greater or less supply of aeriated blood." "We will concede *something* to the size of the head." "Between individual and individual, mere *bulk of head* is an element of *no appreciable* importance." "Intelligence will be in proportion to the *projection* of the frontal lobes," is the strangely contradictory language of Professor Smith. "Size, other things being equal, is the measure of power," is the uniform language of the phrenologist. Between the phrenologist and the professor, let the reader judge.

At the close of this argument in relation to size, let us caution the inquirer against an error of Cuvier, Tiedemann, and others, namely, that of taking general size of brain as the measure of *intellectual* power. Intellectual power depends on the developement of the frontal lobe alone, and this may be small or large in relation to the other regions of the brain. The Hindoos with their very small brains, have a comparatively full developement of the anterior region, and they manifest much intellectual ingenuity with little force of character. Most of the North American Indians, on the contrary, with their comparatively large brains, have an overwhelming developement of the basilar and posterior regions, and with little intellectual and feeble moral power, they have immense force of the propensities. They are almost incapable of appreciating the arts, the intellectual and moral delights of civilized man, but they

are haughty, unyielding, fierce, indomitable and blood-thirsty; they may be overpowered but not subdued, exterminated but not enslaved. We can merely verge on this interesting subject as an enforcement of the caution above given.

Professor Smith opposes phrenology on the ground, also, that if the influence of temperaments be admitted; the cerebral organs are unnecessary. "A reference to temperaments would seem fatal," says he, "since, if it be conceded that our mental qualities depend upon causes unconnected with the organs and paramount to their influence, why introduce superfluous machinery? Why not dispense with the organs altogether?" What is temperament that such language as this should be used concerning it? So far as phrenology is concerned, it signifies those conditions of the animal economy which modify the influence of size on the vigor, vivacity, and energy of the cerebral organs. To pretend, therefore, that the organs are superfluous because we have the temperaments, is a sheer absurdity. As well might it be pretended that steam engines are superfluous because we know the various qualities on which their strength and efficiency depend, and by the varying power of steam under various degrees of pressure. To be sure, the absurdity is not Dr. Smith's "if it be conceded that our mental qualities depend upon causes *unconnected* with the organs." But this, so far from being conceded, is explicitly and unconditionally denied. We contend that no influence can reach the mind except through the cerebral organs; that no mental quality is in the very slightest degree affected by any cause which does not affect one or more of these organs *pari passu*. Leave out of view the doctrine of the brain's complexity, and all this is fully admitted by the professor himself. "I believe the brain," says he, "to be connected with the mind so far like *cog-work* in mechanics, that movements originating as they may in the one, are necessarily communicated to the other." pp. 81.

But Professor Smith further contends that the phrenological view of the brain's organization entirely excludes temperaments from consideration. His argument is, that the modifying power of the blood over size, constitutes temperament, and that the phrenologist is precluded from considering this modifying power, "because," says he, "in that case, phrenology and fact would be brought into collision; for, according to that interpretation of the word, where 'cautiousness' is large and predominant, a man should become less timid as the play of his lungs is impeded, or as the quantity of vital fluid passing to his head diminishes. While on the contrary, his *cowardice* should augment if more impetuous torrents, or blood more highly aerated, were driven through his *craven*

organization—results, in either case, directly opposed to the truth, as every one knows.”

In the first place, we remark that the function of the organ of Cautiousness is not to manifest “cowardice,” and that the organization in which it is found, is not necessarily a “craven organization.” Cautiousness is the quality which this organ manifests, and among those who have possessed this quality in a high degree, are some of the greatest statesmen and generals that the world has produced.

We remark, in the second place, that the phrenologist does not “mean” that the quantity and quality of the blood are most important items in the sum of those influences to which he applies the term temperament, but they do not of themselves constitute that sum. Nor does Professor Smith himself in his introductory lecture maintain this; on the contrary, he speaks of the influence of the liver, spleen, muscles, fat, skin, and other parts, often granting far more to these influences than correct observation will warrant. Thus, in speaking of the influence of the liver over mental manifestations, he assures us that one condition of this viscus renders a person “cold, cautious, calculating,” “his temper suspicious,” “he neither believes in friendship nor possesses friends.” Another condition of this viscus, indicates its possessor to be “the most contemptible being that inhabits the earth. He is poor, weak, mean and malicious; devoid of every noble sentiment, of every generous feeling.” Another condition is indicative of men “of strong minds and glowing imaginations.” Another produces “your ordinary hypochondriac, who is tormented with a thousand ridiculous fears and fancies which have no foundation except in his own imagination.” Were such views of the influence of this viscus correct, the brain would be wrongly styled *the* organ of the mind; and the inquiry, “How is your liver?” one of Laura’s first questions to her long lost husband Beppo, would be so far removed from the ludicrous as to constitute one of the most tender, considerate, philosophical and important inquiries which it were possible to make.

It is worthy of remark, that this professor who has taken upon himself the office of public rebuker of the cautious, fact-gathering, nature-studying phrenologist, gravely attributes all these startling influences to the liver, without the slightest attempt to prove that there is in truth and in fact any peculiar size, form, structure, or degree of consistency in this viscus, or any peculiar color, quality, or quantity of its secretion, connected with any of the peculiarities of disproportion of which he so confidently treats. We are not informed that at the foundation of this swelling and highly wrought fabric, even a single physiological observation exists!

We will now grant, for the sake of the argument, that the modifying influence of the blood is all that is meant by temperament. How then will stand the professor's objections? According to phrenology, says he "where Cautiousness is large and predominant, a man should become less timid as the play of the lungs is impeded, or as the quantity of the vital fluid passing to his HEAD diminishes, while on the contrary, his cowardice should augment if more impetuous torrents or blood more highly aerated were driven through his craven organization—results, in either case," he continues "directly opposed to the truth, as every one knows." That is, he maintains that fear, or "timidity," bears an inverse ratio to the quantity and aeration of the blood passing to the "head." Let us examine his objection.

Observe, in the first place, that the professor does not state a proposition maintained by the phrenologist, or logically deducible from their doctrines. He confounds the organ of Cautiousness with the "HEAD," a rather clumsy mistake! He might, perhaps, have stated the phrenologists to be bound by the proposition that "a man should become less cautious or fearful as the quantity of vital fluid passing to the *organ of Cautiousness* (not the head) diminishes; while on the contrary, his cautiousness, fear or desire of safety should augment if more impetuous torrents or blood more highly aerated were driven (not through his craven organization, but) through his *organ of Cautiousness*." This last proposition we might own and defend, but as it is not that of which Professor Smith asserts the falsehood, we are not called upon for a reply.

We will, however, go further than we are bound, and for the sake of showing the want of precision in the professor's physiological views, take up the so called phrenological proposition nearly as the professor has stated, and we assert that though less definitely expressed than desirable, so far is it from being "directly opposed to the truth, as every one knows," that it is essentially true, as every enlightened physiologist and pathologist knows. Fear is a positive mental emotion, and like all other such emotions, it is accompanied by cerebral excitement proportioned to its intensity, and this cerebral excitement is accompanied by a corresponding determination of blood to the "head." Is proof of this needed? Look on the fear-stricken being and say whether any one symptom indicates repose or evinces diminished arterial or cerebral excitement. Is it the palpitating heart or flurried pulse? Is it the intense expression, the wild, restless eye of alarm, or terror's fixedness of gaze? Surely not. The pallid countenance perhaps? This, on the contrary, proves that the equilibrium of the circulation is broken up,

that superactivity somewhere exists, and is robbing the countenance of its due proportion of blood. What aid does pathology give to the professor's objection? None; but demonstrates its erroneousness by the notable fact that death by cerebral apoplexy, death from what the professor calls the "suffocation of an organ by excessive supply of blood," is as often the effect of excessive fear as of excessive rage. In whatever point of view we regard this objection of Professor Smith, it is discreditable to his knowledge and accuracy, and not quite so correct in argument as might be expected from a great logician who volunteers to pronounce sentence so freely and confidently on the dialectics of the phrenologists.

We here close our review of the "Select Discourses." Their errors and fallacies are not yet exhausted, but we have endeavored fully and fairly to meet all those facts, assertions and arguments on which their author seems most confidently to rely. In taking leave of the professor, we would humbly express the hope that he may yet be induced to reconsider the whole subject, and investigate for himself the groundwork of the phrenological doctrines. Should he do this with the single desire of arriving at correct conclusions, we cannot doubt the result; and if he arrive at the conclusions which, in such a case, we deem inevitable, the requisitions of conscience and honor are plain; fortunately, too, they prescribe such a course as even an enlightened and far-sighted expediency would suggest—the open renunciation of error. Whoever discovers that with the means of correct knowledge in his power, he has been seeking pre-eminence by assailing truth, may well regret his course, but need never be ashamed of defeat, for truth no man can conquer; its assailant, however, may confidently reckon on a rebound which, if reparation be not made, will, sooner or later, render his reputation a wreck, if not a mockery.

ARTICLE II.

PHRENOLOGY IN SCHOOLS.

The attention of the public has, of late, been repeatedly called to the importance of introducing Physiology and Anatomy as regular studies into our common schools and institutions of learning. Several works embracing the elements of these sciences have already been prepared and published with this object in view. It is truly gratifying to witness the increasing interest in the community on these subjects, and we hope

the day is not far distant when the study of Anatomy and Physiology will receive that attention in all schools, both public and private, which their nature and importance absolutely demand. The saying of the poet that "the proper study of mankind is man," is no less trite than true. But hitherto, this study has been sadly neglected, while almost every other branch that could be thought of, whether it afforded any mental discipline or practical utility or not, has received far greater attention. A century hence, the tables will be turned: the physical and mental constitution of man and their relations to external objects, will then occupy a conspicuous place.

Among the various means which will operate to bring about such a state of things, the influence of Phrenology will have no small agency. It is not to be expected that those who have passed the meridian of life will ever become much interested in the science themselves, or do much for its advancement; but it will be studied and embraced by the *young*, and they, too, will carry out and apply its principles. It will yet be made a distinct branch of study in our schools, as much as chemistry and astronomy. In fact, the science is already introduced into several popular works on Physiology, which are extensively used as text-books of study in various parts of the union. In the February number of the Journal, we had occasion to notice a work of this kind by Dr. Reynall Coates of this city, since which a friend has placed in our hands a similar work by Dr. Charles A. Lee, late Professor in the University of New York. This work is published by the American Common School Union, and has passed through several editions. We rejoice to find so correct and full exposition of Phrenology in a work which has such an extensive circulation, and which is doubtless studied by many thousands of the young. The following extract will show how clearly and correctly the principles of the science are presented in Dr. Lee's work on Human Physiology:

Phrenology.—The actual meaning of the term *Phrenology*, is "a discourse about the mind," or, "the doctrine of the mind." It professes indeed to be a system of Mental Philosophy, and as it is pretends to be founded in nature and supported by facts, it certainly is not beneath the attention of the candid enquirer after truth.

The chief doctrines which phrenology claims to have established, are the following:—

1. That the moral and the intellectual faculties are innate.
2. That their exercise, or manifestation, depends on organization.
3. That the brain is the organ of all the propensities, sentiments, and faculties.

4. That the brain is composed of as many particular organs as there are propensities, sentiments, and faculties, which differ essentially from each other. These four propositions may be said to constitute the phrenological doctrine, and they are sustained by such numerous experiments, observations, and facts, that a large proportion of enlightened physiologists of the present day acquiesce in their correctness.

Another and a different proposition, however, and one which, by many, is erroneously supposed, alone, to constitute phrenology, is, that we are able to recognize on the exterior of the skull, the seats of the particular organs, or intellectual and moral faculties, and thus determine the character of individuals. This proposition has not received that general concurrence of physiologists, in its support, which has attended the former; but there are so many zealous and able inquirers now in the field, and such is the ardor in pursuit of knowledge, connected with this subject, that a few years at farthest, probably, will suffice to overthrow or establish it.

I have already mentioned some facts to prove that the brain is the organ of the mind, and that the condition of that organ influences the mind; let us now inquire whether the mind, in *every act*, employs the *whole brain* as one organ, or whether separate faculties of the mind are connected with distinct portions of the brain as their respective organs? It is a well established fact in physiology, that different functions are never performed by the same organ, but that each function has an organ for itself. Thus the eyes see, the ears hear, the tongue tastes, the nose smells, the stomach digests food, the heart circulates the blood, the liver secretes bile, &c. Even where the function is compound, as in the tongue, where a feeling, taste, and motion are all combined, we find a separate nerve for each function, and the same occurs in every part of the body. Now, as no nerve performs two functions, we may, reasoning from analogy, conclude, that it is so in the brain; different sentiments, different faculties, and different propensities, require for their manifestation different organs or portions of cerebral matter.

Again, the external senses have for their exercise, not only separate and external organs, but also as many separate internal organs. Hearing, seeing, smelling, &c., require different portions of cerebral substance for their exercise; may we not then from analogy, be justified in the conclusion, that there are as many cerebral, or nervous systems, or organs, as there are special internal senses, and particular intellectual and moral faculties? The legitimate inference then is, that each faculty does possess in the brain a nervous organ appropriated to its production, the same as each of the senses has its particular nervous organ. The struc

ture of the brain is not homogeneous, but differs greatly in different parts, both in composition, form, color, consistence, and arrangement. But what object could there be in all this variety, if the brain acted as a whole, and there was but a single intellectual principle or faculty? A difference of structure shows that there must be a difference of function, and as the brain has been proved to be the organ of the mind, it follows that different portions or organs of the brain must be employed by the intellectual and moral faculties.

The faculties do not all appear at once, nor do they fail at once, but they appear in succession, and as a general rule, the reflecting or reasoning faculties are the latest in arriving at perfection. So also the organization of the brain is unfolded in a slow and gradual manner, and the intellectual faculties appear in succession only as the structure is perfected. For example, in infancy, the cerebellum forms one fifteenth of the encephalic mass; in adult age about one sixth. In childhood the middle parts of the forehead preponderate; in later life, the upper lateral regions are more prominent, which facts are also in accordance with the periods of unfolding the knowing and reasoning faculties.

Genius is almost always partial; that is, men generally have a taste or faculty for one particular pursuit, or study, in which alone they have the power of excelling. One has a talent for poetry, another for mechanics, another for drawing, music, or mathematics, and that is often developed at a very early age, and without the advantages of education, or particular instruction, and these persons may, in all other pursuits, be below mediocrity. Indeed, nothing is more common than to see in the same individuals some faculties acute and powerful, while others are feeble and defective, &c., while as to other things it is deficient. Such facts are not easily explained on the scheme of a single intellectual faculty, and a single organ devoted to its exercise.

It is an observation of common notoriety, that when the mind is fatigued with one kind of occupation or study, it can engage with vigor in one of a different kind, requiring the exercise of different faculties; and thus, instead of fatiguing, actually acts as a restorative. Could this happen unless there were a plurality of faculties and organs of the intellect? The phenomena of partial idiocy and partial insanity are at variance with the doctrine of a single organ of mind. We often see persons in a state of *monomania*, that is, they are rational enough on all subjects but one; but in relation to that, they are entirely mad. Now if the brain be sufficiently sound to manifest all the other faculties in their perfect state, why is it not also able to manifest this?

Numerous cases are contained in medical works where a wound of

the brain was succeeded by the loss of a single faculty. Larrey, in his surgical memoirs, mentions several cases of wounds made by bayonets and swords penetrating the brain through the orbit of the eye, which entailed the loss of memory for names, but not of things, &c.

Such are a few of the arguments adduced by writers on this subject, to prove that the brain is not only the organ of the mind, but an *apparatus*, a congeries of organs, each of which is the seat of a particular faculty, the organ of a particular function. The evidence to most minds will appear satisfactory and conclusive on this point, though other facts and more extended investigations are needed to place the science on a permanent foundation.

ARTICLE III.

PRACTICAL PHRENOLOGY TESTED.*

The following is an authentic phrenological examination of a gentleman of our acquaintance, recently made by those excellent Phrenologists and able lecturers, the Messrs. Fowlers, at the Marlboro' Chapel, *separately*, and without any previous consultation between themselves, or personal knowledge of the gentleman examined. There is a remarkable concurrence in their opinions, which could hardly have been the result of conjecture. It will no doubt be read and examined with interest by those who doubt the science, as well as by its friends. The gentleman examined thinks every body will now be compelled to believe in phrenology "in spite of their teeth."

Examination by O. S. Fowler.—This gentleman's leading quality is energy of character, and that disposition to rise in the world which will render him *conspicuous* in *some* capacity. He never will be a servant to any one; will be at the head or no where, and will make a noise in the world; rather proud, and thinks *he* knows and can do a little better than any one else; firm even to obstinacy; loves opposition and debate better than his dinner, which is saying considerable; cannot

* The above article is copied *verbatim* from the Boston Daily Mail of April 29th. We will merely add that the gentleman examined is by profession a *Surgeon Dentist*, well known in Boston; and the analysis of his character as here given, is acknowledged by those who are best acquainted with him, to be remarkably correct in every particular.—Ed.

be driven, but is contrary when opposed; enterprising; must do a big business or none, and charges high, not because he is fond of money, which he spends freely, but because he thinks *his services* worth more than those of others; radical; a doubter till he can *see* and *know* for himself; does *his own thinking*; speaks out his mind without disguise; not always judicious in his remarks; talks freely of himself; has much don't-care-ativeness, and treats with contempt those who cross his path; a whole-souled friend, and will do any thing for those he likes, yet his indignation is powerful, and dislikes deep and lasting; all action and life; never one minute idle, but pushes his plans with great spirit, leaving no stone unturned; full of fun, yet his jokes are tart and cutting, and sting more than tickle; a *first rate* mechanic, but, having much taste, he should engage in some *nice* mechanical business, or as an artist; gives strength and polish to all he does; so that his work looks well and lasts long; is one in thousands for his real native ingenuity and dexterity with tools, and can make any thing; carries a remarkable steady hand; excels in fitting every thing to its place, and giving proportion to all he makes. Here Mr. Ingram asked what sort of a Physician he would make; Mr. F. replied that he was too proud and not sufficiently affable for a doctor, but his very superior mechanical powers with Destructiveness, would enable him to *excel* as a Surgeon, and to stand foremost as a Surgeon Dentist. I say, unequivocally, that this is the ruling point of his character, and rarely equalled by any one. He must have every thing in order, is a great observer; can do his own talking; is full of apt comparisons, and can make himself agreeable. Observe distinctly, that my brother will emphasize this gentleman's *mechanical talent*, his Weight, Self-esteem, Firmness, and Combativeness.

By L. N. Fowler. This gentleman has an active mind; is liable to go to extremes; Self-esteem large and active, and has been cultivated; has a good opinion of himself and what *he* can do; wishes to be at the head and take the lead; thinks he can do a little better than others; likes his own way best, and generally has it; if others think well of him, it is well, if not, just as well; can be set and stubborn if opposed; is fond of opposition; is radical and original in his views; is sarcastic and pointed in his jokes; is a strong positive friend or enemy; is no half-way man in any thing; has versatility of talent; can do almost any thing he wishes; loves variety and has a roving mind; is benevolent and obliging; not very devotional or spiritually minded, yet has no objection to others being very pious; is not marvelously disposed except when he is relating an anecdote where he had a hand in what was done, then the story loses nothing by passing through his hands; has much ingenuity; can use

tools with facility; is a *natural* workman; has a correct eye; is fond of the fine arts, also of the perfect and beautiful; is a great observer of men and things; has much curiosity, and is anxious to see and know what is going on; is a matter of fact man, and has the news as early as any one; has a good local memory; would make a good marksman; can carry a very steady hand, and keep his balance well; is quite fond of order; has a place for every thing; is much annoyed if others misplace or disturb his things; can make money better than he can keep it; and charges high for his services, not because he loves money, but because he thinks they are worth it; as a physician, would be governed by experience and observation; would make a first rate dentist; is *naturally* qualified for that profession; is quite a talker; has fair powers of reflection, and is much disposed to criticise.

ARTICLE IV.

ON THE NATURAL SUPREMACY OF THE MORAL SENTIMENTS.*

In the first place, let us take a brief retrospective survey of the different faculties, and attend to their relations to outward objects, and their relative dignity in the scale of excellence. The faculties are divided into Propensities common to man with the lower animals, Sentiments common to man with the lower animals, Sentiments proper to man, and Intellect. Every faculty stands in a definite relation to certain external objects; when it is internally active it desires these objects; when they are presented to it, they excite it to activity and delight it with agreeable sensations; and all human happiness and misery is resolvable into the gratification or denial of gratification of one or more of our faculties, including in these the external senses, and all the feelings connected with our bodily frame. The first three faculties, Amativeness, Philoprogenitiveness, and Adhesiveness, or the group of the domestic affections, desire a conjugal partner, offspring, and friends—the obtaining of these affords them delight—the removal of them occasions pain. But to render an individual happy, the whole faculties must be gratified harmoniously, or at least the gratifications of one or more must not offend any of the others. The animal faculties are all blind in their impulses, and inferior in their nature to the moral and intellectual powers; and hence,

* From number 11 of the Edinburgh Phrenological Journal.

if we act in such a manner as to satisfy them to the displeasure of the higher powers, the moment the animal excitement ceases, which, by the nature of the faculties, it will soon do, that instant unhappiness will overtake us. For example, suppose the group of the domestic affections to be highly interested in an individual, and strongly to desire to form an alliance with him, but the person so loved is improvident and immoral, and altogether an object which the faculties of Self-esteem, Love of Approbation, Benevolence, Veneration, Conscientiousness, and Intellect, if left dispassionately to survey his qualities, could not approve of; then, if an alliance be formed with him under the ungovernable impulses of the lower faculties, bitter days of repentance must necessarily follow when these begin to languish, and the higher faculties receive daily and hourly offence from his qualities. If, on the other hand, the domestic affections are guided by intellect to an object pleasing to the higher powers, then these themselves are gratified, they double the delights afforded by the inferior faculties, and render the enjoyment permanent.

The great distinction between the animal faculties and the powers proper to man is, that the former are all selfish in their desires, while the latter disinterestedly long for the happiness of others. Even the domestic affections, amiable and respectable as they undoubtedly are when combined with the moral feeling, are, in their own nature, purely selfish. The love of children, springing from Philoprogenitiveness, when acting alone, is the same in kind as that of the miser for his gold; an intense interest in the object, for the sake of the gratification it affords to a feeling of his own mind, without regard for the object on its own account. In man, this faculty generally acts along with Benevolence, and a disinterested desire of the happiness of the child mingles along with and elevates the mere instinct of Philoprogenitiveness; but the sources of the affections are different, their degrees vary in different persons, and their ends are also dissimilar. The same observation applies to the affection proceeding from Adhesiveness; when this faculty acts alone, it desires, for its own satisfaction, a friend to love; but, if Benevolence do not act along with it, it cares nothing for the happiness of that friend, except in so far as his welfare is necessary to its own gratification. The horse in a field mourns when his companion is removed; but the feeling appears to be one of personal uneasiness at the absence of an object which gratified his Adhesiveness. His companion may be led to a richer pasture, and introduced to more agreeable society, yet this does not assuage the distress suffered by him at his removal; his tranquility, in short, is restored only by time causing the activity of Adhesiveness to subside, or by the substitution of another

object on which he may expend it. In human nature the effect of the faculty, when acting singly, is the same; and this accounts for the fact of the almost total indifference of many persons who are really attached, by Adhesiveness, to each other, when one falls into misfortune and becomes a disagreeable object to the Self-esteem and Love of Approbation of another. Suppose two persons, elevated in rank, and possessed of affluence, to have each Adhesiveness, Self-esteem, and Love of Approbation large, with Benevolence and Conscientiousness moderate, it is obvious, that, while both are in prosperity, they may really like each other's society, and feel a reciprocal attachment, because there will be mutual sympathy in their Adhesiveness, and the Self-esteem and Love of Approbation of each will be gratified by the rank and circumstance of his friend; but imagine one of them to fall into misfortune, and to cease to be an object gratifying to Self-esteem and Love of Approbation, suppose that he becomes a poor friend instead of a rich and influential one, the harmony between their selfish faculties will be broken, and Adhesiveness in the one who remains rich will transfer its affection to another individual who may gratify it, and also supply agreeable sensations to Self-esteem and Love of Approbation—to a genteel friend, in short, who will look well in the eye of the world.

Much of this conduct occurs in society, and the whining complaint is very ancient, that the storms of adversity disperse friends just as the winter winds strip leaves from the forest that gaily adorned it in the sunshine of summer; and many moral sentences are pointed and episodes finely turned on the selfishness and corruption of poor human nature. But such friendships were attachments founded on the lower feelings, which, by their constitution, are selfish, and the desertion complained of is the fair and legitimate result of the principles on which both parties acted during the gay hours of prosperity. If we look at the head of Sheridan, we perceive large Adhesiveness, Self-esteem, and Love of Approbation, with deficient reflecting organs and moderate Conscientiousness. He has large Individuality, Comparison, Secretiveness, and Imitation, which gave him talents for observation and display. When these earned him a brilliant reputation, he was surrounded by friends, and he himself probably felt attachment in return. But his deficient morality prevented him from loving his friends with a true, disinterested, and honest regard; he abused their kindness, and, as he sunk into poverty and wretchedness, and ceased to be an honor to them, or to excite their Love of Approbation, they almost all deserted him. But the whole connexion was founded on selfish principles; Sheridan honored them, and they flattered Sheridan; and the abandonment was the

natural consequence of the cessation of gratification to their selfish feelings. We shall by and by point out the sources of a loftier and a purer friendship, and its effects.

To proceed with the propensities—Combativeness and Destructiveness also are in their nature purely selfish. If aggression is committed against us, Combativeness draws the sword and repels the attack; Destructiveness inflicts vengeance for the offence; both feelings are obviously the very opposite of benevolent. We do not say that in themselves they are despicable or sinful; on the contrary, they are necessary, and, when legitimately employed, highly useful; but still self is the object of their supreme regard.

The next organ is Acquisitiveness; and it is eminently selfish. It desires blindly to possess, is pleased with accumulating, and suffers great uneasiness in being deprived of its objects. There are friendships, particularly among mercantile men, founded on Adhesiveness and Acquisitiveness, just as in fashionable life they are founded on Adhesiveness and Love of Approbation. Two individuals fall into a course of dealing, by which each reaps profit by transactions with the other; this leads to intimacy, and Adhesiveness probably mingles its influence, and produces a feeling of actual attachment. The moment, however, the Acquisitiveness of the one suffers the least inroad from that of the other, and their interests clash, they are apt, if no higher principle unite them, to become bitter enemies. It is probable that, while these fashionable and commercial friendships last, the parties may employ and profess great reciprocal esteem and regard, and that, when a rupture takes place, the party who is depressed, or disobliged, may recall these expressions and charge them as hypocritical; but they really were not so; each probably felt from Adhesiveness something which they colored over, and perhaps believed to be disinterested friendship; but if each would honestly probe his own conscience, he would be obliged to acknowledge that the whole basis of the connexion was selfish; and hence, that the result is just what every man ought to expect who places his reliance for happiness chiefly on the lower propensities.

Secretiveness is also selfish in its nature; for it suppresses feelings that might injure us with other individuals, and desires to find out secrets that may enable its possessor to guard against hostile plots or designs. In itself it does not desire, in any respect, the benefit of others. Self-esteem is, in its very essence and name, selfish; it is the love of ourselves, and the esteem of ourselves *par excellence*. Love of Approbation, although many think otherwise, is also in itself a purely selfish feeling. Its real desire is applause to ourselves, to be esteemed ourselves, and if

it prompts us to do services, or to say agreeable things to others, it is not from love of them, but purely for the sake of obtaining self-gratification.

Cautiousness is the next faculty, and is a sentiment instituted to protect self from danger, and has clearly a regard to individual safety as its primary object.

This terminates the list of feelings common to man with the lower animals, and which, as we have seen, are all selfish in their objects. They are given for the protection and advantage of our animal nature, and, when duly regulated, are highly useful, and also respectable, viewed with reference to that end; but they are sources of innumerable evils when allowed to usurp the ascendancy over the moral faculties, and to become the leading springs of our social intercourse. From the very circumstance of their being all selfish, their unlimited gratification is physically and morally impossible, and, as this circumstance attending them is of great practical importance, we shall elucidate it at some length.

The birth and lives of children depend upon circumstances over which unenlightened men have but a limited control; and hence an individual whose greatest happiness springs from the gratification of Philoprogenitiveness, is in constant danger of anguish and disappointment by the removal of its objects, or by their undutiful conduct and immoral behavior. Besides, Philoprogenitiveness, acting along with Self-esteem and Love of Approbation, would, in each parent, desire that *his* children should possess the highest rank, the greatest wealth, and be distinguished for the most splendid talents. Now the highest, the greatest, and the most splendid of any qualities necessarily imply the existence of inferior degrees, and are not attainable except by one or two. The animal faculties, therefore, must be restrained and limited in their desires by the human faculties, by the sentiments of Conscientiousness, Benevolence, Veneration, and Intellect, otherwise they will inevitably lead to disappointment. In like manner, Acquisitiveness desires wealth, and, as nature affords only a certain number of quarters of grain annually, a certain portion of cattle, of fruit, of flax, and other articles, from which food, clothing, and wealth are manufactured, and as this quantity, divided equally among all the members of the state, would afford but a moderate portion to each, it is self-evident that, if all desire to acquire and possess a large amount, ninety-nine out of the hundred must be disappointed. This disappointment, from the very constitution of nature, is inevitable to the greater number; and when individuals form schemes of aggrandisement, originating from desires communicated by the animal faculties alone, they would do well to keep this law of nature in view. When

we look around, we see how few make rich; how few succeed in accomplishing all their lofty anticipations for the advancement of their children; how few attain the summit of ambition, compared with the multitudes who fall short. All this arises, not from error and imperfection in the institutions of the Creator, but from blindness in men to their own nature, to the nature of external objects, and to the relations established between these; in short, blindness to the principles of the divine administration of the world.

This leads us to notice the moral sentiments which constitute the proper human faculties, and to point out their objects and relations.

Benevolence has no reference to self. It desires purely and disinterestedly the happiness of its objects; it loves for the sake of the person beloved; if he be well, and the sunbeams of prosperity shine warmly around him, it exults and delights in his felicity. It desires a diffusion of joy, and renders the feet swift and the arm strong in the cause of charity and love. Veneration also has no reference to self. It looks up with a pure and elevated emotion to the being to whom it is directed, whether God or our fellow men, and delights in the contemplation of their venerable and admirable qualities. It desires to find out excellence, and to dwell and feed upon it, and renders self lowly, humble and submissive. Hope spreads its gay wing in the boundless regions of futurity. It desires good, and expects it to come; its influence is soft, soothing and happy; but self is not its direct or particular object. Ideality delights in perfection from the pure pleasure of contemplating it. So far as it is concerned, the picture, the landscape, or the mansion, on which it abides with intensest rapture, will be as pleasing, although the property of another, as if all its own. It is a spring that is touched by the beautiful wherever it exists; and hence its means of enjoyment are as unbounded as the universe is extensive. Wonder or Marvellousness seeks the new and admirable, and is delighted with change; but there is no desire of appropriation to self in its longings. Conscientiousness stands in the midway between self and other individuals. It is the regulator of our animal feelings, and points out the limit which they must not pass. It desires to do to another as we would have another do to us, and thus is a guardian of the welfare of our fellow men, while it sanctions and supports our personal feelings within the bounds of a due moderation.

Intellect is universal in its application. It may become the handmaid of any of the faculties; it may devise a plan to murder or to bless, to steal or to bestow, to rear up or to destroy; but, as its proper use is to observe the different objects of creation, to mark their relations, and

direct the propensities and sentiments to their proper and legitimate enjoyments, it has a boundless sphere of activity, and, when properly applied, is a source of high and inexhaustible delight.

Keeping in view the great difference now pointed out between the animal and properly human faculties, the reader will perceive that three consequences follow from the constitution of these powers: First, the animal faculties in themselves are insatiable, and, from the constitution of the world, never can be satisfied, holding satisfaction to be the appeasing of their highest and last impulse of unregulated desire. Secondly, being inferior in their nature to the human faculties, their gratifications, when not approved of by the latter, leave a painful feeling of discontent and dissatisfaction in the mind, occasioned by the secret disclaiming of their excessive action by the higher feelings. Thirdly, the higher feelings have a boundless scope for gratification; their least indulgence is delightful, and their highest activity is bliss; they cause no repentance, leave no void, but render life a scene at once of peaceful tranquillity and sustained felicity; and what is of much importance, conduct proceeding from their dictates carries in its train the highest gratification to the animal propensities themselves of which the latter are susceptible.

We have already adverted to examples of the impossibility of attaining unlimited gratification of the animal propensities; boundless wealth and prosperity cannot physically be attained by all; offspring unlimited in number and in virtues cannot be the lot of all; the gratification of a boundless ambition cannot be accomplished by all, and the destruction of all whom we hate would be a fearful visitation, if those who hated us had the same scope of gratification to their destructiveness in the subversion of ourselves. In short, we need not enlarge on this topic; for the proposition is so plain, that it can scarcely be doubted or misunderstood.

The second proposition is, that the animal faculties being inferior in their nature, a painful dissatisfaction arises in the mind when they become the leading motives of our habitual conduct, this uneasiness being occasioned by the want of gratification felt by the moral sentiments. Suppose, for example, a young person to set out in life with the idea that the great object of existence is to acquire wealth, to rear and provide for a family, and to attain honor and distinction among men; all these desires spring from the propensities alone. Imagine him then to rise early and sit up late, and to put forth all the energies of a powerful mind in transacting the business of the counting-house, in buying and selling, and making rich, and suppose that he is successful; it is obvious that, in prompting to this course of action, Benevolence, Veneration, and Conscientiousness, had no share, and that, in pursuing it, they have not

received direct and intended gratification; they have stood anxiously and wearily watching the animal faculties, longing for the hour when they were to say enough, their whole occupation, in the mean time, being to restrain them from such gross extravagancies as would have defeated their own ends. In the domestic circle again, a spouse and children would gratify Philoprogenitiveness and Adhesiveness, and their advancement would please Self-esteem and Love of Approbation; but here also the moral sentiments would act the part of mere spectators and sentinels to impose restraints; they would receive no direct enjoyment, and would not be recognised as the fountain of the conduct. In the pursuit of honor, suppose an office of dignity and power, or high rank in society, the mainsprings of exertion would still be Self-esteem and Love of Approbation, and the moral sentiments would still be compelled to wait in weary vacancy, without having their energies directly called into play, so as to give them full scope in their legitimate sphere.

Suppose, then, this individual to have reached the evening of life, and to look back on the pleasures and pains of his past existence, he must feel that there has been vanity and vexation of spirit—a want of satisfying portion; and for this very good reason, that the highest of his faculties have been all along standing idly by, unsatisfied and scarcely half employed. In estimating, also, the real affection and esteem of mankind which he has gained, he will find it to be small or in exact proportion to the degree in which he has manifested in his habitual conduct the lower or the higher faculties. If society has seen himself in his pursuit of wealth, selfish in his domestic affections, selfish in his ambition; although he may have gratified all these feelings without encroachment on the rights of others, they will feel no glow of affection towards him, no elevated respect, no sincere admiration, and he will see and feel this, and complain bitterly that all is vanity and vexation of spirit; but the fault has been his own; love, esteem, and sincere respect, arise, by the Creator's laws, not from contemplating the manifestations of plodding selfish faculties, but only from the display of Benevolence, Veneration, and Justice, as the motives and ends of our conduct; and the individual supposed has reaped the natural and legitimate produce of the soil which he cultivated, and eaten the fruit which he has reared.

The third proposition may now be illustrated. It is, that the arrangements of creation are framed on the principles of the higher sentiments, and that until these become the sources of our actions, it is impossible to attain to happiness, or even to enjoy fully the pleasures which the animal faculties are calculated to afford when employed in their proper sphere.

Imagine another individual to commence life in the thorough conviction that the higher sentiments are the superior powers, and that they ought to be the sources of his habitual actions, the first effect would be to cause him to look habitually outward on other men and on his Creator, instead of looking habitually inward on himself as the object of his highest and chief regard. Benevolence would shed on his mind this conviction, that there are other human beings all as dear to the Creator as he, as much entitled to enjoyment as he, and that his duty is to seek no gratification to himself which is to injure them; but on the contrary, to act so as to confer on them, by his daily exertions, all the services in his power. Veneration would add a strong feeling of reliance on the power and wisdom of God, that such conduct would conduce to the highest gratification of all his faculties, and it would add also an habitual respect for his fellow men, as beings deserving his regard, and to whose reasonable wishes he was bound to yield a willing and sincere obedience; and, lastly, Conscientiousness would prompt him to apply the scales of rigid justice to all his animal desires, and to curb and restrain each so as to prevent the slightest infraction on what is due to his fellow men.

Let us trace, then, the operation of these principles in ordinary life. Suppose a friendship formed by such an individual; his first and fundamental principle is Benevolence, which inspires with a sincere, pure and disinterested love of his friend; he desires his welfare for his friend's sake; next Veneration re-enforces this love by the secret and grateful acknowledgment which it makes to Heaven for the joys conferred upon the mind by this pure emotion, and, also, by the habitual deference which it inspires towards our friend himself, rendering us ready to yield where compliance is becoming, and curbing our selfish feelings when these would intrude by interested or arrogant pretensions on his enjoyments; and, thirdly, Conscientiousness, ever on the watch, proclaims the duty of making no unjust demands on the Benevolence of our friend, but of limiting our whole intercourse with him to an interchange of kindness, good offices, and reciprocal affection. Intellect, acting along with these principles, would point out, as an indispensable requisite to such an attachment, that the friend himself should be so far under the influence of the sentiments, as to be able, in some degree, to meet them; for, if he were immoral, selfish, vainly ambitious, or, in short, under the habitual influence of the propensities, the sentiments could not love and respect him as an object fitted to be taken to their bosom; they might pity and respect him as unfortunate, but love him they could not, because this is impossible by the very laws of their constitution.

Let us now attend to the degree in which such a friendship would

gratify the lower propensities. In the first place, how would Adhesiveness exult and rejoice in such an attachment! It would be overpowered with delight, because, if the intellect were convinced that the friend habitually acknowledged the supremacy of the higher sentiments, Adhesiveness might pour forth all its ardor, and cling to its object with the closest bonds of affection. The friend would not encroach on us for evil, because his Benevolence and Justice would oppose this; he would not lay aside restraint, and break through the bonds of affection by undue familiarity, because Veneration would forbid this; he would not injure us in our name, person or reputation, because Conscientiousness, Veneration, and Benevolence, all combined, would forbid such conduct. Here then, Adhesiveness, freed from the fear of evil, from the fear of deceit, from the fear of dishonor, because a friend who should habitually act thus could not possibly fall into dishonor, would be at liberty to take its deepest draught of affectionate attachment; it would receive a gratification which it is impossible it could attain while acting in combination with the purely selfish faculties. What delight, too, would such a friendship afford to Self-esteem and Love of Approbation! There would be an internal approval of ourselves, that would legitimately gratify Self-esteem, because it would arise from a survey of pure motives and just and benevolent actions. Love of Approbation also would be gratified in the highest degree; for every act of affection, every expression of esteem, from such a friend, would be so purified by Benevolence, Veneration and Conscientiousness, that it would form the legitimate food on which Love of Approbation might feast and be satisfied; it would fear no hollowness beneath, no tattling in absence, no secret smoothing over for the sake of mere effect, no envyings and no jealousies. In short, friendship founded on the higher sentiments, as the ruling motives, would delight the mind with gladness and sunshine, and gratify all the faculties, animal, moral and intellectual, *in harmony* with each other.

By this illustration the reader will understand more clearly what we mean by the harmony of the faculties. The fashionable and commercial friendships of which we spoke, gratified the propensities of Adhesiveness, Love of Approbation, Self-esteem and Acquisitiveness, but left out as fundamental principles all the higher sentiments—there was, therefore, a want of harmony in these instances, an absence of full satisfaction, an uncertainty and changeableness, which gave rise to only a mixed and imperfect enjoyment while the friendship lasted, and to a feeling of painful disappointment, and of vanity and vexation, when a rupture occurred. The error, in such cases, consists in founding attachment on the lower faculties, seeing the Creator never intended them to form a

stable basis of affection, instead of building it on the higher sentiments, which he meant to form the foundation of real, lasting and satisfactory friendship. In complaining of the vanity and vexation of attachments springing from the lower faculties exclusively, we are like men who should try to build a pyramid on its smaller end, and then lament the hardness of their fate, and speak of the unkindness of Providence, when it fell.

(To be continued.)

ARTICLE V.

CONTINUED REMARKS UPON VARIOUS MENTAL PHENOMENA.

BY J. R. BUCHANAN, M. D.

A large developement of Locality produces a vivid and never-ceasing consciousness of the place where we are, and the direction in which we are going. It is therefore impossible for persons thus endowed to lose their way in travelling. If the organ be small, the action of the faculty cannot be so vigorous and unremitting; when the attention relaxes, when some other faculty is brought into play more vigorously, or when our attention is fixed upon something else, we fail to perceive the direction correctly, and perhaps for a moment we are quite unconscious of locality or course—in this manner we make successive mistakes, increasing our error until we are so far mistaken as to be lost. If the organ be still smaller, we are continually forgetting where we are, and are momentarily unconscious of place. We wake up in the house of a stranger, fancy that we are at home, and discovering our mistake, forget how we came there. Thus far is absence of mind connected with deficient Locality, and by this specimen which we present for illustration, the whole philosophy of absence of mind may be conceived. When the oculo-perceptive organs are large, we have always that presence of mind which consists in a vivid consciousness of objects around us. When the meditating philosopher unconsciously walks into the canal, those organs which would observe external objects are manifestly inactive. But large organs do not slumber or cease to act in the presence of their proper objects; on the contrary, they have a greater tendency to activity than any others, and experience the highest excitement when their proper stimuli are presented. If their perception frequently fails, and such absence of mind is common, we may infer that the perceptive organs

are small. In the case of a clergyman of Mississippi, I found these organs very small, and an incident which happened with him will show the effect. Riding on a tour, he was engaged in meditation and reading some good book, leaving his movements chiefly to the guidance of his horse. The sagacious animal went on correctly and arriving at the Big Black river, passed down into the ferry boat; his rider finding that he had stopped, and unconscious of the cause, urged him on, and actually rode through the boat plump into the river! We doubt not his *presence* of mind was fully restored as he swam ashore, holding up his book.

In the Illinois Legislature, finding Judge B. deficient in the power of auricular perception, I pronounced him liable in that respect to absence of mind. It was said of him that when engaged in study, it was useless to speak to him; his attention was absorbed, and was entirely unconscious of being spoken to. Almost every one has heard of some instance of absence of mind—of persons who sit in company unconscious of what passes, and unconscious of being addressed. The humorists have collected or manufactured a great number of amusing or ridiculous scenes growing out of this absence. The absence of mind as to external objects and sounds, is occasionally complicated with an absence of mind as to time, and as to the usual course of events—(a deficiency of Eventuality and Time.) This was the case with the clergyman who is said to have taken his horse to go to church, and who then forgetting to mount him, walked the whole way, leading him. The story is improved by the additional circumstance that his horse having slipped off his bridle on the way, the reverend gentleman appeared at church before his parishioners with the bridle dragging from his arm.

Absence of mind may thus have a varied character, depending upon a deficiency in observation, either auricular or ocular, and sometimes upon a deficiency in memory. There is another species of absence of mind equally injurious, dependant upon a deficiency of the organ of the sense of feeling. The locality and function of this organ, I discovered in 1837, and have since taught in my lectures. Lying upon the external wing of the sphenoid bone, its developement is easily ascertained. Upon this organ, however, I shall make no farther remark at present, than that it may be subdivided into the organ of touch and the organ of sensation. By means of the organ of the Sense of Feeling, we are conscious of the existence of our body, and of all its sensations. Whatever, internally or externally, makes an impression upon our nerves of sensation, the impression is recognized by the organ of Feeling. But if the organ be very small, the impression is not recognized—we sit with a draft of

cold air blowing upon the back, and unconscious of it at the time, we are surprised next day at finding that we have a cold. While engaged in conversation, we may cut the fingers with a pen-knife, or endure the bites of insects, without being at all conscious. For the same reason, we may observe that some persons are very apt to drop a whip, handkerchief, or pair of gloves, when they are looking at other objects, as the sense of touch then does not keep them conscious of what they are holding. Others continue engaged in conversation until they shiver in the cold, without thinking of the need of fire, and go through arduous or fatal labors without being conscious that they are breaking down their constitutions. This form of mental absence is occasionally seen to an unfortunate extent in those idiots who are very narrow at the basis of the brain, and thus defective in the vital, self-preservative forces. These poor creatures require our constant care.

There is another species of absence of mind which is connected with the faculty of Time. Those who have a great endowment of this faculty are never mistaken as to the hour, and need no watch. Those who are defective in it, commit the grossest mistakes if they have not something near them for a standard. Time with them flies either too fast or too slow. Great excitement in some cases increases the apparent length of time, and in others causes it to slip by unperceived, as when we are listening to an eloquent address, or engaged in interesting conversation. In poetical phrase,

"Noiseless falls the foot of Time, that only treads on flowers,"

and we may add equally noiseless in other cases when his path is not very flowery. A woman in Florida who had fled in the night from the attack of the Indians upon her house, remarked that it seemed the shortest night that she had ever known. Intense attention and excitement seem thus to suspend the action of the faculty of Time; and the merry parties of the young, when summoned from their festivities, generally express their surprise at the lateness of the hour.

After I had been testing and teaching for two or three years the foregoing doctrine as regards the organ of Sound, I read with pleasure an able article upon the subject in the Edinburgh Phrenological Journal, presenting substantially the same idea, from the pen of Jas. Simpson, Esq. Mr. Simpson is not only an excellent phrenologist, but is one of our best living writers, and I should be happy to learn that his time was more devoted to the cultivation of phrenology. We need the labors of many such minds to give it a place among the practical and accurate sciences.

As every organ seeks action or indulgence, a large developement of

Language uncontrolled, would probably give a strong desire to talk as well as a facility in talking. Mr. W. F. Brown has given cases of this uncontrollable inclination in insanity. Our whole nation, from Congress to the back-woods, furnishes, abundantly, illustrations of the propensity to talk. Talking is often a manifestation of the animal forces and Self-esteem. The moral faculties restrain the activity of the tongue and give us the patience and modesty which are necessary to a good listener. The American Indians have the reputation of being good listeners, and undoubtedly deserve it—they pay a deferential attention to a public speaker, whether they agree with him or not. Nor are the Indians wanting in the moral sentiments which produce not only grave courtesy, but many other virtues. As regards moral developement, the Indian head is far better than has been supposed by those who have not seen the Indian. I hazard nothing in asserting that the moral developements of the Choctaws are superior to those of the whites; and in some respects we would be benefitted by following the Choctaw code of morals. An American politician or editor may be detected in repeated falsehoods and still be acceptable to his party; but if a young Choctaw politician is detected in a lie, his fate is sealed. He can never again aspire to distinction. It is equally a mistake to consider the Indian as silent as he is commonly supposed. Among the whites, the Indian is circumspect and silent, but among themselves, the Indians indulge freely in the pleasures of conversation. In the crania of most Southern Indians, I have found Language well developed in proportion to the other intellectual organs, and often large. Some of my Indian crania present a developement exceeding any thing that I have found among Caucasians.

To ascertain developements at the orbit, the crania is far better than the living head. By the examination of its bony structure, we find that another important influence which we have not yet considered, modifies the position of the eye. The bony mass between the sockets of which the ethmoid bone is the most important part, produces by its growth that width between the eyes which is so generally observed in the negroes. This breadth has been ascribed by phrenologists to the developement of the organ of Form, but although it is true that Individuality and Form have a tendency by their developement to separate the eyes, the extent of this influence has been greatly overrated, and it operates only upon the upper part of the socket. It is to the size of the inter-orbiter mass of bone that we must ascribe the wide separation of the eyes which is seen in the Chinese and Calmucks—often in the North American Indians, and still more frequently in the negroes. It is a mark which is much less common among those refined nations in which the arts and sciences

have been highly cultivated. Whether or not the approximation of the eyes indicates a deficiency of the perceptive organs, which are the foundations of all art and science—it is clear, when we take an enlarged view of the matter, that the approximation of the eyes in front is characteristic of human superiority to animals. As we descend the scale of animal life from man and the monkey, through all the mammalia, birds, reptiles and fishes, we find the inter-orbital mass more developed, while the eyes are more and more separated and thrust to the side, as we see in alligators, frogs and fishes. As the forehead is most prominent along the median line, it follows, necessarily, that the more the eyes are separated from the median line, the more (relatively) prominent they must become—hence we find in the lower and even in many of the higher orders of animals, the eye projects from the socket. In like manner in man the eyes may be prominent and widely separated without even a full development of Language or of Form. I have seen a striking illustration of this in a half-witted negro boy in whose singular features might be observed a faint approximation to those of the horse. His nose was elongated and flattened, while his eyes were separated until they seemed to look in different directions.

As the eyes become separated, they sometimes partially assume the oblique position which is seen in the cat. This is the form which was first adopted by Dr. Gall as the indication of the faculty of Form—or rather the memory of persons. This feature, too, was considered by the great painter Le Brun, characteristic of the approximation of man to animals and indicative of a soul controlled by low or selfish propensities. Great men, heroes and sages, he thought, should be characterized by the opposite form—the elevation of the *internal* and depression of the *external* angle of the eye. There may be some truth in the suggestions of each—but Le Brun could not go beyond the empirical observation—Gall arrived at the *rationale* of the matter, and modified his first suggestion. In this and other details of the science we may still hope to attain a more satisfactory knowledge than has been given us by Gall and Spurzheim. Phrenologists should ever bear in mind, like the great English philosopher, that they have merely been gathering pebbles on the shore of the great ocean of Truth.

ARTICLE VI.

EXAMINATION OF PRISONERS IN GAOL.

Mr. Barber, who was formerly Professor of Elocution in Harvard University (Cambridge, Mass.,) and who is well known as a popular lecturer in various parts of the U. S., has, for the last two years, been delivering lectures on Phrenology in Great Britain. The Bath Herald of Feb. 13th, 1841, gives the following account of a visit made by Mr. B. and others, to the gaol located in that city.

Wednesday morning Mr. Barber, in company with a magistrate and several other gentlemen, made a visit to this prison; Mr. Barber examined the heads of a number of the prisoners in the presence of the parties before referred to, and of the gaoler and turnkey. We forbear, for obvious reasons, to mention names of prisoners; but the gaoler and turnkey were referred to in the cases that will be mentioned, after Mr. Barber's examination of each head. Necessarily a few only are selected :—

No. 1. Mr. Barber pointed out the large size of Acquisitiveness and Secretiveness, the small size of Conscientiousness, Caution and Hope; Firmness and Self-esteem were large. *Inference:* Mr. Barber thought this boy might have been often committed, and was gloomy and desponding in his character. The organization found in notorious thieves.

Each specification mentioned, confirmed by the gaoler and turnkey.

No. 2. Aged 12 years. A large head; active temperament; intellect large. The moral region in this head was fairly developed, but very inferior in size to Acquisitiveness, Secretiveness and Amativeness. Mr. Barber intimated that his plans for theft would be contrived, distinguished by address and cunning, and that the size of his head and intellect would give him a lead in iniquitous practices.

The gaoler stated that he was a leader of a gang of boys, that his skill and cunning were marked, and it was found that he was addicted to other vices connected with his organization, which had been particularly pointed out by Mr. Barber.

No. 3. Aged about 10 years. A superior lad to No. 1. A funny character, and capable of being reformed; committed for the first time.

His tendency to fun and tricks confirmed by the gaoler.

No. 4. A fair intellect, good-natured and funny; Acquisitiveness large; Cautiousness and Conscientiousness small; very capable of reformation.

Every particular confirmed by the gaoler and turnkey—committed for the first time.

No. 5. Mr. Barber requested to express his opinion of this character as violent, ruthless, sanguinary, and probably incorrigible.

Stated by the gaoler as a most dangerous character, and from whom he should expect personal violence more than any other person in the prison.

Many other heads were examined.

It was shown as a general fact, applicable to a large majority of the cases, that the organs of Self-esteem and Firmness, Acquisitiveness and Secretiveness, were large; Conscientiousness and Caution, and the reflective organs, decidedly small. In every case examined, the gaoler and turnkey confirmed Mr. Barber's opinion, with the exception of one notorious character, in whom, however, the organ of Conscientious was small, but whose career was ascribed by Mr. Barber and two other phrenologists who were present, to the dominating influence of circumstances. Those present at this examination were struck with the importance of phrenology as furnishing an efficient means for a classification of prisoners, founded on their respective developments; and great regret was expressed that the corrigible and incorrigible, as estimated by palpable differences in organization, should not be separated from each other. Speaking on grounds of probability, the differences in the above respect were great in several instances; and it appears that among about thirty individuals, two or three classes might be formed requiring differences of discipline, and especially of association of each other.

ARTICLE VII.

EXTRACTS FROM MR. COMBE'S TOUR IN THE UNITED STATES.

Development of the Brain in the Inhabitants of Boston.—New England was peopled chiefly by individuals who left their native homes for the sake of enjoying religious liberty in their new abodes; and the cerebral organization which such dispositions imply, appears to have descended to their posterity. In all countries which I have visited, I have remarked that the female head, although less in size, is more fully developed in the region of the moral sentiments, in proportion to the other regions, than that of the male; and Boston presents no exception to the rule. Here the female head is in general beautifully developed in

the moral and intellectual departments, and the natural language of the countenance is soft, affectionate and rational. In the men, also, large moral and intellectual organs are very general; but Benevolence and Veneration are more frequently large than Conscientiousness. The cerebral organization of this people, taking them all in all, appears really to have been enlarged in the moral and intellectual regions by long cultivation, added to the influence of a favorable stock. Vol. i. p. 86.

November 17. *Dr. Spurzheim's Skull and Brain.*—In conversation Dr. Spurzheim more than once said to me, "I hope that when I am dead they will not bury my skull. I wish it to be preserved as evidence of my natural dispositions. Posterity will judge by it whether I am a quack and a charlatan, as your Edinburgh Reviewer called me." His wish has been fulfilled; the Phrenological Society of Boston has preserved his skull, and his brain also, in alcohol; both are locked up in an iron safe, and form a very interesting addition to their collection of casts and skulls. The safe was opened to-day in presence of a committee of the society, and I inspected its contents. The skull is rather thicker than the average of British healthy skulls; the diploe presents large cells, but the surfaces are dense. It is thickened over Combativeness and Conscientiousness. The superorbiter plate of the skull is both broad from side to side, and long from the front backwards, indicating a large anterior lobe of the brain. The convolutions have left strong indentations in the bone, particularly those of the organ of Language. Under them the skull is very thin. The skull is thin also at Constructiveness, and there is a considerable sinus at Individuality and Size; but these organs are nevertheless large in the brain. I have heard Dr. Spurzheim converse fluently in German, French and English, and he wrote these three languages grammatically. I am not certain whether he spoke Italian, but rather infer from some incidental remarks of his that he did. He lectured without notes; and his language was exceedingly appropriate and pregnant with meaning. The brain is in perfect preservation; it is large, and shows a large anterior lobe and large coronal region, the convolutions here being plump and round. The base also is well developed; but as it is floating in alcohol and hermetically sealed, I could examine it only through the glass. I perceived, however, that Coloring is deficient. The convolutions of Language and Form are large. The convolutions of the Love of Life and Destructiveness are large. Those of Alimentiveness are less, and he was extremely temperate in his habits.

He was in his fifty-sixth year at the time of his death, and apparently changes had already begun to take place in his skull. During life he used to complain of his deficiency of Combativeness. The rude and

illiberal attacks that were made by the press, not only on his opinions, but on his character as a man, roused his Destructiveness and made him angry; but his deficiency in Combativeness rendered it extremely disagreeable to enter the lists as a combatant, in his own defence. He had a perfect command over his Destructiveness, but he felt its power. I have heard him say, "I am too angry to answer this at present; I must wait till I am cool;" and he would wait for weeks or months, until he could give a calm and philosophical reply. Vol. i. p. 135.

December 6. *Colonel Burr*.—I examined an authentic cast from nature, taken after death, of the head of the celebrated Colonel Burr, who killed Gen. Hamilton in a duel, and afterwards attempted to get up an insane expedition from Blannerhassett's Island in the Ohio, the precise object of which is not well ascertained. He died at an advanced age, and the brain may have shrunk; the head at death was of average size; the intellectual region was moderately well developed; the organs of Individuality, Size and Weight predominating. The organs of Amativeness, Philoprogenitiveness, Combativeness, Destructiveness, Secretiveness, Self-esteem and Firmness, were large. Those of the moral sentiments, particularly Conscientiousness, were remarkably deficient. The moral region was shallow, and also narrow. In short, it was that kind of head which is generally found in criminals. It indicated sensual, fierce, vindictive, cunning, and selfish dispositions, unrestrained by justice or humanity, but combined with great courage, determination, and perseverance. The intellect is acute, but neither profound nor comprehensive. Burr was an infamous and heartless seducer; a vindictive duellist; and an adept in plausibility and falsehood. He enjoyed some degree of intellectual reputation, but his general conduct showed that he was a shallow politician, a nonentity as a statesman, and a third-rate lawyer. He loved his daughter dearly, and this was almost his only virtue. Vol. i. p. 144.

Martin Van Buren.—On the same occasion, I saw a cast from nature of the head of Mr. Martin Van Buren, the present President of the United States. The head is large; the anterior lobe is of ample dimensions in both regions. The base of the brain is largely developed; the coronal region is both broad and high. Secretiveness, Cautiousness, and Love of Approbation are very large, and Self-esteem is large. Acquisitiveness and Ideality are fully developed. Benevolence and Veneration are large. Firmness is rather less than Veneration, but not deficient, and Conscientiousness is only rather full, being the smallest of the moral organs. This head indicates power, and on the whole presents many of the elements of an estimable character. The combination of great

Cautiousness and Secretiveness, however, with Conscientiousness and Firmness relatively less, will produce a tendency to prefer indirect to direct means of accomplishing an end. In difficult situations dexterity and address will be more relied on than open manly courage, and an apparent expediency will sometimes be preferred to justice. The intellect is capable at once of managing details, and taking in comprehensive views, and if, as is affirmed, appearances of mystification occasionally present themselves in his public conduct, they are not owing to imperfect intellectual conceptions, but are designed to serve a purpose. The combination of the whole organs resembles that which one would expect in a dexterous and successful courtier in an absolute monarchy, rather than in the president of a democracy. Vol. i. p. 144.

January 4. *Phrenology*.—Mr. Nicholas Biddle, President of the United States Bank, called and informed me that he had attended a course of lectures given by Dr. Gall at Carlsruhe, in Germany, in 1806 or 1807. He subsequently presented me a skull which Dr. Spurzheim had marked for him, showing the situations of the organs as then discovered, and which had remained in his possession ever since. This relic possesses historical value. It has often been asserted that Dr. Gall *invented* his physiology of the brain, and did not discover it. When I was in Germany in 1837, I saw a collection of books describing the science at different stages of its progress, and also skulls marked at different times; all proving that the organs were discovered in succession as narrated by Drs. Gall and Spurzheim. This skull, which records the state of the science in 1806 and 1807, presents blank spaces where the organs of Hope, Conscientiousness, Individuality, Concentrativeness, Time, Size, and Weight, are now marked, these having at that time been unascertained. Farther, the local situations, and also the functions of the organs then marked by Dr. Gall as ascertained, continue unchanged in the marked skulls of the present day. Vol. i. p. 188.

Washington, Feb. 20. Mr. Calhoun, of South Carolina, spoke two or three times. He seemed to be about sixty, tall and slender, and of a highly bilious and nervous temperament. The lower ridge of his forehead projects much, indicating great powers of observation, but the superior ridge devoted to reflection, is much smaller. Although the latter region looks narrow and retreating, yet there is enough of brain to give average power to his reflecting faculties. He has very large Self-esteem and Firmness. The head indicates much self-will and determination; great powers of perseverance; a capacity for details, but little profound judgment.

I saw also Mr. Clay, but he did not speak. He is nearly bald. The

anterior lobe of the brain is long and high, the middle perpendicular portion predominating. He seems to have large Acquisitiveness and considerable Ideality. In him also Self-esteem and Firmness are large. The coronal region rises moderately high above Cautiousness and Causality, and the head altogether is high and long, rather than broad. It is of ample size. His temperament is nervous-sanguine, with a little bilious. He is tall and slender; and apparently between sixty and seventy. This combination indicates great natural vivacity, readiness of apprehension, facility of illustration, with force of character; but there are two defects in the brain which will prevent such an individual from rising to the first class of minds. Causality and the moral organs do not present the highest degree of developement. Men thus constituted do not sufficiently appreciate the influence of the moral sentiments as a natural power, nor do they trace the causes with which they deal, to their first elements, nor follow them to their remote consequences. Mr. Clay's head, however, bespeaks a man greatly above an average in point of mental power, and also practical in his tendencies; and therefore well adapted to the general American mind of the present day.

Here, also, sits Daniel Webster, looking like an intellectual giant among the senators. His enormous anterior lobe, and generally large head, reinforced by large lungs, mark him as a natural leader; but his reflective organs are too much developed in proportion to his Individuality to render his eloquence equally popular with that of Henry Clay. Mr. Webster needs a great subject, involving a profound principle and important consequences, before his strength can be called forth. Give him these, and he will rise to the highest eminence as a pleader and a statesman; but his intellect is too profound and comprehensive to be fully appreciated by the people. On seeing the man, therefore, I am not surprised at a circumstance which I have remarked, that, while Mr. Webster is regarded by a few as *the* great political character of the United States, Mr. Clay has at least a hundred devoted followers for one of Mr. Webster's admirers. Webster, however, like Burke, will be quoted for the depth of principle and wisdom involved in his speeches, when the more fascinating but less profound orations of Mr. Clay have sunk into oblivion. Vol. i. p. 271.

MISCELLANY.

Phrenological Lectures and Examinations of the Messrs. Fowlers in Boston.—We copy from the Boston Daily Mail of May 28th, the following account of the Messrs. Fowlers' Lectures and Examinations in Boston. It is a record of facts, and is due no less to the individuals concerned than to the science: "Having been one of a pretty numerous and very attentive audience that attended the lectures and demonstrations of the skilful phrenologists above mentioned, it seems to be but an act of justice to a science too little understood, to make known the impressions I received from what I heard and saw. When Spurzheim was here, I listened with delight to the illustrations he gave of his favorite science, but I felt as if there was something wanting to compel me to assent as fully to the principles of phrenology as I did to the wisdom and knowledge of our nature with which his lectures abounded. So also Mr. Combe in his public lectures omitted to give that satisfaction which is derived from an application of principles upon the spot where they are asserted. The Fowlers, with a courage amounting to almost rashness, have just dared to do what their great predecessors with greater caution had avoided. At the commencement of their course, a committee of gentlemen no more interested in them or in the science than all men are interested in discovering the truth, and some of them unbelievers in the science, were chosen by the company to provide suitable persons, of well known character, on whose heads after each lecture an application of the science could be made. Those who take a pride in scoffing at the science, and who are sure that they are wiser than other men, because they can see the folly of phrenology without looking into its claims, have repeatedly said, "If the science is true, why not demonstrate its truths at once, without talking so much about it. If it is founded on facts, tangible and evident, let us see some of them and we will believe." These doubters have had an opportunity such as should content the most unreasonable.

"Every evening, from four to ten persons were brought forward by the committee, persons, in all but one or two instances, entirely unknown to the lecturers, who, in the face of their friends and the audience, have named their leading characteristics with a readiness and a minuteness of detail, which would have puzzled the owners of the heads themselves to equal. So exact in general were the descriptions of character, that failure in even one point was rare, and correctness in every point was common. A mistake was an exception to a hundred truths. The committee were gentlemen of known respectability and talent; and, as one of them remarked to the audience, "as unwilling to deceive as to be deceived." In the course of the lectures, perhaps fifty heads were examined publicly in this manner without any considerable error. This trial one would think sufficient to show that there was some indication of character on the exterior of the cranium; but this was not the only trial to which these lecturers were subjected. In almost every case one lecturer was shut up in a remote room, while the other examined a head, and then the absent lecturer was called and required to pronounce upon

the same head. That one should for once guess right, would not have surprised me; that one should always have guessed right, *would* have been strange, but that the decisions of both should have coincided. so remarkably strange in every particular, as they did, compelled one to believe that the decisions were based upon facts and principles, and not upon *guess-work* as some pretended. But still there were sturdy doubters, who could not deny that the characters had been faithfully drawn, but who maintained that the lecturers were guided by their *eyes*, by the physiognomy and general appearance of the persons examined, and not by the bumps and general proportions of the head. To meet this unreasonable cavil, the lecturers were for one whole evening subjected to such an ordeal as none but rash men would submit to. They were both blindfolded effectually by the Committee, then separated, and required, in turn, in the absence of each other, to examine such heads as the Committee subjected to their touch.

The Committee, moreover, had previously written the characters of the candidates as nearly as the candidates and their best friends could describe them; and after both lecturers had done, the written character was read. I believe I do not exaggerate when I say that, in almost every particular, it seemed as if the written character was only notes taken during the examination, as the words dropped from the mouth of the lecturers. Were it desirable or proper, I could allude to some of the cases, but as I have no permission to do this, it being more properly the business of the Committee, I will only notice one remarkable case presented at the last trial.

While the lecturers were blinded, a gentleman called aside the chairman of the Committee, and said that he had just brought a girl 14 or 15 years of age, a complete idiot. He had been endeavoring for three years to have her taught something, but without success. She could not even learn a few of the letters; and ideas, intellect, she had none. When it was urged that a public examination might hurt her feelings, he assured the Committee that she could not understand what might be said, and as he was anxious to know what was the deficiency, the examination might lead to good; she was accordingly placed under the hand of the blindfolded lecturer, who felt one or two seconds and then said he had rather not say *any* thing about the head under examination. Some of the company said "speak out." He at last said that the head was a most unfortunate one, so destitute of intellect that it could not belong to an accountable being. The moral sentiments were wanting, and the only indication of intellect was a desire to see what was going on around, whilst there was no intellect to treasure up or use the facts thus collected. The other lecturer was then called, and his hands had hardly touched the head, before he declined saying *any* thing about it. When urged to speak freely, he very reluctantly said that the intellect was deficient, and the person incapable of taking care of himself, (he supposed it was a boy, as females were seldom subjected to examination.) The gentleman who brought the idiot, declared that the description was exact except in one point. They had said that her organ of Language, (perhaps one of the most difficult to decide upon without sight,) was not deficient, and he averred that she had not been able to learn half a dozen letters of the alphabet in three years. He acknowledged, however, that she

could talk, and the chairman of the committee removed the objection by stating that the organ of Language would not be exercised in learning the characters of the alphabet, any more than in learning geometrical figures.

"Such is an imperfect sketch of this remarkable course of lectures. As to the qualifications of the lecturers as speakers, it may be said that they are plain, unpretending men, more remarkable for their sound sense and acute observations upon men and manners, than for finished elocution or style. A strong spirit of philanthropy and a high moral tone distinguish all their remarks. They evidently wish to make their science useful to mankind, and the writer of these remarks, no more interested in their lectures than any other citizen, and a stranger to them till after the course had commenced, wishes them good speed." F.

Professor Gibson and Phrenology.—Dr. Wm. Gibson, Professor of Surgery in the University of Pennsylvania, in his recent work titled "Rambles in Europe," makes several allusions to Phrenology. In describing an interview with the celebrated writer, Miss Edgeworth, who, it appears, is very much prejudiced against the science, Dr. Gibson remarks that she "finally pressed me so hard to say what I really thought of the science, as to induce me to tell her that I believed the general principles of the science to be correct; that many of the facts brought forward by Combe and other distinguished phrenologists, were undoubtedly striking and important; that some of the details were inaccurate and inferences drawn from them equally erroneous; that the science had, however, suffered immensely from ignorant pretenders and charlatans, and that great allowance must be made for the mistakes of such persons who often undertook to examine heads and pronounce decisively on character without knowledge of the form of a single bone, or of the structure of any part of the brain: all which she admitted seemed reasonable enough, but still maintained she was sure there could be nothing in it, as she herself had known many persons of extraordinary intellects with small heads." *Query*—Whose testimony is most to be credited on the merits of Phrenology, Dr. Gibson or Miss Edgeworth?

Mr. Combe's Tour.—This work is now being published in *Waldie's Circulating Library*, which will bring it before many thousand readers. We learn also that the first edition of the work published by Carey & Hart of this city, is already nearly exhausted. The character and circulation which these volumes are obtaining, must be gratifying to Mr. Combe as well as to every phrenologist.

Rights of Women.—The New York New World, of May 8th, contains an excellent essay on the *Rights of Women*, by E. P. Hurlbut, Esq. The principles advanced in this essay are based entirely on physical organization, (Physiology and Phrenology) and are presented with great clearness and ability. We sincerely hope Mr. Hurlbut will be induced to publish a work, embracing his views in full, on Political Ethics.

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ARTICLE I.

INFLUENCE OF CEREBRAL ORGANIZATION ON RELIGIOUS OPINIONS AND
BELIEF.

(A paper read before the New York Phrenological Society, October 29th 1840, by
Rev. T. J. SAWYER, A. M.)

The subject to which I invite the attention of the Phrenological Society on the present occasion, is one that, so far as I am acquainted, has hitherto attracted no considerable notice among phrenologists. Or if it has been otherwise—which from the nature of the subject is quite probable—still it has occupied, I believe, but a small space in phrenological writings. This circumstance, together with my limited acquaintance with the minutiae of phrenological science, and also the almost infinite variety of facts to which my subject relates, and on which the true doctrine must rest, will justify only very moderate expectations on your part from my present undertaking. My subject is, *The influence of cerebral organization on religious opinions and belief.*

I begin by saying, what almost every philosopher, and certainly every phrenologist, must acknowledge, that *man is a religious being.* That he is so, all history conspires to prove, all observation and experience concur to establish. Still it has not always been conceded that he is religious by nature. This important fact it was left to phrenology to demonstrate, by showing that his mental organization, or the development of the brain, as naturally and necessarily inclines him to religion more or less, as it does to the Love of Young, the exercise of Conscientiousness, or Benevolence, of Destructiveness or Hope, or indeed to the manifestation of any of his mental or moral powers. Man is as much, and in the same way, a *religious* as he is a *rational* or *social* being. He exercises himself in some form of worship, not, as some have imagined, because God has made a revelation of his will, but because the Creator endowed him with the faculties necessary to consti-

tute him a religious and devotional being. Hence we find him every where—in all ages and all countries, and in every stage of moral and intellectual developement—breaking away from the visible and temporal by which he has been surrounded, and with which one part of his nature is intimately allied, and fixing his mind on some higher and spiritual power, existing, it may be, in some outward and material form, but still not the less spiritual, and henceforth falling down before that mysterious power and engaging in acts of religious adoration.

It does not militate against the fact that man is a religious being, to say that his homage is frequently stupid and senseless, or that the deities whom he worships are the creatures of his own weak and sickly imagination. This proves not that man is naturally without religion, but that his intellectual and moral faculties are but feebly developed; nay, it rather shows how active the religious organs are in the rudeness and ignorance of savage life. When we contemplate the poor African, bowing down to his *fetich*, and bearing it about with him, feeling as safe under its magical guardianship as mighty Ilium, or the still mightier Rome, did under the divine protection of their Palladium, we cannot fail, I think, of being impressed with the fact of an original superiority imparted to the religious over perhaps all the other faculties of the human mind. It tramples alike on our intellectual and moral powers, and sometimes exhibits man religious, but leaves him with few other tokens of his humanity.

It has been remarked by Montesquieu, that "that law which, by impressing upon us the idea of a Creator, bears us towards him, is, among natural laws, the first in importance, though not in order. Man," he adds, "in a state of Nature, possesses rather the faculty of knowing than knowledge itself. It is obvious that his first ideas could not be speculative. He would think of his preservation, before he sought for the source of his being." Now, however sound this may appear in theory, it is, I believe, a fact that no people have been found in a state so rude as to be destitute of religious notions; and universal history will, I think, sustain me in the remark that the religious faculty attains as early a developement as any of our faculties. Montesquieu appeals for proof of this theory to a wild man found in the forests of Hanover and exhibited in Great Britain in the reign of George the First. But a wild man, living alone, without language, without any of the influences which modify the human character, is little better than an animal, and is by no means a specimen of man in a state of nature. Such a being possesses little, or rather manifests little, that is properly human. Man is a social being, and hence in society he is in a state of nature; but then he is also reli-

gious, and in the exercise of his religious faculties, he manifests truly, though in part, his natural state.

This leads me to remark again, that they seem to me to err, who consider man's religious sentiments the result of mere intellectual powers. Washington Irving observes in his "Life of Columbus," that "There are few beings so destitute of reflection, as not to be impressed with the idea of an over-ruling Deity—a nation of Atheists never existed." We meet with the same mode of expression in many authors. They trace religion solely to our reasoning powers. Now if this were the true history of the religious sentiment, we should expect to find it exhibiting a developement, in nations and individuals, corresponding to the developement of their intellect. But is this the fact? Do we find the rude and uncultivated, and those whose cerebral organization presents us with feeble reflective faculties, in a manner strangers to religion and religious exercises? And is it true that the spirit of philosophy is peculiarly the spirit of devotion? We all know that this is not the case. We often see the most ignorant, those who are scarcely able to grapple with the most ordinary processes of reasoning, still very religious; by casting an eye over the mass of the world, and calling to mind the characters of the respective people occupying its surface, we shall soon be convinced that religiousness and intellectual power are by no means inseparable; and that mental and moral degradation are not to be taken as even presumptive proof of irreligion. If this be the fact, it must follow as a necessary consequence, that in strict accordance with the doctrines of phrenology, there is an organ or faculty whose peculiar or appropriate office is to manifest the religious sentiment; and such an organ do we believe *Veneration* to be.

But *Veneration*, like all the other organs of the brain, seldom or never acts alone. Its manifestations will be modified more or less by the simultaneous action of other faculties, exciting, restraining, guiding and controlling this. If this organ be fully developed, we may expect to see it manifesting itself and producing a religious character under whatever circumstances the individual possessing it may be placed. But, as Mr. Combe has well observed, it "produces merely an emotion, and does not form ideas of the object to which it ought to be directed." In Africa it would engage in the worship of a Fétich; in Hindostan, of Vishnoo; in ancient Persia, of the Sun, and in Christendom, of the God of Revelation. In all these cases it is the same faculty directed to different objects, as it happens to be guided by other faculties, or by the circumstances by which it is surrounded.

It is a question of some importance, whether religion is properly speaking the result of one faculty, *Veneration* for instance, or of several.

Spurzheim seems inclined to the latter hypothesis. "In my opinion," says he, "the religious phenomena are the result of several faculties. Causality searches for a cause of every thing and every event. Individuality personifies the supreme cause it arrives at; another faculty inspires admiration and wonder, and believes in some relationship between God and man; a third feeling inspires respect and reverence, and religion exists. It is strengthened by the feelings of Hope, Conscientiousness and Cautiousness." By this it would appear that Spurzheim traced religion ultimately to Causality. But how happens it then, that we meet with great religion where there is but little Causality? For my own part, I cannot avoid the conclusion, that we are all stimulated to worship, and perhaps at first even to believe in, a superior power, more by a conscious want of such a being or a feeling of dependence which drives us out of ourselves, than by any deductions of cool and logical reasoning. Indeed, it may generally be observed that man has believed and worshipped first, and afterwards attempted, as best he might, to support his faith by argument. Faith has preceded speculation, and Veneration has often been fully developed and active while the reflective faculties have slumbered on in the feebleness of infancy. Besides, might not a similar analysis to that adopted by Spurzheim, be applied to several other of our mental phenomena? And could it not be shown with equal success that they also are the result of several faculties?

I entertain no doubt that several faculties, even more than those enumerated by Spurzheim, exercise their influence, and a mighty influence too, over man's religious feelings and opinions. Causality aids us in looking "through nature up to Nature's God," and combined with Individuality perhaps, presents us with a personal Supreme Being. Wonder, or Marvellousness, one of whose functions seems to be to bring within our grasp all that is supernatural, greatly aids in reconciling our other faculties to faith and religion. Hope also springs up to throw its magic power over the future, and to gild even "the valley and shadow of death." Ideality refines the gross objects of adoration and imparts an unseen ideal beauty to the being or beings whom we worship. Conscientiousness tends to invest the recipients of our homage with equity and justice, and to make them morally venerable in our estimation; while Cautiousness awakes the sense of reverence or torturing fear by pointing us to him with whom we stand thus connected, and to whose mighty power we must submit. Benevolence, too, and Combaticiveness and Destructiveness, and perhaps some or all of our other faculties, sentiments and propensities contribute their portions in forming our religious faith and guiding us in our religious services.

But the several great families of the human race possess widely

different cerebral organizations, and also the various nations of the same family, and the various individuals of the same nation. In the midst of a general sameness there is an almost infinite diversity; and the consequence is as the phrenologist could anticipate, there exists a corresponding diversity of religious opinions and belief. We observe that the object or objects of religious worship may be properly considered under several tolerably distinct classes corresponding generally, with the degree of mental and moral culture which their devotees have attained, or rather, perhaps, to the cerebral organization which they actually possess. All men are religious, even in a higher degree than they are intellectual; and hence it happens that they are not equally capable of conceiving the character of God, and they body forth to their weak minds beings in many respects like themselves.

It is a doctrine of phrenology that Size, other things being equal, is the measure of power. If one organ in the brain be proportionally larger than the others, its manifestations will not only predominate, but the individual possessing it will exhibit a superior faculty, a facility for observing, comprehending and explaining whatever belongs to its appropriate functions. He is, so to speak more at home, more the master of himself in that peculiar field, and it will exert a predominant influence over all the manifestations of his mind. It is so in matters of religion as well as in every other subject. Whenever an individual comes to contemplate an object of worship as a personal being, he must conceive that being as possessed of a character more or less distinctly marked. Now this conception is necessarily formed by the action of his various organs, and will be to some extent colored by them. All true religion must be in some measure *anthropomorphic*, i. e. modelled after man's own nature, for the simple reason that we cannot conceive of any personal being who is in all respects unlike ourselves, who has no community with human nature. The blind man can form no conception of colors, the deaf, none of sounds; and you discourse to them in vain, however eloquent your language or scientific your terms, of "the pomp and garniture of the fields," of the "charms and power of music." It would be equally so in relation to any intellectual or moral attribute. We cannot conceive what that might be in another of whose existence we are not conscious in ourselves. Take away from man all Conscientiousness, all sense of justice, of right and wrong, and it is impossible to give him the slightest conception of the thing in the abstract or of the feeling in the bosom of his fellow being. In like manner if he possess the organ of Conscientiousness, and yet but feebly developed, his own sentiments will be proportionally feeble, and it will be difficult for him to conceive that

faculty in a keen and vigorous state in another. Hence it may be generally observed that a man with Conscientiousness decidedly deficient can not be easily brought to acknowledge or even to understand its manifestations in his neighbor. The compunctions of conscience which one with a different organization exhibits, he ascribes to craft or womanish weakness.

Now let such a person attempt to shadow forth to his own mind the attribute of divine justice, and should we not naturally expect that it would be but feebly drawn. For divine justice can be nothing to our conceptions but human justice freed from its imperfections and exalted to infinity.

Take another example. What can we know of goodness, only as it exists in its germ in ourselves? If our Benevolence be fully developed, our conceptions of this attribute will be clear and constituent; but if, on the other hand, our organ of Benevolence be deficient, it will be proportionally difficult to conceive of it in any high degree of perfection. A man with feeble Benevolence himself, is not well qualified to appreciate the sentiment in another, and will be apt to ascribe any striking manifestation of it to some other motive; prudence Self-esteem, Love of Approbation, or something else. In his religious opinions and belief, the same influence will be felt. He may talk of the benevolence of God, but does he understand it well? He may praise the God of love and of all grace, but does he possess a vivid conception of this aspect of the divine character?

The same observation applies to all the other important organs which bear upon moral character, but I will mention only Combativeness and Destructiveness. Will not he whose Combativeness and Destructiveness is large, be more apt to regard the Deity as a jealous, angry being, ready to vindicate himself, and whose justice even will be tinged if it is not steeped in revenge and cruelty, than one whose organization is of a milder and more benevolent cast? Nay, may we not reasonably expect that imperfect man in conceiving of the Almighty, or of any god whom he worships, will contemplate him in some degree in his own moral likeness? Our views of him must be anthropomorphic. As he made us at the first in his own image and after his likeness, so we are compelled from the circumstances of our being, to conceive of Him somewhat in an intellectual and moral image, and after our likeness. And were our nature perfect, did we labor under no excesses or deficiencies, we should be prepared to see him and know him as he is. And the thought, I hope, will not be regarded as out of place here, that in the person of Jesus Christ, we do actually behold the perfect human nature through

which alone the Deity could be fully manifested. Hence he is called with great propriety, "the image of God," "the brightness of his glory and the express image of his person."

But what is true of our Savior in this respect, is not true of any man. Our organization is not abstractly perfect, however it may be adapted to our condition, and our conceptions of God necessarily partake more or less of the imperfections of our cerebral organization. I am apt to consider the mind in its contemplations of the Deity, through the instrumentality of cerebral organs, like a man inclosed in a room supplied with windows of various sizes and forms, and perhaps of various colors, through which alone he can look out and make himself acquainted with surrounding objects. In some directions he is highly favored, in others less so, and in others still, perhaps he is left to struggle with great disadvantages. In one direction the medium of vision is broad and free, and the objects presented to it are seen in their true light, and their relative distances and proportions. In another direction, however, a part of the prospect is cut off by a jutting angle or an intercepting casement, and the unfortunate observer is apt to fill up the picture as best he may. In another direction still, he enjoys the advantages of but a single pane, and that so dark that he sees men only as trees walking. Every object is dull or indistinct. In a fourth, his medium may be larger, but so imperfect, so seamed and contorted, that nothing appears in its true shape and place.

It is in this way I represent to myself the influence of the various organs of the brain. They are, if I may so speak, the windows of the mind. If they are well developed and active, we behold the objects embraced in the sphere of their functions clearly, and are capable of attaining and enjoying a vivid conception of them. If, on the other hand, they are feeble or deficient, if their action is sluggish or diseased, nothing can be expected but results corresponding with such a cause. The objects we contemplate through such organs must be seen feebly, or in some false and pretended way.

The general doctrine to which these remarks seem to lead, is this, that cerebral organization exerts a constant and mighty influence over the religious opinions and belief of nations and individuals, and that it commonly impresses its peculiar character, to a greater or less extent, upon the outward form of every system of religious faith, and always upon the spirit of that system.

Although this proposition is expressed with reference to the science of phrenology, it is worthy of observation that the fact that the various religions in the world correspond with the character and culture of the

people who embrace them, has been long noticed and acknowledged. I will here present you with an extract of a sermon preached before the University of Oxford, at the so-called Bampton Lecture, by *Joseph White*, B. D., Arabic Professor in that University and one of his Majesty's Preachers at Whitehall. It was preached in 1784. He says,—

“Though the existence of a Deity has been admitted, as well in the darkest as the most enlightened ages; and though it is equally supported by the testimony of tradition and the authority of reason, yet the ideas entertained of his attributes have been much diversified by various causes in the constitutions of men's minds or in the circumstances of their situation. The northern nations, fierce and unpolished in their manners, assailed by the severities of an inclement sky, and habituated to the contemplation of dreary wastes and rugged mountains, have arrayed their deities in every terrible quality. Among the inhabitants of the east, whose tempers seem to be cast in a softer mould, and whose senses are accustomed to more delicate and more beautiful prospects of nature, the character of their Gods wear a lovelier aspect. The same propensity in the worshipper to assimilate the object of his worship to his own ruling passions, or his own favorite tenets may be traced through individuals and sects. The God of the benevolent man, is in his contemplation, surrounded with the mild lustre of benevolence; the God of the malignant is seen only with frowns of displeasure, and armed with the thunderbolts of vengeance. In the Deity of Zeno we perceive much of the sullen dignity and harsh inflexibility in which the philosopher himself placed the supreme good; and upon the same principles Epicurus ascribed to his gods that exemption from the solicitude of care, and the bustle of activity, which he represented as essential to happiness both human and divine.”

I need not say before this audience how consonant these observations are with the principles of phrenology. The author ascribes the diversity of ideas in relation to God which are so manifest throughout our race, to causes in part, at least, in the constitution of men's minds, i. e. as we should express it, to the organization of the brain. In a work much older than the Bampton Lectures, entitled “*Causa Dicitur*, or an Apology for God,” written by an English physician, Dr. Burthogge, in 1675, I find an equally explicit acknowledgement of the influence of an individual's mental and moral characteristics on his religious opinions. Dr. Burthogge had written a work entitled “*Divine Goodness explicated and vindicated from the exceptions of the Atheist*.” This had been read and much admired by an English nobleman, who desired the Doctor to continue his labors so happily begun, and “give an account how

it is consistent with Divine Goodness to inflict infinite and eternal punishments for finite transgressions." The Apology for God was written in answer to this request, and after stating what his lordship desired him to do, Dr. Burthogge says: "And here you will give me leave to awaken in your thoughts an observation, which you, no question, have made yourself long ago, that opinions and other motions of our minds, are as often the result of constitution and complexion, as of reason and judgment. For that consideration in a person of a tender, sensible and compassionate temper, (such as your own) is sufficient to account to any that reflects upon it, for the difficulty he may find his thoughts to make, to conceive it consistent with Divine Goodness that infinite and eternal punishments should be inflicted on the sinner, but for temporal and finite transgressions." Here the Doctor ascribes to his lordship's tender, sensible and compassionate temper, his difficulty in believing the doctrine of endless torments; and he lays down the general proposition that our opinions and other motions of our minds are as often the result of constitution and complexion, (that is, as phrenologists would speak, of cerebral organization and temperament) as of reason and judgment.

I shall not detain you with authorities from the phrenologists themselves. There are many expressions in their works which plainly indicate their sentiments on the subject, and which indeed must grow out of the general doctrines of the science. But is there any clear proof of the truth of the proposition which has been laid down, that cerebral organization exerts a constant and mighty influence upon religious opinions and belief; and that it commonly impresses its peculiar character to a greater or less degree upon the outward form of every system of religious faith and always upon the spirit of that system?

The phrenologist cannot doubt for a moment that there is such proof, and that knowing a nation's or an individual's cerebral organization, he is in a manner prepared to anticipate what will be the character of its or his religion, and *vice versa*, that knowing the character of a religion, he is also prepared to judge with some degree of accuracy of the organization of its devotees. Permit me, though not perhaps in the best order, to suggest here a case of the latter kind for your trial.

You are all more or less acquainted with the old Scandinavian religion, occupying the northwestern part of Europe, now divided into Sweden, Norway and Denmark, including all the adjacent islands. The Scandinavian mythology is nearly if not quite as artificial, and exhibits almost as much philosophic thought, as the Grecian itself, and, to my own mind, it seems wrought up with nearly equal beauty. It is by no means

destitute of refinement, and possesses much that is tender and attractive. With the sterner and more fearful Deities it presents us with some who seem to belong to a softer and more susceptible age. There was *Lyna* who kisses away the tear from the eye of the unfortunate, and who is the goddess of friendship and good faith—*Siona* awakens the first sweet feelings in the breasts of youths and maidens, and disposes them to mutual love. *Loffna* was endowed with the power of reconciling lovers who had been estranged from each other; while *Wara* presided over marriage and heard the vows and oaths of lovers. Is not this as fine as any thing of the kind in Grecian mythology? Nay, does it not surpass the amorous *Venus* and her mad-cap boy, that inveterate rogue with his bow and arrows?—*Odinias*, the god of gods, *Alfader* the father of all, or, as some say, *Walfader*, the father of all, who fell in battle—he was the god of war—the *Valkyrias* are awful but yet beautiful beings, neither daughters of heaven nor hell, neither begotten by gods nor cradled in the lap of immortal mothers. They were the attendant maids of *Odin*, with helmets and mail, and mounted on fleet horses. Their office, among other things, was to conduct heroes to *Valhalla*, as their name signifies, they are the coursers of the slain. The residence of the gods is *Asgard*, the fortress of heaven, whence the bridge *Brefost* or *Rainbow* leads to the earth. This bridge is guarded by *Humdal*, a son of nine gigantic sisters. He sees as plainly by night as by day, and his ear is so acute that he hears the grass grow in the fields, and the wool upon the lambs. The fortress *Asgard* contains the palaces of the gods. There is *Valeskialf*, the silver palace of *Odin*, with all the divinities. In the centre of *Asgard*, is the valley of *Ida*, the hall of judgment. Here, too, was *Gladheim*, the hall of joy; *Wingolf*, the palace of friendship and love, and *Glason*, the forest of golden trees. *Valhalla* was a separate palace, with groves and beautiful environs. Here was the abode of heroes who had fallen in battle. Life was passed in *Valhalla* in bloody war and riotous revelry. Their amusements and happiness were of the following description. In the morning, the heroes of *Valhalla* all went out to conflict and engaged with each other in bloody battle until noon, when the trumpet sounded to call them to the feast. Immediately all wounds were healed, and in high spirits the warriors returned to the hall where a sumptuous feast was prepared, a principal dish of which was an enormous wild boar, which was placed upon the table every day. The *Valkyrias* served and poured their wine, which it has been said they drank from the skulls of those they had slain in battle while on earth.

Imperfect as this sketch of their religion is, it must suffice for the present. Now were I to ask you what was the probable or certain

cerebral development of the Scandinavians, would you have much hesitation in replying? That they possessed a fairly developed intellectual region, is unquestionable. Their mythology and history show this. Their organ of Wonder was very active; Ideality was not deficient, but imparted grace and beauty to several parts of their system. Some of their propensities were, however, excessively large. Combativeness and Destructiveness were obviously predominant. Hence their Supreme God was a mere warrior, and their heaven was little else than a mighty battle field, and a hall of gluttony and drunkenness. In one respect it seems to have differed materially from the conceptions formed in warmer climates. Though it was a scene of bloodshed and riot, it was free from that licentiousness which diffused itself through the whole Grecian mythology, and infected even their highest gods. Amativeness was obviously less active among the Scandinavians than among the Indians of Asia, the Greeks or the Mahometans.

I know of no skulls of the ancient Scandinavian race now in existence, or any means by which such inferences as these can either be proved or disproved. The history of that people, however, may tend to throw much light on the subject which to the phrenologists would be presumptive proof, at least, that my conclusion is correct. They have been described as fierce and warlike, engaged in piratical expeditions, and owning sometimes large tracts of the neighboring country. In their manners they were severe, but still they were hospitable. Adultery and cowardice were the greatest crimes which they recognized. Hell was prepared chiefly indeed for the coward, as John Mason Good has said, "They had also their hell, but it was only for those who died at home, and who, as they taught, were immediately conveyed to it and tormented forever for their cowardice with hunger, thirst, and misery of every kind." Their respect for females was very great. At the public festivals and feasts, the women occupied the place of honor. Notwithstanding their warlike dispositions, they cultivated the highest respect for chastity. The women did not live apart from men, and the young women, we are told, might even receive into their apartments their relations, and indeed their future husbands. If during a journey, two individuals of different sexes, and unmarried, were obliged to sleep upon the same bed, the man placed a naked sword between the woman and himself, and it formed a more secure barrier than modern bolts. The women, too, were educated, and partook of the warlike spirit of the other sex. They alone practised medicine and surgery; they alone dressed the wounded, for they followed their husbands to battle and perished with them, or re-assembled the troops to avenge their death.

Their religion, like their character, presented some strange affinities and contradictions. Barbarism and refinement seem to have been closely allied. Individual virtues shone out from amidst deformities and vices. But I must turn more directly to our subject.

I observe, then, according to the doctrine I have before laid down, that with some exceptions and allowances which I shall specify, the cerebral organization may be regarded as indicative of the system of religion, or at least of the spirit of the religion, which the people possessing it will adopt. In other words, there are certain organizations, and, other things being equal, we may reasonably expect to find them in each other's society. No phrenologist could anticipate the ideal mythology of the Greeks among the Boshmen or Saabs of Southern Africa. Nor would he expect the rude religions of the American Indians amidst the refinement and civilization of Europe. These are broad examples it is true, but I choose them because they are so striking, that no one can hesitate a moment in assenting to the proposition they are introduced to support. But what is true on so large a scale, is equally as true, though not as visible, on a smaller one.

It is sometimes the case that a people retain a religion that has become venerable by age, long after they have both intellectually and morally outgrown it. They still cling to its form, after its spirit has departed. They preserve it as something sacred, or what they dare not renounce, although they have ceased to interpret and understand it according to its original import and design. This remark might be illustrated by the religion of ancient Greece and Rome. The philosophers had long rejected in their schools the whole system. Among the enlightened, its fables were deemed as but ridiculous tales for children. Still it was a religion loved by the vulgar and sanctioned by the influence of time and the authority of the state. They therefore hesitated to explode it, lest by so doing they should root up the foundations of society itself. At the time when Christianity was first introduced, this old religion was fast losing its power. Homer's mythology, replete with fancies but destitute of the elements suited to a cultivated people, was addressed only to the ruder ages of a nation, and must, in the process of time, become obsolete. There was an attempt, we all know, after the time of Christ, to give this mythology a philosophic and spiritual cast, and thus to fit it to resist the new religion that was breaking in upon its ancient domain. The effort was, however, unsuccessful, and in three centuries heathenism, in manner at least, was almost extinct throughout the vast Roman Empire. The people were prepared, in a measure, for the change by the progress they had made in general culture. Among the Orientals,

on the contrary, there had been little progress for centuries, and has been to this day. They felt, and now feel, little need therefore of a new religion, and hence christianity has made but feeble advances throughout the vast regions of Asia, while all Europe has submitted to its dominion.

It is with sects and parties as it is with nations and people. A creed may be nominally retained as a whole, long after its most important particulars have ceased to be believed. We might instance France before the Revolution, and England at the present day; or to take a case near home, the Presbyterian church in our own country. The creed professed is that of the Westminster Assembly of Divines, the faith actually believed by great numbers is that of John Wesley. Wherever there is progress in general culture, in the arts and sciences, in literature and morals, we may reasonably expect that old formations and ancient symbols will, like the garments of childhood, be ultimately outgrown. They may be left to hang about, and even be regarded with a kind of reverence, but they can actually be worn no more.

Among the great mass of the heathen world, such progress either does not exist, or they remain quite stationary, or else it is so slight that ages and ages would be necessary to effect any considerable change. And hence we may regard their religious systems and their cerebral organizations as pretty accurate exponents of each other.

It should be borne in mind, however, that when we speak of nations, we speak of the great mass, and that individuals may be found who far excel their countrymen in general knowledge. Such individuals will be commonly found to be infidels like many of the ancient philosophers of Greece and Rome, and the French philosophers of the last century, or else they will enjoy a purer faith, the growth of their own better and purer minds.

It has been remarked by Spurzheim that "refined ideas are commonly buried under heaps of rubbish and superstition, so that it is extremely difficult to separate the true from the false doctrines. We find," he adds, "sublime precepts at the bottom of all the great religious systems among the Indians, Chinese," &c. The very nature of the subject renders it necessary that there should be something sublime even in the grossest religion on earth. The ideas of God and eternity seem almost indispensable to every religion, and nothing can surpass them for grandeur and power.

In the rudest state of human society, however, these ideas seem but imperfectly developed. Religion in such a state is almost if not quite universally what is called Fetichism. We find it among the American

Indians, but more particularly among the inhabitants of Africa. It consists in great respect and indeed, an adoration of any thing and every thing recommended as a talisman or a charm.

The negro head indicates great religiousness. Veneration and Hope are well developed, but it is deficient in Conscientiousness and Cautiousness, in Ideality and reflection. The consequence is as might be expected; they are exceedingly superstitious, and their superstition is not enlivened by the workings of imagination or governed by the dictates of reason. They are alive with the sense of the existence and presence of an invisible power, and they worship it in the tree that gives them their food, the rock that shades them, in the serpent which they dread, and the monkeys and parrots whose wild gambols or sparkling feathers and harsh voices furnish them amusement. "Any thing," says a popular writer, "that strikes the irregular imagination of the negro, becomes his *fetich*, or the idle of his worship. He adores and in difficulties consults a tree, a rock, an egg, a fish-bone, a date-stone, a horn, or a blade of grass." They are delighted that they can carry their gods along with them, and thereby always have them near, and they may sometimes be seen with a whole string of these *fetiches*.

The negro is not generally possessed of large Destructiveness, though some tribes among them formerly ate the bodies of their enemies slain in battle, with the hope of being inspired with their courage. This simple circumstance may be construed into an acknowledgment of deficient courage, while at the same time it demonstrates an active Wonder as well as Hope, and a feeble intellect.

It must not be forgotten, however, that there are a great many tribes in Africa, differing much from each other; there are also several various forms of religion. In Whidah, for instance, a serpent is worshipped as the god of war, of agriculture, of trade, &c. It is kept in a species of temple, and is attended by priests. In Benin a lizard is the object of public worship; in Dahomy, a leopard, and in the neighborhood of Cape Messurado, the sun. Some negroes, we are told, fashion their *fetiches* into an imitation of the human form. Malte-Brun remarks that "Fetichism is one great cause of the ignorance and immorality of the Africans." Would it not be more true to say that their bad organization is one great cause of both their ignorance and fetichism, too? Take a hundred children of the European stock, and place them in their early infancy in the heart of Africa, and would they or would they not break away from the barbarism and ignorance in which the native African lives? It is undoubtedly true that religion exerts a reciprocal influence on organization. It possesses as a part of general culture, and in rude nations a

very important part, a kind of conservative power; it tends to perpetuate a state of things, by preventing rash departures from beaten paths. But the African must have been ignorant and barbarous before fetichism could have arisen with him. It is the natural growth of his organization, and could every trace of it be banished from his mind, it would spring up anew.

Look for a moment at the New Zealander. What religion does his head indicate? Here is a head of tolerable size, but the propensities greatly preponderate. The coronal region above Cautiousness, is broad but exceedingly shallow. It has great Combativeness and Destructiveness, but is decidedly deficient in Benevolence, Veneration and Conscientiousness. "The character which it indicates," says Mr. Combe, "is one of considerable energy, cruel, cunning, cautious and vain." Their disposition is said to be exceedingly irritable, and when excited they are in the highest degree cruel and blood-thirsty. Their religion is rather simple. They believe in a supreme divinity, and in a god of anger and death. This latter god obviously corresponds with their organization and character. They exhibited their Cautiousness as well as great Philoprogenitiveness by taking care to have their children sprinkled as soon as born, by the Tohunga, or priest; without which, they suppose they would grow up with a most perverse disposition, or else be doomed to death. They manifest their feeble Benevolence by placing their friends as soon as they fall dangerously sick, under the tabro, a kind of consecratum or spora, deny him all food, and leave him to die according to the mandate of the god of anger and death. They carry their revenge so far as to eat their enemies slain in battle, and entertain the belief that by so doing they seal the doom of the soul of their enemies to eternal fire. It is said they do not eat their enemies from any love of human flesh, but only to gratify their hatred and revenge. We see at a glance that their religion and their organization correspond. They have thought their gods like themselves, angry, vindictive and cruel.

Let us turn now to the Hindoo skull. This is small in proportion to the body, elongated and narrow, and of course deficient in the great elements of a fierce and energetic character, Combativeness and Destructiveness. The intellectual faculties are fairly developed, but he is more prone to analogical than direct reasoning, and is fond of metaphors and comparisons. His love of the marvellous is great, and his whole religion is but a series of marvels and wonders, surpassing all the powers of European credulity. It is said that the Hindoos have three hundred and thirty-three millions of deities or gods, but among the most important are three: *Vishnu*, *Siva*, and *Brahma*: or rather the Hindoos

worship the Supreme God under three forms. Their mythology almost bids defiance, I will not say to belief, but even to conception. Their religion is said to be pantheistic, understanding by that designation a religion which inculcates the belief in One existing in all things, and all things existing in one—God in the universe and the universe in God, and which regards nature as a revelation of the divine intelligence. Every thing is thus the continual transformation or a metamorphosis of God. On this doctrine rests the belief of a metamorphosis or transmigration of souls. Like the New Zealanders, they take their aged and sick friends to the river Ganges and leave them to die, quite indifferent to their sufferings. They look upon divine rest, immersion or absorption in the Godhead, as the highest perfection, and Ward represents them as anticipating ultimately a total annihilation. If this be true, it strikingly corresponds with their singular deficiency of Vitativeness, or love of life. “If fatigued on a march, they ask no greater boon than to be allowed to lie down and repose, with every chance of being devoured by the wild beasts, or of being overtaken and slain by the pursuing enemy.”

It has, no doubt, been observed by you all, that individuals of the same sect differ in their views and feelings as really as do the sects themselves, and it is sometimes seen that men have, through certain influences of fashion, or momentary excitement, or some thing else appealing to some of their faculties, associated themselves with a sect with whose spirit and general characteristics they have little sympathy. But generally speaking, I cannot avoid the conviction that there exists a considerable degree of harmony among the members of the same sect or party in religion. Contrast, for one moment, the zeal, the love of excitement, and sometimes the noise of the Methodist denomination, with the calm, quiet and silent Friends, and tell me if it is mere chance that dictates to the members composing these bodies, their respective preferences. Contrast again, the pomp and ceremony of the Catholic or even the Episcopal Church, with the simplicity and unostentatious service of the Methodists or the Quakers. Compare, again, the rigid spirit and doctrines of one system of faith, with the mild and tolerant spirit of another. Indeed we behold on all sides strange diversities, and to what shall we refer them, if they do not find their ground in the diversities of human organization and consequent character?

It has been observed by Mr. Combe, that “those individuals in whom Destructiveness predominates, have a natural tendency to dwell on the threatenings of the gospel, while those in whom Benevolence, Hope, and Veneration are large, and Destructiveness deficient, hold out almost

exclusively its promises." The effect is as we should anticipate ; people possessing the same general organization, are pleased with the same kind of preaching. Those of great Destructiveness, are gratified with the terrors of the law, while men of an opposite organization will seek the good tidings of salvation, and find little pleasure in any ministry of which these do not constitute a prominent part. This is but an individual case, a diversity that affects but one or two faculties ; yet the principle which it involves is of universal applicability.

It may be asked, if these doctrines be acknowledged true, of what utility can they be to society ? What useful bearings can phrenology have on the subject of religion ? I answer, that phrenology will help to more just and discriminating views of christianity, to a higher reverence, and, I trust, a deeper love of a religion adapted to man in the highest stage of moral developement. It would also help to guide us in our duty in the great work of Evangelizing the world. The opinion has been commonly maintained, that the gospel, as designed to be a universal religion, must be adapted to all nations and conditions of men. But is this in accordance with fact ? Are our American Indians capable of being christians ? Can they be converted to more than a nominal christianity ? I might mention other classes of people who seem organically unfitted for the reception and enjoyment of such a religion as ours. They must first be elevated to a higher intellectual and moral character. This seems to point us in our missionary labors, to the preliminary task of carrying civilization and science in advance of christianity. It should teach us also to discriminate amidst the various fields of missionary labors ; for, phrenologically considered, some classes of the heathen world open cheering prospects to the missionary, while others forbid all reasonable expectation of tolerable success. The history of the missionary enterprise, seems to me to furnish the most complete confirmation of phrenological doctrines on this subject, and could its voice be heard and heeded, it would give force and efficiency to this great moral movement, and save those interested in its direction from the disappointments and reverses which have so frequently attended their efforts.

But there is one lesson more of great practical utility, which the doctrines of phrenology inculcate, on the subject of religion. Amidst the diversities of opinion existing among christians, there is also no little uncharitableness and censure. Each assumes his own creed to be true, and is prone to regard his neighbors who differ from him, as, in a manner, outlaws from society, and deserving of the severest condemnation. This is in form and spirit nothing but bigotry. Phrenology teaches us to be tolerant toward those who differ from us. It may be that they are less

criminal than we suppose. Their errors may be more the result of an unhappy organization than of a perverse and wicked disposition. These remarks of course apply only to opinions honestly maintained.

It also teaches us that in the economy of God there may be, and no doubt is, a reason for the various forms of religion existing among men. They are in some measure the exponents of the faculties of the human mind in its various stages of intellectual and moral developement, and may be regarded as more or less adapted to its condition and wants. Among christians this is particularly the case. I do not fear for the fate of christianity, so long as it is maintained on individual grounds, so long as men study for themselves, and speak forth calmly and strongly the convictions of their own minds. The forms which christianity is made to put on, differ widely, it is true, from each other. But each, I doubt not, is adapted to its sphere of action. If we are led to look on any of them with contempt, might it not be well to ask ourselves what other form would those who adopt them be inclined, or even be able, to receive? But whatever may be the form, the spirit of religion is nothing else than the spirit of the age or of the people whose it is. And the spirit of every religion must be made to harmonize with the progress of mind amidst which it is living, and by which it cannot fail to be modified.

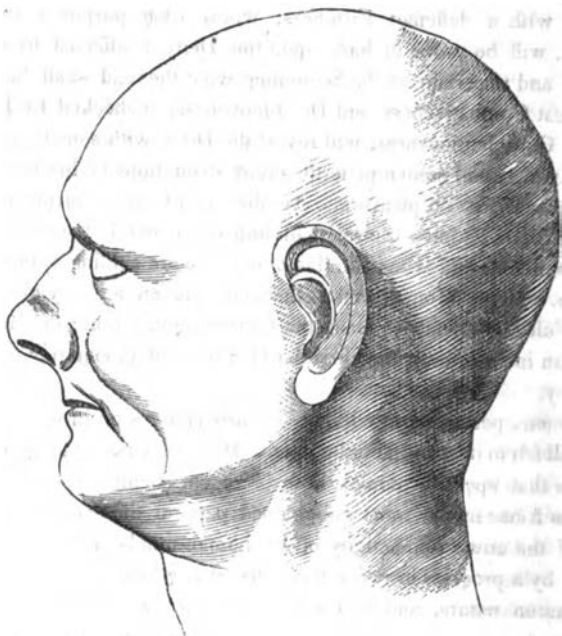
But I feel that I am not qualified to do my subject the slightest justice. We need, for pursuing it with profit, either a respectable number of skulls, or of accurate casts of the sects and nations whose religion we are to consider. Then, with the best authorities with respect to religious opinions and practices in our hands, we should be prepared, in some degree, for tracing what I doubt not would be found the generally striking harmony between cerebral developement and the actual religious faith of the people. We should be able to see what an influence organization really exerts over the dogmas of men, and more especially over the spirit of popular religions. The cases to which I have so unsatisfactorily appealed, are foreign and heathen religions, but the principles which I have endeavored to illustrate, embrace christianity as well as every other form of religious opinion. It does by no means follow, because all christendom professes christianity, and appeals for its doctrines to the Sacred Scriptures, that they all agree in their views of God, of his moral government, or his mode of salvation. Nay, it is obvious to us all that this is not the fact. You may take ten or a hundred men, equally learned and equally sincere, but gathered from different parts of christendom, and exhibiting, as they will, the national diversities, and when brought together they will be found to differ greatly in their respective views. They will perhaps use on many points nearly or quite the same

language, and yet the moment they attempt to explain themselves, the diversity of their sentiments will be manifest. It is the same blessed truth, the same glorious system, but it is contemplated by different minds through different cerebral organizations. One with good reflective faculties and great Firmness, will be apt to consider God as a sovereign who frames his plans and does all his pleasure; a widely different organization, with a deficient Firmness, whose own purposes are often changed, will be prone to look upon the Deity as affected by circumstances, and uncertain at the beginning what the end shall be. One with great Combativeness and Destructiveness, unchecked by Benevolence or Conscientiousness, will invest the Deity with something of his own character, and contemplate the future exhibitions of his wrath with feelings bordering on pleasure. Another with large Benevolence looks upon the Deity as but a transcript of himself, as one in whom good will is predominant, and whose kindness and love are shining out on every occasion. Great Wonder makes theological mysteries easy of acceptance. Full Hope tends to make the future bright, while a deficiency of this organ inclines even the christian to a tinge of gloom if not of despondency.

In no one, perhaps, now living, is christianity seen in its own pure light, and felt in its true and full power. It is a remarkable fact, however, and one that speaks volumes in favor of christianity, that having its abode as it has in the most enlightened parts of the world, and in the midst of the unwearied activity of the human mind—an activity distinguished by a progress in every thing that strengthens, purifies or adorns our common nature, and after a lapse of near two thousand years of constant advancement and increasing elevation of mind and morals, the religion of the poor Nazarene is not outgrown—nay, is not yet comprehended. Old systems have passed away, and the world's philosophies of that age have become obsolete, and new ones have been introduced to fill their places. But christianity still stands in the greenness of its age, and we hardly feel that time, who wears out and obliterates all things else, has laid his finger upon this spiritual edifice, this temple of living truth. Nor will it grow old; man may continue to go onward and upward for centuries and centuries yet to come, and still christianity will be his religion, adapted to his nature, and more than all things else calculated to improve and exalt it. And we look forward to that distant period when humanity shall have arrived at its perfection; then, and not till then, will this religion be fully understood and comprehended; then, and not till then, will it fully penetrate and reform and control our whole being, and be to us what it is proclaimed, the power of God unto Salvation, which alone maketh free indeed.

ARTICLE II.

**PHRENOLOGICAL DEVELOPEMENTS AND CHARACTER OF PETER ROBINSON,
WHO WAS EXECUTED APRIL 16TH, AT NEW BRUNSWICK, N. J., FOR
THE MURDER OF A. SUYDAM, ESQ.**



The above cut is a correct representation of the head of Peter Robinson, who murdered on the 3d of December last, A. Suydam, Esq., of New Brunswick, N. J. The cut is drawn from a cast taken in plaster of paris from the head of Robinson on the day previous to his execution. There cannot be, therefore, any inaccuracy or deviation in the cast, either as to size, proportions or developements, from the living head. And as the hair was in some places shaved off, and in others being very thin, we are able to make out very exact measurements, which are as follows :—

	Inches.
Circumference of head around Destruct., Philopro., and	
Individ.	22.5
From Destructiveness to Destructiveness,	6.3
“ Acquisitiveness to Acquisitiveness,	6.2
“ Ear to Benevolence,	5.5
“ “ Firmness,	6.2



The above out presents a front view of the head of Robinson.
 Developements as given on a scale of 7:

Amativeness, - - -	7	Destructiveness, - - -	6
Adhesiveness, - - -	5	Alimentiveness, - - -	6
Philoprogenitiveness, - - -	6	Secretiveness, - - -	6
Inhabitiveness, - - -	5	Cautiousness, - - -	4
Concentrativeness, - - -	4	Acquisitiveness, - - -	7
Approbateness, - - -	4	Individuality, - - -	5
Self-esteem, - - -	6	Form, - - -	6
Firmness, - - -	7	Size, - - -	6
Conscientiousness, - - -	4	Weight, - - -	6
Hope, - - -	5	Color, - - -	4
Marvellousness, - - -	3	Order, - - -	5
Veneration, - - -	5	Calculation, - - -	5
Benevolence, - - -	3	Locality, - - -	6
Constructiveness, - - -	6	Eventuality, - - -	4
Ideality, - - -	4	Time, - - -	5
Sublimity, - - -	5	Tune, - - -	
Imitation, - - -	4	Language, - - -	5
Mirthfulness, - - -	6	Causality, - - -	4
Combateness, - - -	6	Comparison, - - -	4

One of the reporters of Robinson's trial, (William H. Attree,) describes his person as follows: "The prisoner is about 40 years of age, 5 feet

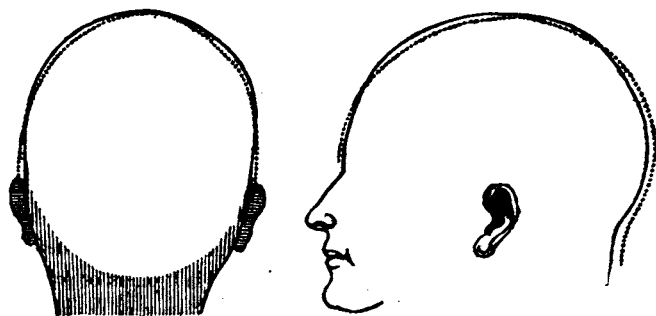
9 inches high, well made, though not stoutly built, but with a very unpleasant cast of countenance. His skin has a dark and dirty pale brownish cast, not yellow from sickness; his hair is bushy and of a dark brown color, cut short; his whiskers are small; his eyes of a light grey; his nose slightly pug; his forehead low; his chin and the lower part of his face so small as to appear quite a deformity; and the tout ensemble completely repulsive." The head of Robinson was somewhat above the average size, and as will be seen by referring to the cut presenting the side view, was remarkably developed in the posterior part, while his forehead was very retreating. The posterior and middle lobes of the brain were relatively very large, when compared with the anterior lobe; and consequently his selfish propensities and feelings predominated altogether over his intellect and moral sentiments.

But in order to understand more fully and correctly the *natural* elements of Robinson's character, it will be necessary to notice somewhat in detail, his principal mental faculties and their several combinations. The reader should bear in mind, however, these two general principles—first, that the stronger a faculty naturally is, the greater is its tendency to activity, and consequently those faculties which are the strongest as a class, will constitute the leading traits of character; and, secondly, that the mere animal feelings are blind in their nature, and that the direction and character which they take, will depend, in a great measure, upon the influence which the intellect and moral sentiments exercise over them. It may be proper also to remark here, that such is the balance or rather general developement of certain classes of organs in the present case, that their manifestations will vary considerably according to circumstances, and will exhibit at different times, seemingly contradictory traits of character. Sometimes the domestic feelings will predominate in activity, rendering their possessor, for the time being, very good to his family and friends; and then again, his selfish propensities, rendering him morose, selfish and hard-hearted, and again his mirthfulness, love of fun and notoriety will predominate.

The social or domestic feelings in Robinson were very strong. The organ of Amativeness was one of his largest organs, and its manifestations would not be any too well governed or restrained, his Conscientiousness, Benevolence and Approbativeness being all deficient. His Philoprogenitiveness was large, but as Destructiveness and Self-esteem were also very large, with deficient Benevolence and reflective intellect, he would sometimes be extravagantly fond of his children, and then again, would intentionally wound their feelings, and be extremely severe and unfeeling in his treatment of them. Though Adhesiveness was somewhat strong,

yet his attachment to the other sex would partake more of physical love than pure friendship, and his intercourse with his fellow men generally would be characterized more by supreme selfishness than by real disinterestedness, in consequence of the great predominance of the selfish faculties. The organs in the side head, as will be distinctly seen by the second cut, were very large. These embrace Destructiveness, Secretiveness and Acquisitiveness, and would render him cruel, selfish and deceptive. It is true, that Secretiveness would not appear to good advantage, his Cautiousness and Reflective Intellect being so deficient that he could neither make nor carry out any well laid plans or schemes. Self-esteem and Firmness were large, rendering him very decided and self-willed; and with weak Approbativeness and Cautiousness, he would be comparatively regardless of character and of the opinions of others, as well as reckless of consequences. The moral sentiments, as a class, were very deficient, and would have but very little agency in the formation of his character. The three leading moral faculties whose dictates are "to do justice," "love mercy," and "walk humbly before God," had comparatively no restraining or controlling influence over Robinson. Though he might have been strictly an honest man in his dealings, and industrious in his habits, yet he would never have realized very sensibly the duties and obligations which he owed to his Creator and his fellow men as a religious and accountable being. In consequence of his very deficient Conscientiousness and large Self-esteem, he never would be much troubled with a sense of guilt and moral obligation, but would always justify himself and think he was perfectly right.

The anterior lobe of his brain, the seat of the intellect, was relatively small. The Perceptive Faculties, as a class, were much stronger than the reflective. These would make him acquainted with the properties of things, and give him a good practical judgment and fair business talents. The organs of Causality and Comparison, however, were not large. He was not therefore capable of inventing, planning, or reasoning very well, where general principles or the relations of things were concerned. Constructiveness being large, with strong observing faculties, he might be a very fair mechanic and use tools generally to good advantage. The organ of Mirthfulness was large, rendering him fond of fun and somewhat witty in his remarks, and with large Self-esteem, desirous of general notoriety and distinction. These would constitute the leading elements of a character, deduced, strictly according to phrenological principles, from the measurements and developements of a cast or head like that of Robinson's. But in order to arrive at greater correctness and clearness of illustration, we introduce two other cuts, and some remarks based on a distinct set of measurements.



The above cuts present two views of the outlines of Robinson's head, as ascertained by Stephen's Cephalometer, compared with the average or mean shape of one thousand male adult heads. The dotted line is the outline of Robinson's head, and the continued line is designed to represent an average or medium head. From these cuts it will be seen in what parts or organs, Robinson's head exceeded, and in what it fell below, mediocrity. The side view shows a great excess of the lower animal organs, and a great deficiency in the moral sentiments, especially of Benevolence. The view of the back part of the head shows very large Destructiveness, Secretiveness, and Acquisitiveness, with great deficiency of Cautiousness, Conscientiousness and Approbativeness. From both cuts, we see that there was decidedly a great predominance of the animal and selfish faculties over the moral and intellectual. There cannot possibly be the least inaccuracy or mistake in this last measurement of Robinson's head.

The cephalometer is a very ingenious instrument, invented by Mr. Enos Stephen's, and is adapted to give the general size of the head and the particular developements of every organ with mathematical accuracy and precision. This instrument was recently recommended by a committee of the Franklin Institute in this city, as "well contrived and adapted to measure the shape and size of human heads; and to register the same by numbers, for the use of the phrenologist or sculptor, in drawing or modeling heads." It points out the location of every part of the head, by degrees of latitude and longitude, and measures its exact distance from midway between the ears or the medulla oblongata. At some future time we may give a more full and detailed description of this instrument.

It now remains for us to compare the above with the real life and character of Robinson as exhibited in his late trial for the murder of Mr. Suydam, as well as disclosed by his dying confessions. This we shall

do in as few words as possible. Peter Robinson was born Nov. 1808, in Chamber's street, New York. "My father," says he "who is still living, was any thing but a steady man; he used to drink too much liquor; he did not live with my mother, so there was no one to control me, and like most boys in New York, I grew up wild and unmanageable; not going but very little to school, and learning very little else but mischief. My mother was an uncommonly hard-working, industrious woman; she used to take in washing and go out to day's work."

When about 12 years of age, Peter was sent into the country to learn a trade. While here, his master was about to punish him for some misdemeanor, Peter says in relating the fact, "Now, I was a boy that would never submit to a blow from any body, not even from my own parents, so we had a pretty sharp scuffle." Soon after this, Peter returned to New York, and lived four years with a Mr. Barnes, during which time he says, "I used to run a good deal with fire engines and mix up with rowdy, young men, till I learnt pretty much all about all the kinds of wickedness among young men and young women, that was a going on in New York, but yet I'd never committed any offence against the laws, nor wasn't half as bad as the rest of my associates and companions. All this time I hadn't had much schooling of any kind, and though I had sometimes been to the Methodist churches of a night, yet I went there more for a kind of frolic with young girls than any thing else, so that it didn't do me much good any how. I have also had a little to do with women in my time." On account of some difficulty with Mr. Barnes, Peter ran away, and Mr. B. went to his mother to get her to persuade him to come back, but Peter says, "I wasn't a boy to be coaxed no how you could fix it; for I went all the time pretty much on my own hook," (large Self-esteem and weak Approbativeness.) When about 18 years old, he spent some time in Florida, where neither his habits nor principles were in any measure improved. He spent his Sabbath's in hunting, fishing, and other amusements, and was finally obliged to leave the place in consequence of getting into a scrape with a "young Indian girl."

About the year 1828, Robinson took up his residence at New Brunswick, N. J. He soon after married; pursued the trade of a carpenter, and appears to have been steady and industrious. No particular incidents occurred here worthy of note in the life of Robinson, till the murder of Mr. Suydam, one of the most respectable citizens of New Brunswick.

The facts of the murder were these. Mr. Suydam held a note of \$75 against Robinson; also held a mortgage on his place. On the 3d

of December last, Robinson, by promises of payment, enticed Mr. Suydam to his house, and while Mr. S. was sitting at a table, Robinson struck him on the head with a mallet; he first knocked him down and stunned him; then took possession of his money, watch, papers, &c. He then dragged the body down into a basement story, dug a hole under the floor and placed the body in it. Mr. Suydam being still alive, Robinson jumped upon the body, now covered partly with dirt, and struck the head with his spade, till he had completely killed him. He buried the body several feet under ground, and replaced the floor. Robinson was alone in the house. The sudden disappearance of Mr. Suydam produced great excitement. Robinson was soon suspected; circumstantial evidence proved strong against him. On the 14th Dec. his house was examined and the mangled remains of Mr. Suydam were discovered.

A few incidents that transpired during his trial, will serve to develop more fully some traits in his character. April 14th, four days previous to his execution, says one of the reporters, (Mr. Attree), "last night his little boy was taken to his cell to see him prior to their final separation in this life. Peter was much moved by the interview, and indeed it was the only time that his sympathies seemed affected since he has been in jail. The boy left the cell, and Peter remembered when too late that he had not bidden the child farewell; he cried out, 'I didn't wish him good bye! I shall never see him again in this world.' and he burst into tears, sat on the floor of his cell and wept bitterly for over two hours. This morning he is as cold and indifferent as ever. His conduct to his children was said to be of a very cruel character. He would beat them in a most cruel manner, shut them up in his own house for a whole day without food, and when they would jump out of the window and go to a neighbor's for food, he would beat them and threaten to kill them if they ever did so again." At other times, he would manifest the strongest affection possible for his children.

April 12th, (says Mr. Attree,) "his father was with him to-day, and cried bitterly. Peter said, 'It's no use to show so much sorrow, father; I don't deserve it; can't feel it; and it's all thrown away on me.'" After his father left, he said, 'what an old fool my father makes of himself; he comes here and cries; he goes home and drinks; and if he had brought me up properly, I shouldn't have been here now.' I observed to him that he ought to show less levity, and be thinking of more serious matters if he meant to. He laughed and said, 'oh you know I've got four days to live yet; and the parsons tell me the thief on the cross didn't begin to repent till an hour before he died, and yet he went to heaven they say; so I've got plenty of time.'

While in jail, and during a greater part of the trial, he seems to have had no realizing sense of his situation, no compunctions of conscience, no fear or anxiety about his execution and the retributions of another world. He appeared much of the time not only careless and indifferent as to his fate, but frequently sported and joked, under circumstances the most solemn and affecting. Though he was often visited by clergymen and other religious persons, yet their prayers and expostulations seemed to produce scarce any change in his feelings or conduct. It is true, that on several occasions he did engage in religious duties and appeared somewhat affected, but it was all apparently forced and evanescent in its effects. When nearly the whole audience was melted to tears by the charge of the Judge, "his eye never quailed; his lips scarcely parted, and not a muscle moved in his features." And when asked how he felt, he replied "*first rate*." He could joke the sheriff about sharing with him the fees, and the jailer about making his own coffin; and it was not till he was let fall the second time from the scaffold, (the rope having slipped the first) that he could cry out "*Lord, have mercy, save my soul*."

ARTICLE III.

ON THE NATURAL SUPREMACY OF THE MORAL SENTIMENTS.

(Continued from page 419.)

We have said that friendship founded on the higher sentiments would be in very little danger of being broken; but imagine that, by some error or imprudence incident to human nature, one of the parties were to offend against the other, or were to be overwhelmed by misfortune, for which he was not altogether blameless, how differently would both feel from what they would do on such occurrences happening if the attachment were altogether founded on the propensities! In the latter case, the selfish feelings of the offended party would be disagreeably affected, his Self-esteem and Love of Approbation mortified, and he would hasten to shake off the connexion. The pride of the offender would be called into action by this treatment; he would harden himself to despise the coldness and selfishness of his pretended friend, and reciprocal dislike would reign between them. In the other case, where the sentiments were the springs of the attachment, each would know that when he

erred, he would grieve most deeply the Benevolence and Conscientiousness of his friend; that these faculties would lament his aberration, and long and desire that he would return by repentance to the condition in which they could love him again; he would know that selfish disappointment or animal resentment towards him had no abiding place in the mind of his friend; the door of reconciliation would always stand wide open to the hinges; and the countenance would habitually beam with a most kind and sincere invitation to return, by suitable acknowledgment, to all the cordiality and delights of their former affection. If the offender possessed almost any portion of the moral sentiments, such principles, practically displayed, would melt and subdue him to repentance and a return to duty, and the delight of being forgiven would more than compensate any humiliation to his Self-esteem that might attend it.

When we consider the pure and elevated principles on which such a friendship as this is formed, we shall have no difficulty in perceiving how little temptation it would afford to abuses of Secretiveness and Love of Approbation in one party in the form of mere compliment and flattery, addressed exclusively to Love of Approbation in the other. No man, who loves his friend from Benevolence, respects him through Veneration, and desires to deal justly by him from Conscientiousness, could be guilty of deceit, and injure him by offering a gratification to an inferior sentiment disowned by all the nobler powers; for unfounded compliment is really deceit, and an injury to him to whom it is offered. If it has any effect, it leads him to suppose that he has already secured a place in our esteem, when he has not done so; and it thereby takes away from him a motive to act worthily, by which he might really attain the approbation which is thus hypocritically proffered to him before he has deserved it.

The same principles enable us to understand how, in such a friendship, the parties, far from disguising each other's faults, will be prompted to tell the one to the other all that he thinks amiss. Each is convinced that the other desires to act habitually under the guidance of the sentiments, and knows, that if his friend has, in any instance, failed to do so, none will be more anxious to amend the fault than the offender himself. He therefore approaches him, not with the natural language of Self-esteem gratified at the weakness which he has betrayed, nor with the natural language of wounded Love of Approbation, as if ashamed of him, nor under that of Destructiveness, as if angry with him, but under the full inspiration of Benevolence, Veneration and Justice, sorry for his error, esteeming the eminent qualities that he still possesses, even although he has erred, and kindly and honestly wishing him to return to the path

duty, purely for the sake of the advantages that will flow to himself from doing so. Such an exposition of errors causes no painful uneasiness; there is so direct an appeal to the higher sentiments of the offender, such an explicit declaration of our conviction that he desires to abandon error and do that which is right, and such a throwing of ourselves upon all his better principles, that our very hiding draws closes the bands of affection between us. Persons who know these principles of human nature, possess a power of telling people their faults without giving offence, that occasions surprise to those who do not understand the theory of it; such persons also speak plainest to those whom they most esteem; and, in fact, no proof of friendship and respect is half so sincere, useful and unequivocal, as that which consists in a candid exposition of our faults. The individual who tells us what we have done amiss, sincerely loves us; and we shall find him true and affectionate, when the professionalists, who act from Love of Approbation alone, have fled and deserted us.

Farther,—Let us suppose a family united on the basis of the higher sentiments, and attend to the results. The husband, who marries chiefly from motives furnished by the lower propensities, will love his wife, not disinterestedly for her own sake, or from an ardent desire of her happiness, but only as an object who conduces to his self-gratification; there will be a prodigious difference between the practical consequences of affection springing from these opposite sources. In the latter case, the wife's enjoyment will habitually be subordinate to his own; in all the domestic arrangements, his will and pleasure must be first consulted; when he is sad, she must be sorrowful; when he smiles, she must look gay. In short, his gratification must be the land-mark by which she must steer, or incur his high displeasure. In the former case, where the affection springs from the higher sentiments, her happiness will be the leading and prominent object; he will desire to limit his demands upon her exertions in such a way as to be the least burdensome; when he is sad, his Benevolence will prompt him to shroud his sorrow that it may not dim the lustre of her brow; when he is gay, he will desire that she may smile, because he loves to see her always happy, and her joy will be his chief delight. Suppose both husband and wife to act upon the selfish principle, it is obvious that cold and jarring discontent, originating from selfish desires crossing and defeating each other, would embitter life, and Adhesiveness itself could not long hold the bonds of attachment together. If both act on the higher sentiments, then the strife would be who should bear the most of the other's burden; the leading desires of the two would coincide; Benevolence in the

husband, disinterestedly desiring the happiness of his wife, would meet and rejoice in her Benevolence desiring disinterestedly his enjoyment; Veneration in the one, directed in respectful deference, would meet the same sentiment emanating like a blessed influence from the other's mind, and the perception of this quality would satisfy that faculty itself that its respect was worthily bestowed; with Conscientiousness, regulating all the manifestations of each, would remove the fear of every extreme, either in selfishness or fondness. How then would Adhesiveness and Philoprogenitiveness rejoice and delight in such society! The children would be loved by both parents, not as mere appendages of self, but as being committed by a bountiful God to their care, to be the objects on whom their moral and intellectual faculties were to be in a peculiar degree exercised and employed. The wish which would then animate the parents would be to see their offspring excel in moral and intellectual qualities, convinced by personal experience, that these were the only stable and certain sources of prosperity and enjoyment on earth. The children, treated habitually under the guidance of these superior sentiments, would rise up dutiful, obedient, rational, and delighted; and the result would prove that the Creator has established peace and joy on the basis of the moral sentiments, and given the propensities as additional sources of gratification only when held subordinate to them. Suppose affliction to happen to such a family; that some of their members were removed by death; the pressure of such a calamity would be greatly mitigated by the purity of the sources from which their affection flowed. Benevolence would glow with a redoubled fervor around the sick bed, and sooth its sorrows. Veneration would inspire with a deep sentiment of resignation to the Divine will, easing the mind of more than half its load; Conscientiousness would join the other faculties in looking abroad into the world, and in acknowledging that, as the removal of one being is the signal for transmitting the enjoyments of life to another, there was no just cause for repining that the object had been taken away from this family, seeing others flourished and enjoyed the gifts of the Creator, to be resigned also by them, after a time, into other hands; while Hope would point to a better world into which the sufferer had been received. It is when the animal faculties alone are the sources of affection, that calamity presses with intolerable severity. Philoprogenitiveness, Adhesiveness, and Self-esteem, while principally active, and concentrating all the views and wishes of the mind on self, experience a dreadful agony on the removal of their objects; they possess no source of consolation, time alone being capable of bringing relief by allaying their activity.

Suppose, again, as a contrast, a family animated chiefly by the lower

faculties, to sustain severe loss of property, and to be reduced from competence to poverty; if the chief motives of the parents previously have been Acquisitiveness, Love of Approbation, and Self-esteem, such a visitation would affect them thus: They would see the sole object of their solicitude, their wealth, torn from them in an instant; they would feel their previous life lost, as it were, and annihilated, the only abiding memorial of it being swept away. As they had founded their hopes of the welfare and advancement of their children exclusively on the substance they were to leave them, they would feel desolate and bereft, and be overwhelmed with regret and mortification, that their offspring were now to be left beggars and unprovided for. As they had founded their claims to rank and consideration in society, chiefly on their possessions, and moved in the world in all the splendor of affluence, more to gratify their own Self-esteem and Love of Approbation, than to shed the sunshine of prosperity on others; and as the loss of property would hurl them from this throne of selfish magnificence, bitter would be the pang, deep and poignant the distress on their fall: yet all these miseries, it will be observed, originate from the merely animal feelings.

To reverse the picture, and shew the result of conduct flowing habitually from the higher sentiments, let us, as a last illustration, take the opposite case of a family whose parents have been habitually animated by the higher sentiments, and suppose some dire calamity, some wasting flood or deadly wreck, to blast the fruits of their toils, and leave them poor and unprovided for at an advanced period of life. Such misfortunes, we may observe, would not be very likely to happen to them, because the evils sent by Providence, altogether independent of our own misconduct, are comparatively few; but let us suppose them to occur. Then, as their chief sources of enjoyment, when in prosperity, were the gratifications of the higher sentiments, it is not difficult to perceive that they would be bereft comparatively of little. If their consequence in society was founded on the kindness, the generous interest, which they felt for others, on the humility of their own deportment, their respectful deference to their fellow men, and on the rigid justice which they observed in all their conduct, how little of these qualities would the loss of wealth impair? If, in the days of their prosperity, Self-esteem and Love of Approbation did not seek gratification in the display of mere magnificence and selfish superiority, the loss of external circumstances would not deprive those faculties of their objects; they might still love their fellow men, although their sphere of active benevolence were contracted; they might still love God, and bow with submission to his will; they might still be upright in all their dealings; and while they were so, their

Self-esteem and Love of Approbation would meet with a full and ample share of legitimate gratification. The moral sentiments of society would, by the very law of their nature, flow towards them in their misfortunes with a more profound homage than would be paid to them even in their prosperity. The deep wounds of adversity are suffered solely by the propensities; and it is because the sentiments have not been the sources of habitual conduct while fortune smiled, that it is so painful, or even impossible to throw one's self on them for consolation, and to rely on them for respect, when the clouds of misfortune have gathered around us.

In regard to the children of the family which we have supposed, the parents, being convinced that prosperity and happiness depend altogether on obedience to the dictates of the higher sentiments, would see that the moral dispositions and intellectual cultivation of their offspring were to constitute the real sources of their advancement in life; they would perceive that, if they sent them into the world qualified to discharge the duties of their station, they had the pledge of the Creator that the just recompense would not be withheld from them; and, trusting thus in the goodness of God, and in the supremacy of the moral faculties, they could even die in peace and hope, unrepining and undejected by all the bereavements that had befallen them.

In short, viewing the world on every side, we discover that while the undirected gratification of the lower propensities are selfish, unstable, unsatisfactory, and often impossible, the enjoyments afforded by the higher sentiments, acting in combination with intellect, are pure, elevated, generous, entirely satisfactory, and, to an amazing extent, independent of time, place, and outward circumstances.

It may be asked, what has phrenology to do with all the doctrine now delivered, which, it may be said, is neither more nor less than old common-place morality, easily preached, but utterly impracticable in society? The answer is, that till phrenology was discovered, the theory, or philosophical principle on which this morality is founded, was unknown, and that in consequence it was infinitely more difficult to carry it into practice. The faculties exist, and each of them fills the mind with its peculiar desires; but men who do not know phrenology, experience far greater difficulty in discriminating uses from abuses of the propensities, than those who, by its aid, are in the habit of referring every feeling to its source. In fact, so much is this the case, that, at the writings of the most moral authors, and even from the pulpit in the present day, we occasionally observe errors of a grave description committed in characterizing abuses of the lower feelings as virtues, and in estimating falsely

the merit of various actions. We are far less likely to be misled by the inspirations of Acquisitiveness, Secretiveness, Self-esteem, and Love of Approbation, when we have become familiarly acquainted with all the forms and degrees of these faculties, with the effect which each manifestation of them produces on other minds, and with the barren and unsatisfactory, consequences to which they all lead, when permitted to run to excess, than if we were acquainted with these principles and results. In the next place, phrenology, by revealing to us, with clear and demonstrable evidence, the existence of the higher sentiments in men, by making us familiarly acquainted with their sphere of activity, objects and enjoyments, opens up to our view the most beautiful feature of human nature, and enables us to trust in it and love with a far sincerer sympathy and respect than while the existence of such elements was either disbelieved, or was the subject only of cold conjecture. While every individual drew his philosophy from his own internal feelings, the selfish man could see the race only as selfish, the ambitious man could see it only as ambitious, and those persons alone whose natural dispositions were of the highest order could obtain a glimpse of its really excellent qualities. Phrenology, by demonstrating the existence of the higher sentiments, removes this circumscribing and chilling influence of ignorance, and enables us with confidence to address ourselves to the moral feelings of our species, and to rely on their operation; it removes countless fears, which the animal feelings, when blind, suggest about the arrangements of Providence in this lower world, and, finally, by rendering us acquainted with the natural language of the higher powers, and with their objects and desires, it enables us to go directly to their fountains, to call them forth, and cause them to flow around us in a pure, copious, and fertilizing stream.

ARTICLE IV.

ON THE DEVELOPEMENT AND FUNCTIONS OF THE NERVOUS SYSTEM IN ANIMALS.*

"The brain differs most widely in quadrupeds, birds, fishes, insects—and there is equal difference in their intellectual phenomena, appetites, instincts, every variation in construction being accompanied with a corresponding modification of function."
—*Sir Wm. Lawrence.*

When we examine any given portion of the nervous system—the brain, the spinal chord, the ganglions, or any part of these—we can

* Communicated to the *Edinburgh Phrenological Journal* (No. 16,) by Thomas Sandwith, Surgeon, of Hull.

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discover nothing of the functions which any of these perform. We do not, as in some of the other organs, perceive a mechanical connexion between the structure and its particular uses; but when we take a comparative survey of the nervous systems of the entire animal kingdom, the result is very different. It is then "the simplification or degradation of the organization is immediately perceptible." Perfection of function is seen in connexion with full developement of nervous matter, deficiency with imperfect organization, and absolute negation of function, with a corresponding chasm in the structure of the nervous system; and this is true, not only "of the four great departments of the animal kingdom, but is equally so in each department." Being strictly experimental, this evidence is highly valuable. To compare a perfectly organized animal, in which there is a corresponding perfection of function, with another in which structure and function are alike defective, is the same in effect as to ascertain the functions of the more gifted animal by the mutilation of its organ. It is, indeed, with the exception of the facts supplied by pathology, the only kind of evidence open to the physiologist. The nerves themselves admit of mutilation and division, and to experiments of this kind, we are indebted for our recent knowledge of the functions of the spinal marrow. But when the centre of the system is invaded by the knife, many impediments besides death defeat the purposes of the experimenter. "The animals of inferior classes," says Mr. Lawrence, "are so many subjects of experiments ready prepared for us, where any organ may be observed under every variety of simplicity and complication in its own structure of existence alone, or in combination with others." Being presented, then, with experiments prepared by the hand of nature, who has, as it were, performed the necessary mutilations, and left no wound or scar, and no embarrassing disturbance of function, it is our business to examine them with attention, in order to ascertain whether they agree with the conclusions at which we have arrived by their means.

In the lowest order of animals, *zoophytes*, many of which seem to form the connecting link between the animal and vegetable kingdoms, and in some worms, which again connect zoophytic animals with the tribes above them, no nervous system is discoverable. The actions of these animals being apparently automatic, as in plants, which the radicated ones so greatly resemble, neither brain nor spinal chord are necessary; and indeed the existence of nerves has only been inferred from their being apparently endowed with *sensation*. But this mode of proof is by no means conclusive, since in them, as well as in the *mimosa* and other vegetables, which are sensible to the action of light and other

stimuli, sensibility may depend on inherent irritability—a property, according to Haller and Wilson Philip, possessed by animals, and to which nervous power is superadded. Indeed, so long as a nervous system is denied to such remarkable vegetables as the *Dionœa Muscipula*, *Hedysarum gyrans*, and *Vallisneria spiralis*, there is no good reason, short of demonstration, why it should be assigned to zoophytic animals. Some zoophytes, however, as the long-armed Polypi, impelled by the sense of hunger, introduce food into their mouths by *voluntary* motions. In them, therefore, a nervous system of some kind or other must be admitted; but as no distinct apparatus can be detected, Cuvier thinks that the nervous matter must be equally diffused over the whole body. To distinguish this kind of nervous system from the cerebro-spinal and ganglionic, it is called by Macleay the mollicular, each molecule being analogous to a ganglion or centre of sensation; and it is this supposed peculiarity which accounts for the vivaciousness of such animals, many of which, it is well known, may be multiplied by division. For, as Cuvier observes, “it is only in the animals that are most perfect, and approach nearest to man, that the connexion of the different parts of the nervous system, and the presence of its central parts, is absolutely necessary to the existence of the animal.”

We see, then, in the lowest link of animal existence, a relation between the structure and functions of the nervous system. The evidence, indeed, is only inductive, but it strengthens and becomes positive as we proceed. The actions of the *acephalous mollusca*, which are next in order, are simply vital, and of course automatic; so much so, that being destitute of senses and voluntary motion, even the sexes are enclosed in the same shell, in the same animal. We know that the actions of the vital organs, in vertebral animals, are involuntary, and, though remotely connected by the nerves with the animal powers, are to a certain extent independent of them. Of this truth the phenomena of apoplexy, concussion of the brain, &c., are illustrations. We know also that their movements are owing to certain ganglia, which at the same time isolate and connect the vital and animal functions, and are reciprocally the same to each other. Such being the condition of the oyster, it has neither brain nor chord, but two ganglia, one at each extremity of the animal; and these are the sources of its visceral nerves.

Endowed with senses, instincts and voluntary motion, the nervous systems of *cephalopodous mollusca*, as the cuttle-fish and calmar, and of the *gasteropoda*, as the snail and slug, approach nearer to that of vertebral animals, the inferior orders of which the former so nearly resembles. These creatures, indeed, have no spinal chord, but the

nervous collar which encircles the œsophagus is probably analogous; and they have a brain in the head, bilobed in the cuttle-fish, and *lunated* in the snail, in both giving origin to the nerves of sense. The head of the cuttle-fish is actually pierced with holes for the transmission of the nerves. Both have also a variable number of ganglia for the nerves of the vital apparatus connected to the brain and to each other. We know little of the instincts of the snail. In the actions attendant on one of the strongest of the passions it resembles the higher animals, and, as in those of the preceding class, its power of restoration is considerable, being able to regenerate a head and tail. One of the instincts of the cuttle-fish is curious. Underneath its liver is a gland, which secretes an inky fluid, the material, in fact, of which, it is said the Chinese manufacture Indian ink; this fluid the animal uses to darken the water when pursued by its enemies, and in this manner escapes observation.

Crustaceous animals, the *larvæ* of insects, *insects* themselves, and *worms*; the *annulosa* of naturalists in many respects resemble each other. The bodies of these animals are divided into segments, each portion having to a certain extent a vitality of its own; and, as might be expected, a general analogy runs throughout their nervous systems. These consist of a brain, two, sometimes as in the larva of the tenthredo, four-lobed, a collar surrounding the œsophagus, and a medullary chord consisting of a series of ganglia, one occupying each segment of the body, and connected by a double row of nervous internodes. From these ganglia arise the nerves of the senses of the vital and voluntary powers. In the crab the knotted chord assumes the form of an oval ring of medullary matter; but the exception only confirms the rule. "The spiders, too, and phalangers, which in other respects are allied to other insects, have no chord, but, like the mollusca, single ganglia, not placed in a straight direction, one behind the other."

It would require another Swammerdam to ascertain whether the instincts of the *annulosa* depend on the size and form of their encephala. The extraordinary tenacity of life in these animals, some of which, as apus, in this respect resemble polypes, is owing to the inferiority of the brain when compared with the rest of the ganglionic system. This vivacious animal, which inhabits ponds, is often dried in summer, but revives on the return of water. The brain of insects being equalled in size by a single ganglion of the spinal chord, accounts for their amazing powers of motion. If an insect is cut in halves, the caudal will outlive the cerebral extremity, and during the remainder of its life the functions of the upper half will remain unimpaired. A working ant has been known to drag ten pupæ into a place of security, after the posterior part of its body

was cut off. All which is agreeable to a law of the animal economy already stated, that, "in proportion as we descend in the scale of existence, the nervous system is less concentrated in a particular region of the body, and more equally distributed to all the parts."—(Cuvier.) But the most extraordinary observations are those of Dr. Herold, who has "traced the gradual changes that take place in the spinal marrow of the common cabbage-butterfly (*pieris brassicæ*) from the time it has obtained its full size to its assumption of the imago." A particular account of their mutations has been given in Kirby's and Spencer's Entomology, which consist, generally speaking, of a progressive shortening of the nervous antenodes, their flecture, the approximation of the ganglions, the obliteration of some of their nerves, the amalgamation of two or more ganglions, the absorption of the first ganglion by the brain, the enlargement of another already formed by the union of two, at the expense of one or two others; and, finally, the lobes of the brain, which formed an angle with each other, becoming horizontal. These observations prove that the developement of the nervous system is altered to accommodate it to the altered functions of the animal in its new stage of existence, in which there being a complete change in all its functions and organs, a corresponding alteration of its nervous system was required.

The actions of insects have in all ages attracted the attention of mankind. "Go to the ant, thou sluggard, consider her ways, be wise;" and the habits of the bee, silkworm, and spider, are equally pregnant with moral instruction. On the other hand, the grasshopper is like many other mortals,

"An evening reveller, who makes
His life an infancy, and sings his fill."

These, in the opinion of my friend, the learned William Spence, depend not on one instinct, but many; and that these, again, are, to a certain extent, under the control of reason, he has proved by the circumstance of their having external senses, which would be useless without intellect, and by their docility, memory and balancing of motives. The ants on which Bonaparte amused himself with experiments at St. Helena, though they stormed his sugar-basin when surrounded with a fosse of water, desisted when it was surrounded with vinegar. This he mentions as a proof of the power they have of controlling their instincts, and may be instanced as evidence of their free agency. Without memory, bees, flying as they do at great distances, could not find their way home; and, for the docility of insects, we need go no farther than the story of M. Pelison, "who, when he was confined in the Bastille, tamed a spider, and taught it to come for food at the sound of an instrument!" or Sir

Joseph Banks' spider, who, having lost five legs, changed his trade of weaver and became a hunter! The theory of a variety of instincts receives confirmation from their successive appearance in animals, of which truth numerous illustrations might be given. A perfect locust acquires the new instinct of using its wings, its migratory instinct, and, if a female, that of depositing its eggs in an appropriate situation, at different periods. To the followers of Locke, who considered the mind to be one and indivisible the thirty-six organs of the phrenologists have given great offence. What will they say, then, to Mr. Spence, who, speaking of the bee, says, "I have now instanced at least thirty distinct instincts with which every individual of the nurses amongst the working bees is endowed," and concludes by saying, after the enumeration of many more, that, when all the rest are added, the number might perhaps be doubled! Whether the parallel between the insect-metaphysician, and the founders of phrenology, extends to the specific developments of the brain, remains alone to be discovered.

From the higher orders of invertebral to the lower vertebral animals, the transition is easy, the gasteropodous mollusca forming a connecting link between them; and when we consider, to say nothing of their vital functions, that the actions of *reptiles* and *fishes* are for the most part sensual and instinctive, we shall expect a meaner development of brain than in animals of higher rank. Accordingly in fishes this organ is almost fluid, and does not fill the cranium. The cerebrum consists of two hemispheres, which are without convolutions, and are actually less than the origins of the olfactory nerves. The thalami and striated bodies, the cerebral ganglia of Spurzheim, are as large as the hemispheres; and the cerebellum is larger than the entire brain. Under the hemispheres there are two or more tubercles, analagous probably to the corpora quadrigemina of mammiferous animals, which, as in them, are the true optic ganglions. The magnitude of the olfactory tubercles, of which there are two pairs in the perch and salmon, accounts for the remarkable sense of smell in fishes, of which superiority naturalists have left on record many curious examples. "These animals," says M. Serres, "have the largest quadrigeminal tubercles, and the most remarkable eyes and optic nerves." "The eye of a codfish," says Dr. Fleming, "is equal in size to that of an ox;" and their productive powers, which bear a proportion to the size of their cerebellum, may be estimated by the profusion of their spawn. In reptiles, except the serpent, "which is more subtle than other beasts of the field," the anterior third of each hemisphere appears to be a bulb or root for the olfactory nerves. In all other respects there is a general resemblance between the encephala

of these animals. It is worthy of remark, that some individuals of these orders, which, according to the tables of Cuvier, are pre-eminent for the relative size of their brains, have some degree of intellect. Trout become very docile, and old carp are said to be wary and cunning. A variety of tricks are taught to cobra-de-capello, boa, and other serpents. Toads, and even crocodiles, have become tame, and learned to know their benefactors.

It has been doubted by some naturalists whether fishes and reptiles have taste and hearing; but that the nerves of these senses is feebly developed is certain. In fishes the auditory nerves arise so near to the origin of the fifth pair, that they have been considered as the same; and the nerves which supply the tongue are branches of those which proceed to the gills. A similar analogy runs throughout the remainder of their nervous systems. Like the nerves, both cerebral and spinal, the spinal chord is in proportion to the bulk of the body, and not to the brain with which it is connected; as in insects and zoophytes, it is this circumstance which accounts for the tenacity of life and powers of restoration of many reptiles. Tortoises will live for months after the removal of their brain, and the head and eyes of the decollated newt are regenerated. In serpents, which have no arms, there are no brachial nerves; and their size in fishes is proportioned to the comparative smallness of those rudiments of arms, the fins. Again, as these latter animals respire by gills instead of lungs, the distribution of the pneumogastric nerve (*par. vagum*) presents important deviations from its usual course in vertebral animals. Are we then to believe that the divisions of the nervous system, which appertain to the senses and voluntary powers, are adapted to the condition of the animal, and that the corresponding degradation of the cerebral portion, which belongs to the manifestations of the mental functions, is merely accidental? Mr. Charles Bell has said, "There are no accidents in nature!"

Not much higher in the scale of intelligence, for "they sow not, neither do they reap, nor gather into barns," birds have a brain analogous to that of reptiles and fishes. It consists of six distinct masses or tubercles; two hemispheres, two thalami, a cerebellum, and medulla oblongata. The hemispheres consist principally of the striated bodies; and the thalami, as in reptiles and fishes, are round and hollow. The cerebellum is also hollow, and, consisting of but one lobe, has no cerebellar commissure or pons, and the pyramidal and olivary bodies are hardly apparent. Their existence was denied by Cuvier and others; but until Gall and Spurzheim appeared, anatomists were not aware that these, and the restiform bodies, are the rudiments of the cerebrum and cerebellum. The surface of the brain presents no convolutions—a most

important deficiency, and a far more striking characteristic of defect than the comparison of relative size and weight; and they want the commissures called corpus callosum and fornix, and, of course, the septum lucidum, and mamillary bodies. But they have, according to Dr. Spurzheim, analogous organs of communication. The olfactory tubercles arises from the point of the hemispheres, of which they appear to be a mere continuation. Between the cerebral ganglia, or corpora striata, and thalami, as they are called, there are four roundish bodies, similar to those of fishes, analogous probably to the corpora quadrigemina of mammiferous animals, and, as in them, proportioned to the size of the optic nerves. Birds, like fishes, having no diaphragm, are without phrenic nerves; the nervus accessorius is wanting for a similar reason; and, as might be expected, the facial nerve is hardly developed.

Between the instincts of birds, which, in the gregarious and migratory species, are very remarkable, and their cerebral configurations, Messrs. Gall and Spurzheim have discovered a relation. The aquatic differ in this respect from land birds; and of the passerines, the brain of the male, which sings, is different from that of the female, which cannot sing. Again, birds which build nests and provide for their young, are unlike the cuckoo and ostrich, whose heads are similar, and in which these instincts are never manifested, and so on throughout the entire range of their propensities. That many birds have intellectual powers is evident from the docility of the parrot, raven, and falcon. The gull, the wild duck, and the plover, will feign lameness, to lead intruders from their young. And the conduct of the hooded crow (*corvus cornix*) in obtaining food from the larger shell fish, is perfectly rational.

We now come to the mammalia, between which animals and man there is the nearest resemblance in functions and cerebral development. That brutes, in addition to the senses and instincts, have knowing faculties, is on all hands admitted. "The ox knoweth his owner, and the ass his master's crib." Nor are they entirely destitute of sentiments, as Cuvier observes. "The affliction many of them feel on the absence or loss of a companion, friend or benefactor, is manifested by evident signs, in the same manner as they testify their attachment without any temporary inducement." Surpassing him in the perfection of the senses and strength of the propensities, their inferiority in intellect and sentiments to man is unquestionable; and yet when we see how feebly these are exerted in some men, and the consequent abuse of the propensities, we may exclaim with the poet,

"Each kindred brute may bid thee blush for shame."

Corresponding differences are to be found in their respective nervous

systems. The nerves of sense in man are palpably smaller; he has a smaller cerebellum and nervous chord; but he surpasses all other animals in the perfection of the brain. It has, indeed, been truly said, "that by taking away, diminishing, or changing proportions, you might form from the human brain that of any other animal; while, on the contrary, there is none from which you could in like manner construct the brain of man."—(Lawrence.) With respect to size, man, according to Sæmmering, has, without exception, the largest brain in comparison with the nerves that issue from it. The inferiority to the smaller birds in weight, when compared with the body, is not wonderful, when their leanness and natural levity are considered. Indeed, this criterion is in every point of view objectionable; nor is that much better which is founded on the comparison of the cerebrum with the cerebellum and medulla oblongata, these parts and the brain bearing by no means a constant proportion to each other. As to form, the cerebrum of the human subject is elevated, whereas in brutes it is without elevation. It is nearly spherical in man; but in brutes it is either oblong, as in herbivorous animals, or triangular, as in the carnivora. The difference in development and structure are no less remarkable. Excepting in the quadrumana, many of whose actions are almost human, and who differ from man to a distance indeed which is immeasurable, Cuvier says, the posterior lobes are wanting, and the anterior ones are imperfect, consisting in many animals of little more than the processus mammillaris or olfactory organ. The thalami or cerebral ganglia are smaller than in man. The convolutions are fewer and shallower, the corpora quadrigemina larger, being proportioned to the superior size of the visual organs, and there is considerably less cortical than the medullary matter. "Independently of weight and size, Sæmmering observed fifteen visible material anatomical differences between the brain of the common tailless ape and that of a man."

Among the various orders of mammiferous animals there is the greatest diversity in docility and intelligence, and, as far as has been observed, corresponding differences in cerebral development. Sæmmering, who divides the brain into two parts, one connected with the senses, the other with the intellectual powers, observes, "Animals of various kinds seem to possess a smaller or larger quantity of the latter portion of brain according to the degree of their sagacity and docility." Mr- Lawrence says, "The number and kind of intellectual phenomena in different animals correspond closely to the degree of the development of the brain." The large cranium and high forehead of the ourang-outang lift him above his brother monkeys; and he is said, by Dr. Elliotson, to be "curious,

imitative, covetous, social," and to perform many actions usually considered human. "The gradation of organization and of mind passes through the monkey, dog, elephant, horse, to other quadrupeds." Notwithstanding the exaggerated reports of travelers, the superiority of intelligence and adaptation to circumstances in the beaver is, says Blumenbach, beyond dispute; and, according to the tables of Cuvier, there is a marked superiority in the size of his brain. Dogs differ as much from each other in instinct and docility as they do in cerebral development. Compare, for example, the bull-dog and the hound, the hound and the greyhound, the mastiff and the poodle. The crafty fox and the ermine, like the dog, lay up stores for the future; on the contrary, in some of the inferior quadrupeds the instincts are not under the dominion of reason. Thus the hamster breaks the wings of dead birds as well as live ones to prevent their escape. All which is agreeable to the observation of Cuvier, "that the convolutions become fewer and shallower as the brain diminishes in size; there are none in the rodentia, none in very small brains." As might be expected, the cetacea, having no sense or organ of smelling, have neither olfactory nerves nor processus mammillaris.

We are indebted to Tiedemann for the attempt to demonstrate the gradual evolution of the nervous system. He has traced its progress from its embryo condition to its maturity, and his observations prove that the developments are commensurate with the manifestations of its functions. Monsieur Serres, also treading in the same path, has ascertained that the several portions are formed in succession. The outline of the spinal chord, he says, is soonest completed, then the crura and corpora quadrigemina, and last of all the cerebellum. Blumenbach observes, "The human encephalon undergoes considerable change after birth, in its entire mass, in the proportions of its parts, and in the texture and consistency of its substance;" attaining, according to the Wenzels, its full weight before the fifth, and size before the seventh, year. "The gradual evolutions of the mental faculties correspond to these alterations, which indeed accord with the slow developement of the human frame in other respects." In infancy the brain is pulpy, and the proportion of the cortical exceeds that of the medullary matter; and both before and after birth the nerves, which, according to M. Serres, are first perfected, are larger than in the adult. In the latter "the cerebellum is equal in weight to about the eighth or ninth part of the brain; whereas in the new-born infant it is not a sixteenth or eighteenth part of it, with a corresponding difference in the manifestations of its functions." Dr. Spurzheim has ascertained that the spinal marrow has obtained solidity

and firmness while the brain is pulpy and devoid of fibres; and thus accounts for the muscular activity of children, and their comparative feebleness of intellect. Again, in old age the brain is actually diminished in size, with a suitable degree of apathy and mental decadency.

Between eminently intellectual individuals and idiots the difference is similar to that which obtains between man and mammalia. Men of large heads, according to Magendie, have capacious minds; whereas in idiots, as in the quadrumana, the brain is small, the convolutions few and shallow, and the anterior lobes but little developed. If, indeed, we extend the comparison through all the intermediate gradations of intellect, we shall be astonished to find a corresponding agreement. "The mind of the negro and the Hottentot, of the Calmauck and Carib, is inferior to that of the European, and their organization is less perfect,"—"the intellectual characters are reduced, the animal features enlarged and exaggerated." Even haters have ascertained that servants and negroes have smaller heads than others. Women are as unlike men in the form of their heads as in the qualities of their minds. In men of commanding talents the greater quantity of cerebral matter is anterior to the ear; but in heads which are truncated before, and largely developed in the opposite direction, the passions will be found to be stronger than the understanding. The higher sentiments elevate the *calvaria* or top of the head; it is accordingly observed, that from men whose heads are flattened, as in quadrupeds,

"Conscience, virtue, honor, are exiled."

Pope Alexander the Second is an illustrious example. Other differences might be enumerated; but to extend our observations farther would be to trench upon the discoveries of Messrs. Gall and Spurzheim, whose conclusions, indeed, are but an extension of this comparison founded on observation and confirmed by experiment.

ARTICLE V.

CASE OF INJURY OF THE HEAD, WITH ITS ACCOMPANYING MENTAL PHENOMENA.

All facts, derived from Pathology and which are calculated to throw any light on the functions of the brain, are highly important. But very little, as yet, has been done in this way towards explaining and illustrating mental phenomena, compared with what might have been accom-

plished had the attention of physicians generally, and for a long time, been directed to the subject. Much, therefore, remains yet to be done. Every case of this kind that occurs in the community, should be clearly and faithfully reported and recorded. We have endeavored to collect and embody in this Journal, as many such facts as possible, and though the case we are now about to introduce, has been already briefly stated or alluded to, yet as some further particulars have been collected by Mr. Combe while in this country, we are induced to make the following extract from the second volume of his Tour, p. 43.

May 15, 1839. *Phrenology*.—This day I was introduced to James J. Mapes, Esq., a scientific gentleman, residing in 461 Broadway, New York. His daughter fell from a window when she was about four years of age; her head struck against the iron bar which extended from the railing to the wall, and the skull was extensively fractured, but without rupturing the pia mater or doing any serious injury to the brain. She was attended by Dr. Mott; a part of the skull was removed from the superior-posterior portion of the head, the integuments were drawn over the wound, and the child recovered. The part of the skull removed was that which covers the organs of Self-esteem and Love of Approbation. She does not wear any plate over the wound; but the hair over it, like that on the other parts of the head, is fine, and is kept short. Immediately after the wound was closed, her father was struck with the variety of movements in the brain, and its great mobility during mental excitement, producing, as he said, a sensation in the hand when placed on the integuments, as if one were feeling, through a silk handkerchief, the motions of a confined leech. He felt as if there was a drawing together, swelling out, and a vermicular kind of motion in the brain; and this motion was felt in one place and became imperceptible in another, according as different impressions were made on the child's mind: but not being minutely acquainted with phrenology, he could not describe either the feelings or the precise localities in which the movements occurred. He observed also, that when the child's intellectual faculties were exerted, the brain under the wound was drawn inwards.

The child was introduced to me; she is now eight years of age, healthy and intelligent; and no external trace of the injury is visible to the eye. The form of her head is that of a superior female child. It is long, and moderately broad at the base; Secretiveness, Love of Approbation, Self-esteem, Cautiousness, and Firmness, are all large. Benevolence and Veneration are well developed, and the anterior lobe is large. I saw the pieces of the skull which had been removed. They may be three and a half by three inches in superficial extent. The

skull has not been replaced. On applying my hand, I felt the brain rising and falling with the respiration, and distinctly ascertained that the organs of Self-esteem and Love of Approbation were denuded of the skull; also a small part of Conscientiousness, and the posterior margin of Firmness. Her father mentioned that, before the accident, he considered her rather dull; but her mother (whom also I had the pleasure of seeing) did not concur in this opinion; both, however, agreed that since her recovery she had been acute, and fully equal to children of her own age in point of ability.

With the permission of her father and mother, I kept my hand for some minutes gently pressing on the external integuments over the site of the injury, and distinctly felt a considerable movement, a swelling up and pulsation, in the organs of Self-esteem; and the same movements, but in a less degree, in those of Love of Approbation. When I began to talk to the child, she was shy and bashful, and at first would scarcely speak. The vivid movements in Self-esteem indicated that amidst her extreme bashfulness this organ was active. As I continued to converse with her, and succeeded in putting her at her ease, the movements in Self-esteem decreased, while those in Love of Approbation continued. I spoke to her about her lessons and attainments, not in flattering terms, but with the design of exciting Self-esteem; and the movements increased. Again I soothed her, and they diminished. This was repeated, and the same results ensued. Her father gave her several questions in mental arithmetic to solve; she was puzzled, and made an intellectual effort, and the peculiar movements in the organs of Self-esteem and Love of Approbation ceased; only a gentle and equal pulsation was felt. She solved the question, and we praised her; the peculiar movements in Self-esteem and Love of Approbation returned and increased. This experiment was repeated at least four times, with the same results. I took out a piece of paper and began to write down notes, in pencil, of what had occurred. She looked at my writing, and as all attention was now withdrawn from herself, and her mind was occupied intellectually in observing what I was doing, I placed my hand on the integuments and only the gentle and regular pulsations of the arterial system were perceptible.

I am much indebted to Mr. Mapes, the father of the child, for permitting me not only to see this very interesting case, but to publish his name and residence, so that my remarks may be verified, or corrected if I have erred. This case is replete with instruction in practical education. It tends, so far as one example can go, to prove that, by exercising the intellectual faculties, we do not necessarily excite the feelings; and also that each feeling must be addressed by objects related to itself before it can be called into action.

ARTICLE VI.

THE PHRENOLOGISTS OWN BOOK.

This is the title of a small work on the Elements of Phrenology, recently published by Kay and Brother, in this city. The design of the work is good, though its title is somewhat novel. Its contents are mostly made up from the writings of Mr. Combe, and are selected and arranged with excellent taste and judgment, and are well calculated to give the reader a general idea of the elementary principles of the science. Says the compiler in the preface, "This Treatise is presented to the public with the humble view of placing within the reach of every one an intelligible sketch of a science which is making daily progress in the opinions of all classes of the community. There must be something worthy of universal attention in Phrenology, when its greatest advocate and profoundest teacher, the eloquent Mr. George Combe, expresses himself in regard to it in such terms as the following: 'I speak literally and in sincerity when I say, that were I at this moment offered the wealth of India, on condition of Phrenology being blotted from my mind forever, I would scorn the gift; nay, were every thing I possess in the world placed in one hand, and Phrenology in the other, and orders issued for me to choose one, Phrenology, without a moment's hesitation would be preferred.'"

This little work opens very properly with the discovery and history of phrenology, giving a brief sketch of the labors of Drs. Gall and Spurzheim. We then have a clear and correct analysis of the several mental faculties, occupying the body of the work, which concludes with some practical directions for making examinations; remarks on size and activity; description of instruments for measuring the head, with engravings, &c., &c. As we deem this little work calculated to promote the interests of the science, we hope it will find an extensive circulation.

 MISCELLANY

Anti-Phrenology.—It appears that Dr. F. H. Hamilton, Professor of Surgery in the Geneva Medical College, N. Y., has recently delivered a lecture against Phrenology before the Rochester Athenæum. As we have not received a copy of this lecture from the author, and, all our efforts to obtain one either in this city or elsewhere, have proved entirely unavailing, we extract the following notice of this performance from the

Boston Medical and Surgical Journal of May 12th. The editor after complimenting Dr. Hamilton for his surgical skill, says: "Our friend seems determined to make himself ridiculous by meddling with his old aversion, phrenology—and there is now a fair prospect of ultimate success. If the science requires stronger evidence of its truth than has yet been arrayed by those illustrious philosophers whose works are spread over the land, it is to be found on or in the head of our intractable friend. With regard to the literature of the lecture, we consider that it falls so much below the standard of Dr. Hamilton's ordinary productions, that were it not for a note entitled "*apology to the public*," under his own name, it might have been suspected that the whole was an imposition to injure the reputed author, by some mischievous fellow envious of the doctor's success and general reputation. In the second place, the science discoverable in this lecture also shines dimly. Obstunacy and the manifestations of a disposition to blot out of existence whatever does not accord with his own preconceived opinions, characterize this unfortunate Rochester lecture." This last remark in the Boston Journal, in reference to Dr. Hamilton's *disposition*, we have reason to believe is too true; for his history, if we are correctly informed, has been marked with a continued series of attacks on phrenology ever since he graduated at the University in this city, with an *Anti-Phrenological Thesis*.

Interesting Fact, or Practical Phrenology Tested.—Dr. Sim, in his Text Book of Phrenology, which is now being published in the Western Phrenological Journal, at Andersonstown, Ia., in describing the faculty of Acquisitiveness, relates the following fact: "The writer has very often had occasion to exercise prudence when he has found this faculty indicated in an over-active degree in persons ranking high in the community for honesty of disposition. As an instance of this, it may not be improper to mention here the case of Benjamin Rathbun, once the great financier of the State of New York. Several years ago, I was requested to examine several heads blindfolded. I did so, and the first head submitted was described as that of a very talented man, of great business capacity, deficient in Conscientiousness, which had decreased, very large perceptive faculties and Constructiveness, with inordinate Acquisitiveness. I described him as prone to dishonesty, but that he would never be a petty thief; that he was capable of being a swindler on the largest possible scale. A bystander asked the question, suppose he was a convict, what crime should you suspect he had committed? I replied *forgery*. The handkerchief was taken from my eyes, and I was very politely introduced to the gentleman above mentioned! Here was a denouement! The phrenologist had made out the very Rothschild of the West, the most trusted and the most talented business man in the State,—a man whom the banks and every body delighted to trust,—a dishonest man, a forger! Loudly did the opponents of phrenology then triumph, and numberless were the jokes passed upon the phrenologist, who in *their* opinion had made such an egregious mistake. The newspapers of the day rang changes on it, and the editors thought the opportunity to crack a joke altogether too good a one to pass by. Benjamin Rathbun is now in the Auburn Penitentiary for committing a series of most complicated forgeries."—Were the heads of some of the financiers

and bankers who have recently figured so much in the public prints, submitted to a practical phrenologist, we fear that their cerebral developments might be found to be no better than those of Rathbun.

Testimony in favor of Phrenology.—Dr. S. G. Howe, Superintendent of the Massachusetts Asylum for the Blind, has, for many years, been an able and decided advocate of Phrenology. The following testimony in favor of the science is copied from the second volume of Mr. Combe's Journal: "Dr. Howe openly acknowledges that he owes whatever success has attended his exertions in improving the education of the blind, (and it is great) to the light derived from phrenological views of mental philosophy. 'Before I knew phrenology, said he, 'I was groping my way in the dark, as blind as my pupils; I derived very little satisfaction from my labors, and fear that I gave but little to others. Our upper classes are all instructed in the general principles of intellectual philosophy, and we explain to them both the old and the new systems; but I never knew one of them who did not prefer the latter, while I have known many who have taken a deep interest in the philosophy of phrenology, and heard them avow that they were made happier and better by understanding its principles. Some of our teachers are persons of considerable intellectual attainments, and all of them have adopted the new philosophy since they joined the institution, not because they were induced to do so by any request of mine, or on any consideration of extrinsic advantage to themselves, but solely because their duties led them to examine all the theories of mental philosophy, and the new system recommended itself forcibly to their understandings, and appeared most susceptible of practical application.'"

Anthropological Society.—An Association with this name was established in London, 1836, for the purpose of investigating the laws of the Creator in reference to the condition of man. It meets twice every month, the year round. The leading objects of this society are to investigate the principles of Phrenology as exhibited in the animal, intellectual, moral, and religious nature of man, and the application of these laws to the various conditions and circumstances in which he may be placed in life.

Phrenological Discussion.—A public discussion took place on the merits of Phrenology at New Lisbon, Ohio, about the 25th of May. Several physicians were engaged in the debate, which seems to have been conducted with much interest and ability. No decision was passed on the question, as the same discussion is to be resumed again about the 1st of July.

Phrenology applied to Medicine.—Dr. John Epps of London, has recently published a work detailing many cases of Epilepsy, and other Nervous Affections, which he has treated successfully by means of the light that Phrenology has thrown on the functions of the brain.

THE

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ARTICLE I.

REVIEW OF DR. ABERCROMBIE ON THE INTELLECTUAL POWERS.

Whenever an individual is about to engage in perusing or examining any work, it is always interesting to know something respecting the life and character of its author. Dr. John Abercrombie, the well known writer on mental science, is a resident of Edinburgh, Scotland; and, although now a little rising sixty years of age, is yet actively and extensively engaged in the practice of Medicine. Dr. Gibson, Professor in the University of Pennsylvania, while on a visit to Great Britain in the year 1839, describes Dr. Abercrombie as follows: "In stature he is about five feet seven inches, stout, and well proportioned. His most striking feature, however, is the head, which is uncommonly large, with all the moral and intellectual organs, to use the language of phrenology, so developed, as to attract, forcibly, the attention of the most common observer. His face, too, is large, eyes dark, full and prominent, nose aquiline, and his whole countenance beaming with intelligence and benevolence. He is very pious, but exhibits so little of the devotee, that it would be difficult to discover a saturnine or ascetic particle in his composition; on the contrary, there is so much cheerful simplicity and playfulness about him, that a stranger would be apt to conclude he was a highly educated country gentleman, instead of a hard-working medical man, visiting patients from morning till night, and composing books on the most difficult and abstruse subjects—most of which have gone through numerous editions, especially his work "*on the Intellectual Powers and the Investigation of Truth*," his "*Researches on Diseases of the Brain and Spinal Cord*," and his volume on "*Diseases of the Stomach*."

The work of Dr. Abercrombie on the "*Intellectual Powers*" has had
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a very extensive circulation* in this country, and is more generally used as a text book on mental science in our schools, seminaries and institutions of learning, than any other work. It is on this account that we wish to present our readers, with a candid and faithful review of some of its leading principles, that they may see and judge for themselves how erroneous and defective many of Dr. Abercrombie's "inquiries" are, when compared with the truths of Phrenology. This review we copy from the twenty-seventh number of the Edinburgh Phrenological Journal; the name of its author is not given, but its merits will readily be perceived.

During life, the human mind comes under our cognizance only as it exists in connection with, and in dependence on, corporeal organs for the power of manifesting itself; and, as, in its separate state, it is entirely beyond the reach of our means of research, it is now very generally admitted by philosophers to be a mere waste of time and ingenuity to speculate upon its essence, nature, laws, or modes of operation, as it may be supposed to exist and act if totally disunited with the body. The object of true science is, therefore, simply to investigate the facts and relations of the phenomena of mind, in the form in which *these are presented to us by the Author of Nature*; in the full conviction that we shall sooner attain the truth, by yielding our attention and assent to what his wisdom has pronounced to be "very good," than by attempting to penetrate mysteries, or to pursue methods of inquiry, which, in the very nature of things, can lead to no successful result.

In accordance with the innumerable proofs by which we are constantly surrounded, it is also universally agreed, that, during life, the influence of the corporeal organs on the mental operations, those of emotion as well as those of intellect, is prodigious in amount, and incessant in its action, from the first step we make in the path of life to that by which we leave it. In the course of many corporeal maladies, sudden and violent mental disturbance is seen to arise immediately on the invasion of disease, and to terminate only when health is restored; and, *vice versa*, sudden and extraordinary disturbance of the bodily functions, and even death itself, are often observed to be produced by violent emotions of the mind. Aware, then, as we become from the contemplation of such phenomena, of the extent to which mind and organization reciprocally affect each other, it ought evidently to constitute a primary point in every inquiry into the laws of mind, to determine, so far as can be done, the amount and conditions of the connexion existing between mind and

* The Messrs. Harpers, of New York, have disposed of more than twenty thousand copies of this work.

its bodily organs; and no investigation can be entitled to the name of philosophical, which overlooks this most important circumstance. True science can be erected only on a basis of *facts*; and in studying the laws which regulate the operations of the mental powers, if we neglect to investigate the various organic conditions by which the manner and intensity of their manifestations are thus increased, diminished, and modified, nothing but failure can attend our efforts.

Common and striking as are the phenomena which demonstrate the mutual dependence and action of mind and matter on each other, and familiarly as these are exhibited to us, not only in the brutalizing effects of intoxication—in the soporific effects of opium—in the headach and irritability of temper proceeding from disordered stomach—but also in the excitement and vivacity of perception and of feeling produced by wine, and a variety of other external stimuli, the phrenologists alone, of all the inquirers who have engaged in the cultivation of the philosophy of mind, have made it a fundamental rule to ascertain and to take into account in all their inferences, the influence of changes in the state of the organs upon the manifestations of the different mental powers; and, taking warning from the failure of every attempt hitherto made, through Consciousness alone, to advance the science of Mind and of Human Nature, they have diligently turned their own attention, and loudly called that of their contemporaries, to the observation and collection of *FACTS*, as the only basis of legitimate induction; and the acknowledged success which has followed their labors, is the best proof that the right road has at last been found; and that we may now look forward with confidence to the speedy attainment of that philosophy, which, but lately, was said by a celebrated writer to exist, as yet, "*only in expectation.*"

In procuring facts, the medical inquirer possesses many advantages, which can never occur to the merely speculative philosopher. His notice is constantly attracted to the observation of the mutual influence of mind and body; and the numerous opportunities by which he is constantly surrounded, give him ample means of determining the principal conditions under which these act upon each other. And, therefore, when we consider that the author of the work before us is distinguished for acuteness and activity of mind, and great general talent, and that he stands deservedly at the very head of his profession as a practical physician—and farther, when we find him stating in his introduction, that "the mental manifestations are greatly modified by the condition of those bodily organs by which the mind holds intercourse with external things, *especially the brain,*" we naturally turn to his pages with the expectation of deriving much useful information from their perusal, particularly on the

above very interesting points, on which none but a medical philosopher can well be expected to throw much new light. We shall presently see how far our expectations are fulfilled.

Dr. Abercrombie remarks in the outset, that it is only in modern times that the science of Mind has assumed value and importance, as it is only of late that it has been cultivated on the principles acted upon in physical science, namely, a careful observation of facts, and cautious induction from them; and he adds, that the chief hindrance to success on these principles, arises from the *difficulty of procuring the facts*. We agree entirely in these positions; and as the mode in which facts are to be obtained lies at the bottom of the whole inquiry, we shall begin by examining that adopted and proposed by the author.

"The only field," according to Dr. A. "in which the mental philosopher can pursue his researches with perfect confidence, is his own mind. In his observations on the minds of other men, he is obliged to judge of the phenomena by external manifestations; and in this manner, a degree of uncertainty attends his investigations which does not occur in physical science. From this source, also, has probably arisen much of that difference of opinion which we meet with in regard to mental phenomena; for *each inquirer having drawn his observations from one mind, namely, his own, it was scarcely to be expected but there should be some diversity, or that facts derived in this manner should possess the character of being universal.*"

On reading the last paragraph of the above quotation, we are surprised that the inconsistency of attempting an induction from facts thus avowedly presenting a *diversity of character*, and a *want* of universality, (qualities stated by himself to be fatal to their value as facts,) did not occur to the logical and disciplined mind of the author; and that he did not thence infer the necessity of going back a step farther, and inquiring *what gives rise to the diversity of results* in different minds, which he here notices. We have seen that, in the abstract, he admits that the mental manifestations are *greatly modified* by the condition of those bodily organs by which the mind holds intercourse with external things; and yet he institutes no inquiry into any of the conditions so admitted to modify the mental powers, although it seems very natural to suppose that they might afford a key to some of the diversities of result. We, however, know, that had he attempted to investigate these conditions, and to trace their effects, he would have perceived that many of the differences which involved his facts in doubt, owed their origin to differences in the bodily conditions cognizable to the senses, and of essential importance to the construction of a true philosophy. But, from not having been suffi

ciently impressed with their active importance, he seems to have viewed the organic difference observable during health, as of no moment, and to have confined himself chiefly to the examination of those which are the result of disease; a proceeding involving a double error, in respect that the morbid state can be accurately known only when seen in connexion with that of health. In proof of this statement, we shall continue the quotation above begun. Instead of directing attention to the observation of the cerebral conditions during health, as from its commencement we should expect it, it runs thus: "It becomes, therefore, a matter of the greatest interest, to ascertain the manner in which the manifestations of mind are affected by *DISEASES of these organs, as well as to observe their condition in that remarkable class of affections commonly called diseases of the mind;*" but not one word is said of its being worth while to ascertain the manner in which the manifestations of mind are affected by healthy differences in the organic conditions, although such notoriously exist to a great extent.

Dr. Abercrombie seems to have fallen into this singular oversight from an erroneous supposition, for which he adduces no evidence, and which we are surprised that a professional man, of his acuteness and solidity of judgment, should have assumed, namely, that the *mind does not act through material organs, except in its communications with the external world.* This was pretty nearly the doctrine for which Mr Jeffrey incurred so much ridicule, and so unexpectedly did it come upon us in its present shape, that we read the passage many times, to try if they did not convey, however obscurely, some other meaning. Having failed to discover any other, and finding the author going so far as to say, that we are probably advancing a step beyond what is warranted when we speak of the brain being necessary even to *perception*, as "we do not know whether impressions, made upon the nervous fabric connected with the organs of sense, are conveyed to the brain, or whether *the mind perceives them directly*, as they are made upon the organs of sense;" and thus having convincing proof that he does not in practice pay any regard to the quality, size, or condition of the brain, as modifying in any way the mental operations, and therefore omits altogether the most important and influential of the *FACTS* connected with the philosophy of mind, the conviction is irresistibly and reluctantly forced upon us, that the author has been expending immense talent, great knowledge and much labor, in constructing an edifice destined, from its want of foundation, speedily to crumble into decay; whereas, if he had pursued his inquiry with a closer reference to the philosophical principles which he so ably exposes, and collected facts—complete, invariable, and harmo-

of which my body is composed, he considers the feeling of continued identity as a proof that the mind acts, conceives, and remembers, independently of the organs. But, in the first place, the impossibility of our explaining any process of nature, is a proof only of our limited powers, and not of the process itself being managed either with or without the participation of the organs; and, in the next, Dr. Abercrombie overlooks the fact that animals perceive, remember, and apparently have the consciousness of being the same animals throughout a long life, notwithstanding that they undergo the same changes of corporeal composition as men, and are generally believed not to have any thinking principle apart from their organization. So that, unless he can shew that their feeling of identity varies with their component particles, or that they have a thinking principle independent of their bodily frame, his former argument, as to man's consciousness being independent of corporeal conditions, must of necessity fall. Whereas if we adopt the principle, that it signifies nothing as to its future existence what constitutes the mind of man, and that it is recalled into life by the *will of God alone*, we see at once a broad line of distinction between man and animals (since we are nowhere told that God willed the lower animals to have eternal life,) and we are left to pursue in safety and confidence the path of knowledge laid open before us, without any fear of leading us astray from the fountain of Truth—the one and only true God.

Every day, indeed, furnishes new proofs of the error we commit in assuming that they *cannot* be. Dr. Abercrombie thinks the feeling of personal identity too purely of a mental nature to be in any way dependent on organization, and regards the constant change undergone by the organ, and the singleness of the feeling, as incompatible, because he cannot understand how the particles of to-day communicate the consciousness to the particles of to-morrow. We do not pretend to explain the mode or manner in which this is done any more than our author; but when we look into his own book, and there find cases narrated, in which the sense of personal identity was lost, and in which the patient believed himself to be *another person*, or an animal, or even the Deity himself, we maintain that these demonstrate that the feeling of personal identity is influenced by organic conditions; and that, therefore, the philosophy of its operation cannot be considered complete, or general inferences be deduced from it, unless the chief organic influences, and their laws, be taken into account at the same time. That this affection of personal identity is not purely mental, but is affected by bodily causes, is proved by its connexion with corporeal disease, and by its disappearance when the disease is removed.

ness is not aware of the action of material organs at all, and reveals to us only *the existing state of our own minds*. But if we resort to *observation*, we remark that the brain of the idiot is perhaps not larger than that of an infant, while that of the Bacon is ample in all its dimensions, and largely expanded in the anterior lobes; and on extending our observations, we find the *fact* of UNIVERSAL application, that an adult head of the above deficient size is *always* accompanied by idiocy, and that, *ceteris paribus*, the large anterior lobe of the brain is always accompanied by relatively higher intellectual power. These, be it remarked, are *facts* of practical value, illustrative of one at least of the conditions which modify the mutual action of mind and organization; and, what is more, they are truths, although of vast importance, yet unattainable by reflection on consciousness alone, and powerfully demonstrative of the necessity of resorting to observation for the facts on which the science of mind is to be reared.

The uses of consciousness seem to be generally misunderstood. It merely acquaints us with our existing mental states, and thus as it were reveals to us the *quality* or nature of our mental perceptions and emotions; but it can give us no information of the conditions owing to which we have a stronger perception of one quality than another. Consciousness tells us that the emotion of pity is of a pleasing kind, and that of anger is entirely different; but it does not and cannot inform us, which observation does, that a particular condition of the brain may so far influence the latter as to convert it into ungovernable fury, or that the power of experiencing the emotion of pity bears a relation to the condition of a particular part of the brain. For a knowledge of the *conditions* of action, we must resort to observation on others; and it is in vain to attempt to obtain it in any other way than that in which the wisdom of the Creator has presented it to us.

In like manner, consciousness reveals the *quality* of color. For example, it informs us that red is different from green, and enables us to appreciate the sensation of the one as of one kind, and that of the other as of a different kind, and both as different from sensations of form, or of magnitude, or position; but it does nothing more, and gives us no intuitive knowledge of the *conditions*, in external nature or in ourselves, on which the sensations depend, and these above all other things it concerns us to know; and accordingly we discover them from extensive observation. Consciousness, in short, plays precisely the same part in regard to our knowledge of the external world, as in regard to our internal emotions. It acquaints us with the *nature* or *feeling* of both, but not with the *conditions* which give rise to them; and therefore the rule of

collecting facts from observation applies with equal force in investigating the science of mind as it does in physical science; and when this shall be generally attended to, our future progress will be commensurate with our closer adherence to the laws of rigid philosophical inquiry.

The phrenologists, ridiculed and despised as they have been by the ignorant and prejudiced, are, nevertheless, as we have said, the only persons who consistently follow out the Baconian laws of induction; and it is no small recompense to themselves to feel the security which their adherence to nature gives them. Dr. Abercrombie's mode of inquiry and induction are theoretically the same, but the results seem to us to be vitiated by a radical defect in the application of his own rules. He sees and enforces the value of facts, as the only foundation on which to raise a philosophical induction; but those which he gives, even when well ascertained, are often incomplete, and, consequently, their true relations cannot appear. He says, as already remarked, that the only field in which the mental philosopher can pursue his inquiries with confidence, is his own mind, and that great uncertainty attends all observations made on others, and he proceeds accordingly to discuss his subject, deriving his facts from consciousness. But even taking his own mind as a fair type of human minds, and taking his facts as beyond dispute, it is impossible to deduce from them general rules, because they stand *isolated from the conditions which influenced their production and manner of being*; and he nowhere takes into account the influence of the organization through which the mind operates, although he admits, in the abstract, that its manifestations are greatly modified by the organic conditions. To put this in a plain light, let us take an extreme case, and contrast the facts and laws of Attention, Abstraction, or Imagination, as they would be drawn from consciousness by a philosopher and by an idiot. In the former, one order of sequence would be observed; in the latter, a very different one. What causes this difference? This is surely a most essential inquiry, and yet no allusion whatever is made to it in Dr. Abercrombie's book, nor does consciousness present an answer. *Observation*, however, gives some information. It cannot discover whether the original constitution of man differs in such cases or not, but it proves demonstrably that a different condition of brain attends each, and that in no instance do we ever find the intellectual talent of the philosopher manifesting itself in conjunction with the small brain, indicative of idiocy. This is a *fact* which Dr. Abercrombie will not dispute; and as proving the necessity of attending to the effects of the bodily organization on mind, it is a most important one. If we proceed to the next step above idiocy, we find the anterior lobes of the brain

increasing in volume as intellectual power advances, (the condition of health being of course understood) till we come at last to the expanse in Lord Bacon, in correspondence with a scope and energy of mind which no man has ever exceeded. This principle, indeed, holds throughout the whole animal kingdom. In speaking of the cerebral lobes being the place where all the sensations take a distinct form, and leave durable impressions, Cuvier adds, "*Comparative anatomy offers another confirmation* IN THE CONSTANT RELATION WHICH THE VOLUME OF THESE LOBES BEARS TO THE DEGREE OF INTELLIGENCE POSSESSED BY THE ANIMAL." Cuvier's authority, as an observer and comparative anatomist fully competent to judge, will not be called in question by Dr. Abercrombie, and therefore he must admit the accuracy of this position. But observation proves farther, that the dispositions, as well as the intelligence, of the lower creatures are also in relation to the structure and constitution of the brain: and if these be FACTS, as we hold them to be, and as the author himself will perhaps admit; if they be truths, lying beyond the reach of consciousness, and discoverable only by observation—is it philosophical to omit all notion of a condition which is found to be of such paramount importance to the very basis of the inquiry, and to state results, and argue from them as if no such condition existed?

To illustrate our meaning, let us take caloric, or the principle of heat, as a kind of parallel case, and in some respects it is not a bad one, as we know as little of the principle of heat as we do of that of mind, and can study its laws only as it exists in combination with, and modified by, material bodies. Were we to attempt to investigate the laws of heat in the same way as we do those of mind, we should altogether disregard the fact of its combination with other bodies, and instead of endeavoring to trace the modifications of its action, produced by the different densities and conducting powers of different bodies, we should try to discover its laws and properties as if it were an abstract existence; and our speculations would then be marked by the inconsistencies and hypotheses which at present characterize our investigations in the science of mind. Suppose, for example, that I touch a bar of iron heated to the 212th degree, I would instantly feel pain from being burnt; and every time that I repeated the experiment, the result would be the same. Now, were I to trust, in this instance, to consciousness alone, and to find the same result invariably follow every time my hand touched iron at 212 degrees, I would obviously infer it to be a *universal* fact or law that a temperature of 212 degrees would burn the hand. But then, if, instead of unnecessarily limiting ourselves to one source of information, we

resort to the observation of the effects of heat with *other* bodies, we find that a man may wrap himself up in *wool* heated to 212 degrees, and, far from being burned, feel only *overheated*. The latter, however, judging from consciousness alone, might most justly say to me, "No, my friend, you are wrong, a temperature of 212 degrees does not burn;" and an interminable dispute might arise between us, as between two philosophers on mind, and no means of reconciliation be discovered till some sagacious observer stepped in, and, confident in Nature's consistency, and of the existence of a cause for such discrepancy, set himself to work to discover what it could be, and, by *observation*, found it to consist in the different densities of the bodies with which the caloric was combined; after which the whole difficulty would vanish, and we should at once agree.

Precisely similar is it with the operations of mind. If the mind of A is connected with cerebral organs equal to 5, and that of B with organs equal to 10, and both judge from consciousness, and do not avert the different conditions of their brains, what can follow but inconsistency in their conclusions? This is, however, to a faulty extent, the mode of inquiry pursued by Dr. Abercrombie; and as his facts, even when certain, are thus incomplete, they fail, in many instances, to warrant his inductions. We are astonished, we confess, at *his* omission; for the physician in full practice has daily and hourly proofs before him of the indispensable necessity of attending to organic influence. Phrenology has been charged with favoring irreligion; but, without any allusion to Dr. Abercrombie, we can scarcely point to a thing which, as it appears to us, shows a greater distrust in the ways of God, than the common practice of utterly disregarding, as unnecessary to the manifestations of mind, conditions which *He* has in *His* wisdom seen fit to render essential to its operations. It seems to the false dread of believing matter necessary to the workings of mind which leads to this practical impiety, as if we could gainsay or abolish what God himself had decreed to be right!

Dr. Abercrombie nevertheless admits, what no one can deny, that the conditions of the brain does influence the operations of the mind, and that its diseases vehemently disturb these operations. With this specification of the existence of the extreme links of the chain, is he then justified in omitting all reference to those conditions which constitute the intermediate links, seeing that his professed object is to inquire into the laws of the intellectual powers; and those that cannot be understood without including the organic influence? The facts and doctrines of phrenology would assuredly have afforded him great assistance in arriving

at accurate results on this subject; and it is to us inexplicable on what ground or principle Dr. Abercrombie can justify his omission to mention the new philosophy. In saying this, we do not mean to complain that he has done injustice to the phrenologists; on the contrary, our sincere respect for him leads us to lament that he has thereby done injustice to himself, and that, too, more than he may at present be aware of. The existence and objects of phrenology could scarcely be unknown to him; and as every writer on the science of mind is morally bound to avail himself of the latest additions to the general stock of knowledge, Dr. Abercrombie could not avoid reference to the subject, without risking the charge of an utter disregard of facts and principles, which many cautious and sensible men have, after the most rigid examination, declared to be sufficient to clear up many of the grand difficulties with which the metaphysicians have long struggled in vain. The day is gone by when it would have been considered creditable to an author on the philosophy of mind to treat phrenology with contempt. We cannot persuade ourselves that Dr. Abercrombie meant to do so; and yet how will his silence be generally accounted for? We rather think that the world had a right to expect the expression of an opinion from him, as a teacher of intellectual philosophy. If he had reason to believe the phrenological facts inaccurate, or the conclusions drawn from them unsound, he was doubly called upon to enter upon their refutation, considering the rapid progress which these views are making, and the manifold injuries always resulting from the propagation of error. If, on the other hand, he believed the principles of phrenology to be essentially true, he was bound to give his testimony to that effect, in order to discourage, by the weight of his authority, the efforts of those who are active in exciting prejudices against them, and impeding their diffusion. We trust that, in a second edition, the intelligent author will leave no room for another expression of our disappointment, and we are willing to believe that, if he had considered how much the omission was liable to be misconstrued, he would not have shrunk from giving his opinion.

Our author seems to be strangely misled, if we appreciate his meaning correctly, in believing that, except in so far as relates to the mind's intercourse with the external world, it has nothing to do with material organs. In one place, indeed, we have seen him expressing a doubt whether the co-operation of the brain is necessary, even for the perception of the impressions made on the organs of the external senses; and in another place he expressly states, that many mental emotions take place independent of the condition of the bodily frame, and gives as examples, the mind remembering, conceiving, combining, loving, fearing.

and hating, in the total absence of any impression from without. But if these mental operations are really independent of the material organs, how does it happen that a few grains of opium, or a blow on the head, puts a stop to them all; that wine and other stimuli add to their intensity, or that sleep, without any thing external, also interrupts their activity? Dr. Abercrombie himself gives numerous examples of these mental acts being suppressed or disturbed by disease, and he must either admit that the organization has an influence, or that disease has reached the immaterial principle of mind.

Strictly speaking, indeed, the human body is one great organ of mind. The same principle animates and directs it all, and the sole purposes of all its parts are either to be directly subservient to mind, or to support the animal existence of those parts which are so subservient. The brain and nervous system are properly the parts which constitute the animal, and all others are constructed to place each function in relation with its own objects. The nerve of Sight has the eye to bring it into relation with the properties of light; that of Hearing has the ear to connect it with the vibrations of external bodies; that of Taste has the tongue to place it in relation with the qualities of food; that of Feeling has the skin to connect it with the object of touch; and that of Motion has the muscles and bones to enable it to effect change of position; but all have the common function of subserving the same mind, and giving impressions of, or communicating with, certain properties of external bodies. In all these cases, the necessary co-operation of the material organs is at once admitted, because the objects on which they are *directly* employed are external to ourselves; but even in them, it is almost universally admitted that the brain is necessary to the perception of the external impression, and that without its agency we should never become *conscious* of any change produced on the external organ. Dr. Abercrombie, indeed, doubts whether this is not a mere assumption; but as his own belief seems to be in accordance with it, we shall not consider him as intending to deny the fact.

Minutely examined, however, the case of the faculties of thought, sentiment, and propensity, turns out to be more nearly analogous to that of the external senses than is imagined; and the necessity of admitting them to have cerebral organs for their manifestations becomes equally great, and rests exactly on the same kind of evidence. The chief difference betwixt them is, that the functions of the external senses, and those of the internal faculties, are different, which in the very nature of things must be. The sense of sight has a *direct* reference to external nature, because that is implied in its function. But Benevolence, Cau-

tiousness, and Justice, have an equally necessary, though *indirect*, relation to external objects, and without being placed in relation with these, they could neither act nor be acted upon. There is, therefore, a fallacy in Dr. Abercrombie's ground of distinction between the one set of faculties as requiring organs, and the other as requiring none. The senses, he says, are entirely dependent on external impressions, but the mind is not—it conceives, remembers, loves, fears and hopes, in the total absence of any impression from without that can influence in the smallest degree these emotions, and recalls scenes, deeds and persons, long forgotten.

In estimating the value of the above distinction, we must bear in mind, first, that the brain is avowedly necessary to the perception of external objects, and that, without its instrumentality, no consciousness of any impression made from without upon the eye, the ear, or nerves of touch, can ever reach the mind. Secondly, that the scenes, deeds, and persons, long forgotten, were thus at first presented to the mind through the medium of the senses and the brain, and that as soon as their real or bodily presence is withdrawn from the external sense, they remain, as it were, the property of the mind and brain; so that, by disturbing the action of this latter organ by wine or opium, or a blow on the head, the remembrance of them becomes confused or is destroyed, and returns only on the return of the brain to its natural state, which could not happen were they consigned to the mind independent of bodily conditions, as the author seems to suppose. Thirdly, that the mind always loves, fears, remembers, &c., *something external to itself*, and that thus the mind, cut off from external objects from birth, would be as little available as the eye without light. Even in the partial deprivation of solitary confinement, the mind speedily gives way, although for a time it can support itself on the memory of past impressions, which continue to furnish objects of interest to the feelings and thoughts. Man's whole mind is constituted for social relations with others, as much as the eye is for light. Hope, fear, love, justice, and every emotion and intellectual operation, pre-suppose and deal with other people's emotions and external objects. Benevolence does not see the beggar who excites its pity, by a sense belonging exclusively to itself, although it could not act unless the impression from without was made upon it; because, to have given each internal faculty an immediate communication with external nature, would have been to follow a multiplied and complicated method, the very opposite to the simplicity and harmony which characterize the other works of the Divine Being. God has so constructed the one sense of sight, as to serve equally for all the faculties of the mind, whether per-

ceptive, emotional, or reflective. The same eye enables the perceptive powers to determine the size, form, and color, of an object, and brings it into relation with Benevolence, with Cautionness, with Justice, or with Veneration. He has thus avoided the necessity of giving multiplied organs of sense to internal feelings, while he has left all of these equally dependent on without, as the eye is on light. It is the perceptive powers which remember and retrace past impressions, and to remove these would be to the feelings what taking away light is to the eye.

With deference, we are obliged to say that Dr. Abercrombie seems unconsciously to have allowed the fear of materialism to have blinded his judgment, in considering the influence of the brain on the manifestations of the internal faculties, otherwise he would never have maintained their dependence to be limited only to their relations to external objects, or that mental changes were frequently independent of the condition of the bodily frame. When he affirms that, "*in the most peaceful state of every corporeal function, passion, remorse, or anguish, may rage within, and while the body is racked by the most frightful diseases, the mind may repose in tranquility and hope,*" are such statements characterized by that strict accuracy and precision which philosophy requires? Is it literally correct to say, that passion, remorse, or anguish, may rage within, and the corporeal functions continue in the *most peaceful state*? Would, for instance, an actor, the professed imitator of nature, be held as a skilful delineator of *passion* or *remorse*, if he were to present himself with the placid eye and features, the calm breathing, and regular beating of the heart, which are the signs of a peaceful condition of these various bodily functions? Or would the remorse and anguish of a man who had wronged us, be received as sincere, if he were to appear before us with every mark of a peaceful state of his bodily functions? Quite the reverse of all this. Every one who has had the misfortune to be in a passion, or to see it in another, knows too well that bodily excitement, quick and almost convulsive beating of the heart, hurried breathing, flushed features, a glistening fiery eye, and fulness of the vessels of the head, are the sure accompaniments of true passion. Remorse and anguish, in like manner, disturb the bodily functions in a very remarkable degree; and in point of fact, the arts of painting and statuary have no foundation in nature, if the passions and emotions of the mind do not *necessarily* affect the bodily organs and functions. Even Hope and Fear are so eminently influential on the bodily functions, that, as a practical physician, Dr. Abercrombie never for a moment loses sight of their effects. The *fear* of dying is well known to act so injuriously on the bodily frame, as almost to insure the occurrence of the result.

In his anxiety to shun materialism, our author has certainly gone so far in the opposite direction, as to have needlessly given the advocates of materialism a means of assailing his own views. By the apprehension which he shows of admitting the necessity of bodily organs to the mind's manifestations, he leaves it to be supposed that a future state of existence depends for its proof on the substance of which mind is made; and that, if made of matter, it *cannot* be immortal. Whereas the evidence on which a future state of existence rests, has not the slightest connexion with, or dependence on, the nature or essence of mind. We are nowhere told, and have no reason to assume, of what the mind consists, or that its immortality has any reference to its essence at all. The doctrine of man's resurrection, and life in a future state rests on revelation alone, and not on the inherent properties of mind; and thus the only reason that can be given for it, is the *fiat* of an Almighty Creator. If it be His good will to continue our existence beyond the grave, little does it matter to His power of what we are made; and if it be not His will, little, very little, will *any* material avail us in opposition to Him. Whichever way, therefore, we view the subject, we need not *fear* to follow truth wherever it may lead; and if God has ordained mind to act through the instrumentality of matter in all its emotions and operations, we shall be safer, and shall approach more closely to Him, by attending to the fact, and treating it with reverence and submission—than by shutting our eyes to its existence, and following a theory of our own in its stead.

Dr. Abercrombie himself, indeed, expresses essentially the same opinion, when he says, "We know *nothing* of the nature or essence of mind; but whatever may be its essence, and whatever may be the nature and extent of that mysterious connexion which the Deity has established between it and our bodily organization, these points *have no reference whatever to the great question of its future existence*. This momentous truth rests on a species of evidence altogether different," &c. Nor is Dr. Abercrombie singular in this statement, for the view conveyed in it is that taken by divines, moralists, and philosophers almost without any exception. Why, then, should we fear to trace the conditions under which the connexion between the mind and organization is effected? We shall never be able to solve the whole mystery; but there are palpable conditions of great influence within the reach of observation, and these we are bound to make ourselves acquainted with.

Dr. Abercrombie's anxiety to avoid materialism has led him unconsciously into another misapplication of argument. Unable to understand *how*, if mind is dependent on the bodily organs for its manifestations, the being *I* can remain the same amidst the incessant change of particles

nious facts—for his basis, he might have erected a superstructure, the durability of which would have been equalled only by its intrinsic value.

Dr. Abercrombie is of opinion, in accordance with most preceding philosophers, that a knowledge of mind is obtainable only from consciousness. In one sense, this is indubitable; but in the same sense, our knowledge of external nature must be also ascribed to consciousness, as every thing, whether external or internal, must become an object of consciousness before we can become acquainted with its existence or properties. The phrenologists, with whose writings no modern author on the science of mind can be supposed to be unacquainted, have done their utmost to call attention to the fact, that consciousness does not inform us even of the existence of mental organs, much less does it acquaint us with the influence of different conditions of these organs upon the mental manifestations; and they have urged the conclusion, that, therefore, *consciousness is not sufficient to reveal the conditions or laws of the mind's action*, and that, to discover these, we must have recourse to extensive observation. Neither Dr. Abercrombie nor any any other person has attempted to refute either the premises or the inference; and the very inconsistency which he is obliged to admit in the facts derived from consciousness, corroborates the accuracy of both positions. It is worthy of remark, also, that when he admits the prodigious influence of the condition of the brain on the operations of the mind during disease, he derives his knowledge of that influence not from consciousness, which can afford him none, but from *observing during disease in others the connexion between cerebral state and mental manifestations*. Why, then, does he not consistently follow out the same plan during health? and at what point in the approach to disease does consciousness cease to be, and observation become an adequate source of knowledge? Invariability and consistency he states to be characteristics of truth and facts, and of a right mode of proceeding. When thus proved to be unattainable on his method of inquiry, why does he longer adhere to it?

But general principles are best illustrated by examples; and if we select any individual case, we shall perceive immediately, that in mind, as in physics, observation is the true fountain of practical knowledge. Let us take two individuals in perfect health, the one characterized by the limited mental powers of idiocy, and the other by the genius and talent of a Bacon, and attempt to philosophize upon their respective attributes. If we refer to reflection on consciousness, we shall not succeed in discovering a single condition on which the difference depends, even should we reflect for years; because conscious-

Under the head of *Somnambulism*, indeed, Dr. Abercrombie relates several most interesting cases of what is erroneously called *double consciousness*, in which the patient lives in two different and alternate states, forgetting, in the one, every thing which takes place in the other; and, *vice versa*, recollecting in the one every thing which took place during the period corresponding to itself. A young lady, after an attack of somnolency, found that she had lost every kind of acquired knowledge. She began to study from the beginning; and some months afterwards, on awakening from a second attack, found that she had regained all she formerly knew, but had not the slightest recollection of any thing which had happened in the interval. She then had a third attack, which left her in the same state as the first had done; and subsequently a fourth, which left her restored to the condition in which the second had left her. In the one state, she uniformly recollected all her original knowledge; in the other, only that acquired after the first attack. We have lately heard the history of another case somewhat of the same kind, in which, after a long fit of somnolency, a lady awoke utterly unconscious of every preceding occurrence, of the use or nature of language, and of the features of her friends, and utterly forgetful that she had ever seen her husband before. She is now learning every thing like a child. In these singular cases, the disturbance or interruption of continued consciousness is evidently owing to a bodily affection; and if the condition of the body thus exercises an important influence at one point of the scale, it is altogether unphilosophical to maintain that it exercises none at another. Sleep, indeed, suspends the consciousness of identity, and it is avowedly a bodily affection. Its very familiarity prevents our attaching due importance to its effects on the mind.

In entering so minutely into the above discussion, we need hardly say that it is the sincere respect we entertain for Dr. Abercrombie's superiority of intellect, great acquirements, extensive experience, and deservedly high reputation, which has led us to call his attention to the oversight which he has committed in not entering more carefully into the consideration of the influence of the organization on the mental functions during health. Had we not rated very highly his authority and weight of character with the public, we should never have taken the trouble we have done to show how extensively his omission endangers the solidity of his own superstructure. Convinced as we are by a superabundance of evidence, that the philosophy of the intellectual and moral powers can be attained only by investigating the operations and laws of mind in connexion with its bodily organs, and that every attempt made on any other principle must do harm, in withdrawing attention from the true

path of inquiry, it becomes a positive moral duty in us to expose its defects, and to warn the reader against being misled by an erroneous application of principles in themselves incontestably true, and of great importance to the conducting of investigation.

The informed phrenologist is well aware that the defect we have pointed out in Dr. Abercrombie's work, is not of a trivial nature, and it will not be difficult to make even the unphrenological reader understand its importance. The author's section on Memory, for example, abounds in excellent facts and reasoning, and is marked by a love of truth and a liberal spirit of inquiry; and yet its results are very imperfect, from his overlooking the influence of corporeal organization. He states, in the outset, that "*there seem to be original differences in the power of memory, some individuals being remarkable for retentive memory, though not otherwise distinguished by their intellectual endowments;*" and, as instances, he speaks of one person being able to repeat a long discourse after hearing it once; of another being able to repeat the contents of a newspaper, and so on, where the understanding was otherwise defective. He then refers to *local* memory, and to that founded on analogies, and admits that the one may be possessed without the other. These are *facts*, and therefore a solid ground for inquiry. The first question that presents itself, on contemplating them, is naturally, "what are the circumstances or conditions on which these differences depend; can we ascertain them?" On having recourse to further observation, and comparing the condition of the brain or organ of mind in those who are distinguished for the accuracy of any particular memory, and in those who are defective in the same kind of memory, we perceive a remarkable difference of developement in portions of the brain invariably corresponding, all other circumstances being equal, to the degree of power possessed; and we observe that one part of the brain is large in those who have the great *verbal* memory; another in those who have the *local* memory; a third in those who excel in remembering analogies; a fourth in those who excel in musical memory, and so on. These, then, are additional *facts* bearing directly on the point at issue, and therefore positively essential to the inquiry into the laws of memory. Instead, however, of proceeding in the examination by this most direct and philosophical way, and of thus building his superstructure on *facts*, as it is the object of his book to recommend, Dr. Abercrombie merely says, "The facts now referred to are *matters of curiosity only*. The points of real interest and practical importance in regard to memory, respect the manner in which *it is influenced by the intellectual habits of the individuals*, and the principles on which it may be improved.

These are referable chiefly to two heads, viz. ATTENTION and ASSOCIATION."

Now it is manifest that the examination of the facts thus dismissed as matters of curiosity only, really constitute the most important part of the inquiry; and that an explanation of the conditions on which they depend, and of the laws which thus limit the memory to *classes* of objects, is the only possible mode by which Dr. Abercrombie's subsequent problem of the influence of intellectual habits can be solved. For example, we find that it is an intellectual habit of A to recollect every word of a poem or discourse which he has once heard, and of B to remember the appearance of every place he has ever seen; but that A cannot recollect places, nor B words. The real question then comes to be, what causes this difference between A and B? To say it is a peculiar intellectual habit, is to say nothing more than that each has had the power, and has exercised it from the beginning; and accordingly the author admits it to be "original," or a part of their constitution. The habit, then, being the consequence of the previous possession of the power, we are driven back to the conditions under which the power manifests itself; and these are, as we have said, certain states of the organ of mind which those deficient in the power do not present. This is tangible ground, and cannot be evaded.

Again, "memory," says Dr. Abercrombie, "is much influenced by ATTENTION." This is most true; but on what does the power of attention depend? Atlas supports the world, but what supports Atlas? One person can devote his whole attention, with ease and pleasure, to a mathematical proposition, and yet fail to keep it alive for five minutes to a process of abstract metaphysical argument. Another may delight in concentrating his attention for days together on the productions of the musician, the poet, and the sculptor, and yet fail to command it to a simple arithmetical calculation. On what do these differences depend? Each may make the strongest effort to apply to the uncongenial subject, and yet his attention wander in spite of himself. Dr. Abercrombie resolves the whole into the effect of previous habits and pursuits; but then comes the query, what is necessary for forming a habit? We have all heard of instances in which every conceivable motive combined to induce a son to tread in his father's footsteps, and to become his successor in business, and in which the son has persevered for years in trying to acquire the habit of liking it; and yet, when released from these, has turned from his now habitual mode of life with aversion and disgust, and followed a different pursuit, in which, nevertheless, he has speedily excelled, because the new habit was congenial to his nature; while, in

attempting to form a habit of a different kind, he could never fix his attention upon what he was about. In such cases, observation shows that cerebral difference are invariably connected with the different powers of attention; and consequently a knowledge of these becomes essential to the philosophy of attention.

Every section of the work before us might be taken up in the same way, and the deficiency be seen to pervade the whole; but it is unnecessary to lengthen our detail. It is with pain we have felt compelled to go so far as we have done; but in proportion to Dr. Abercrombie's eminence and authority, a regard for truth, for the interests of science, and of the human race, and a sense of justice towards the discoverers of Phrenology, Dr. Gall and Spurzheim, whose labors have been thus overlooked, made the duty imperative; and it will give us sincere pleasure should the talented and amiable author afterwards take up the question, and, *by facts*, either convince his own judgment, or show that we have been in error. In the mean time, we are glad to say, that, notwithstanding the deficiencies we have pointed out, the work before us presents a great deal of information, and many curious and interesting facts which have come under the author's own observation, and which throw light upon many of the phenomena of mind. With his application of the rules of philosophical investigation to medical science, we were particularly pleased. It displays throughout an acuteness of observation, and a cautious soundness of judgment, which cannot fail to impress his readers. There is also much excellent matter in the last part, in which Dr. Abercrombie considers the qualities and acquirements which constitute a well regulated mind; and we know that the practical suggestions there made for the improvement of the mind, are calculated to act beneficially on the rational reader.

ARTICLE II.

APPLICATION OF PHRENOLOGY.

No science is capable of a greater number or variety of applications than that of Phrenology. We have been often and agreeably surprised, in reading the various works published on the science, to find what a great variety of topics have already been discussed by writers on the subject; so much interested have we been in this fact, that we have collected a long list of the mere heads of topics which have been more

or less examined by different persons on phrenological principles. The Edinburgh Phrenological Journal from its commencement, in reporting the exercises and proceedings of various Societies, has usually given the titles or heads of the most interesting papers and essays read at the meetings of these Associations. Though very few of these papers have ever been published, the mere mention of their titles shows to what a variety of subjects the principles of the science may be applied, especially when examined and discussed by different persons. We will here present a list of the heads of such papers, the perusal of which may induce some persons in this country to write on the same subjects; or at least, it may furnish them with fruitful themes for meditation. We select only those of a general and interesting nature, omitting all that are of a local or controversial character :—

The causes and nature of true happiness.—The distinctive characteristics of different nations.—Oratory, music, free-agency and dreaming considered phrenologically.—Belief and accountability considered in connection with cerebral organization.—The influence of the Fine Arts on the Moral Sentiments.—Phrenological analysis of Virtue, Crime, and Insanity.—The perfectibility of the human brain.—Socialism tested by Phrenology.—The influence of luxury or sensual indulgence on human improvement.—Comparative anatomy of the nervous system.—Moral duties enjoined by Conscientiousness.—The influence of Acquisitiveness on society.—The philosophy of the external senses.—The influence of sound on the mind.—The abuse of the propensities in religious controversy.—The comparative influences of organization and circumstances in the formation of character.—A phrenological analysis of patriotism.—The principles which should regulate marriage and divorce.—The classification of prisoners according to phrenological principles.—Laws of hereditary descent.—Criminal jurisprudence considered in relation to mental organization and social responsibility.—Importance of phrenology as applied to self-government and improvement.—Essay on the distinction between the power and activity of the mind.—Capability of negroes for civilization.—Osteology of the skull or the laws of its growth and decay.—Essay on general and special Providence as compatible with the laws of nature.—Civilization tested by phrenology.—The principles of criminal legislation, considered according to phrenology.—Observations on the progress and prospects of universal peace.—Phrenological analysis of Robert Owen's new views of society.—Ventriloquism explained by means of phrenology.—The philosophy of apparitions.—Effects of old age on the manifestations of the mental faculties.—Hereditary tendency to crime.—The causes of sea-sickness explained by means of phrenology.—The phrenological

causes of the different degrees of liberty enjoyed by different nations.—Phrenological essay on grief; also one on taste.—The size of hats used by different classes in society.—Phrenological analysis of eloquence.—Observations on mental derangement.—Remarks on the different kinds of memory.—The causes and cure of stammering.—The nature and necessity of punishments as penalties attached to violated laws.—The importance of physical education, when it is considered that all the manifestations of the mind depend on cerebral organization.—Connection between phrenology and medicine.—Analysis of infant education on phrenological principles.—The nature of original sin considered physiologically and phrenologically.—Distinction between instinct and mind, or between brutes and man.—The philosophy or phenomena accompanying death.—The standard of beauty considered physiologically and phrenologically.—Effects of distortions of the body and compressions of the head on human life and happiness.—Application of phrenology to the fine arts.—Original sin or native depravity, in what does it consist?—The laws of free-agency.—National prosperity, considered in relation to intellectual advancement.—Happiness, its constituents, properties, and relations.—Observations on phrenology as affording the best systematic view of human nature.—Advantages which naval and military discipline might derive from phrenology.—Essay on the best means of obtaining happiness.—Observations on the differences in national crania.—Phrenology applied to education—physical, intellectual and moral.—Deficiencies in the power of perceiving colors explained, phrenologically.—The mode of studying the instincts of the lower animals.—Practical phrenology applied in the choice of servants.—The phenomena of somnambulism and spectral illusion explained on phrenological principles.—The causes of idiocy.—Application of phrenology in the selection of legislators.—Thoughts on the true mode of improving the human race.—The foundation and constituent elements of virtue, merit, righteousness, holiness, &c.—The ultimate bearings of phrenology on civilization.

ARTICLE III.

DIFFERENCE BETWEEN THE FRENCH AND ENGLISH CHARACTER.

Different nations as well as individuals are known to possess marked and distinctive characteristics. These have long been made the subjects of inquiry and observation, but the *primary cause* of this difference in character has never as yet been very well understood, or satisfactorily explained. That it does not grow out of circumstances alone is evident, though these undoubtedly have a strong modifying influence. Again: This difference in national character cannot be explained according to any system of metaphysics. It requires no argument to prove this assertion. The question may be considered as long since settled, by actual experiment. Metaphysics have now been employed for centuries in vain to solve such mental phenomena. Nothing but difference in physical organization can possibly explain the causes of the peculiarities and distinctive characteristics of different nations. This opens a most interesting field for inquiry and research—one that has hitherto received but little attention. No one but a thoroughly informed physiologist and phrenologist can do it justice.

About the only formal attempt that has been made at it, was by Dr. Andrew Combe, nearly twenty years since. After residing some time in Paris, and becoming pretty well acquainted with the French character, on his return to Edinburgh, he was appointed by the Medical Society of that city to read at one of its meetings, an essay on the question "Does Phrenology afford a satisfactory explanation of the Moral and Intellectual Faculties of man?" In this essay he introduces the following remarks on the differences between the French and English.

The French are universally admitted to be more ingenious than we are in the invention and construction of gewgaws, trinkets, and such trifling contrivances as require more neatness of workmanship than depth of reflection. It is also admitted that they have greater quickness of perception, and a greater talent for observing, acquiring, and retaining a knowledge of facts, phenomena, and details, without, however, having so much power of tracing links of causation, and arriving at general principles. Thus, while they are extremely ingenious in making new observations and isolated discoveries in physical and natural science, it is frequently left to the English, or to the Germans, to find out the principle which connects them together, and to render them available to the purposes of life. Even a slight acquaintance with Phrenology would lead us at once to ascribe this peculiarity of mental constitution to the

French having a larger endowment of Constructiveness and of Individuality, and a smaller endowment of Causality, than the English have; and I may add, that, from observation, I know this to be the case. The propensity to construct and invest is greatly aided by, but is by no means a constant accompaniment, or result of, intellectual power; for many idiots manifest it in a great degree. Fodere knew several who taught themselves the "repairing of watches, and the construction of some pieces of mechanism;" and he expressly adds, "that this could not be attributed to the intellect, for these individuals not only could not read books which treated of the principles of mechanics, but they became confused if they were mentioned, and never made farther progress."

The superior quickness of perception and talent for the observation and recollection of phenomena which the French possess, are easily explained by a large Individuality, which leads us, says Dr. Spurzheim, to "observe and recognize individual existence, and when too active, it personifies every thing, even life, movement, fever, &c. Sometimes it is not sufficiently active, as in those who deny the existence of a material world." "It enables us to take an interest in every thing;" it wishes to "know and to take cognizance of all that is passing around." "Those who know enough to speak with ease, and, in fact, speak much, and relate well, and who are called brilliant in society, have much of this organ." This faculty, therefore, combined with Constructiveness, accounts for their ingenuity. Their inferiority to us in the discovery of principle, and in the useful application of their knowledge, is to be ascribed to a smaller endowment of Causality or reasoning power. "When Causality is weak, there is a difficulty in perceiving the connexion between premises and conclusions: an incapacity of thinking deeply; and a mental blindness to all abstract and philosophical disquisitions. It gives a genius for metaphysics, and for deep reasoning of every kind." Now, it is well known that the French have never excelled as metaphysicians, while our countrymen have always been remarkable for metaphysical writing. It is from this great endowment of Individuality, and the other perceptive powers, joined to moderate Causality, that the French are fond of knowledge without any great regard to its utility; and that they excel in natural history, chemistry, botany, and in those departments of science and of art, which require an accurate observation of the qualities and changes of bodies rather than depth of reflection. It is this combination also which fits them for excelling in anecdote and biography, and in the delineation of individual existences; while they want the power of taking profound or comprehensive views. Hence it is, also, that while their literature abounds in "*Memoirs pour*

servir a l'histoire," it can scarcely boast of a history itself. The English again, with more Causality and less Individuality, are more constantly in pursuit of causes and principles than of mere facts. They endeavor to penetrate motives as well as actions, and to take deep and extensive views of nature, and hence with fewer *Memoires pour servir a l'histoire*, they have more of history itself.

The French and English differ extremely in another respect. In the company of strangers, of whom he knows nothing, a Frenchman will begin to talk of himself and his own affairs without reserve, in a way that at first astonishes our wary countrymen, and leads them to suspect there is a design under it. The true Briton, in the same circumstances, maintains a long silence, or talks a little about different subjects, and makes his own observations on his company, and it is only when his scruples are satisfied that he will allow a word about himself to escape his lips. This is often remarked by the French, and by them is falsely ascribed altogether to pride. Self-esteem is no doubt one of the ingredients, but it is much assisted by our great endowment of Secretiveness and *Cautiousness*. The former is said to "give an instinctive tendency to conceal, which, "according to its degree of intensity, and the direction it receives from the other faculties, may produce slyness or cunning;" and "those in whom it is deficient" are said "to be too open for the general intercourse of society." "It is essential to a prudent character," and enables us to suppress thoughts or feelings, the expression of which might be injurious to ourselves and others. *Cautiousness*, again, as the name expresses, constantly bids us "beware." It is the want of these two which produces a rattle-pate. It is their activity which tempts the Scotsman to answer one question by asking another, which a true Frenchman never does. It gives the desire, and in a certain degree the power, of divining the active feeling and thought in the mind of another, by putting ourselves in his place, and thus, with a certain combination, enables a person to avoid giving offence, by saying things which would hurt the feeling of another. It gives what may be called *tact*, which our countrymen possess in a higher degree than the French. The latter, even when most anxious to please, would often say things which would give offence, if we did not know that none was meant. This the Frenchman is very apt to do in the company of those whose habits of thinking differ much from his own.

The doubts, and hesitations, and dismal forebodings, which lead the Englishman to look towards the future, and to consider thoroughly the consequences, before resolving upon action, are plainly referable to a larger *Cautiousness* than that possessed by our more vivacious neighbors, who habitually look to the present more than to futurity. This feeling

is the source of that tinge of melancholy which has so often been remarked in us, and when very active, it leads to despondency. Joined with much Secretiveness, it gives a suspicious cast to the mind, and makes us attend to the motives more than to the mere act; for we think there is something hidden which we ought to see. None of these feelings predominate in the mind of a Frenchman. He acts more on the spur of the moment. If good come of it, *tant mieux*, if evil, *tant pis*; but he does not afflict himself with the reflection that he might have done better. "Sufficient for the day is the evil thereof," is his principle.

The love of praise, and the consequent vanity of the Frenchman, are clearly preferable to a great endowment of the phrenological faculty of "Love of Approbation," the organ of which I know to be larger in them than in the heads of our countrymen, and more especially when compared to that of Self-esteem, of which we have undoubtedly the larger share. It is the greater Self-esteem which, joined to other faculties, gives that nice sense of dignity for which the English are remarkable, and which, to the Frenchman, often appears somewhat ludicrous. To the latter, no mode of enjoyment, however trivial or childish it may seem to be, is ever, on that account, rejected. His dignity takes no offence. But with the Englishman it is widely different. He often rejects an amusement harmless in itself, from a sense of offended dignity, although, in other respects, he may have a relish for it. His Love of Approbation is swayed by his Self-esteem, whereas the love of praise is the ruling passion of the Frenchman, and forms no small ingredient in the production of that politeness for which his nation has so long been celebrated. It is the source of their vanity, of their love of finery, and of novelty, and of that ever-to-be-repeated and never-ceasing in the mouth of a Frenchman, "*Glory*." It is also the source of many of their noblest institutions, and, joined to a certain portion of veneration, is the chief source of that intense admiration of courts and courtiers, red ribbons and crosses, by which they have always been distinguished.

That compound feeling of the mind, which is almost unknown to the French, but which they have kindly denominated "*mauvaise honte*," arises from a combination of the faculties which I have just said mark our character. *Mauvaise honte* is merely an excessive desire to attract notice, and to please, arising from Self-esteem and Love of Approbation the former of which gives a kind of feeling of deserving it—joined to: excessive fear of not succeeding in our object, arising from Caution—and a strong desire to lie half-concealed, and to advance with measured pace, step by step, as we feel ourselves becoming more &

more secure, arising from large Secretiveness. The full blaze of instant attention cannot be endured without an instant confusion, and the very fear of failure often produces it.

In point of Firmness, Perseverance, and Steadiness, the French are much our inferiors; indeed, fickleness has long formed a part of their character. This is to be ascribed to a powerful faculty of Firmness, which the English possess in so high a degree as often to produce stubbornness and obstinacy, which may be well or ill applied, according to circumstances. "Grace aux Anglais," said the Professor Faujas St. Fond, in allusion to this part of our character, "*qui s'obstinent* a penetrer dans les pays les plus steriles et les plus barbares," the boundaries "of science were daily enlarged. It is not alone," said he, "in the flowery path of science that you find them; but, at one time, boiling under the meridian sun of Africa, and at another, frozen amidst the polar ice." It is this strong perseverance, combined with the faculties already mentioned, which fits the English for difficult enterprise. From their active Cautiousness, they seldom act until they have formed a pretty correct estimate of the good or bad consequences likely to result from or accompany the intended action. This they are enabled to do from their larger Causality, or power of tracing cause and effect; and hence they act upon principle, and hence they must, before beginning, be satisfied of the adequacy of the means to the end proposed. Such preparation, joined to large Self-esteem and Firmness, produces a rational feeling of independence and perseverance that is superior to almost any circumstances.

The Frenchman, on the other hand, buoyed up by a great endowment of "Hope," unassailed by the useful though at times gloomy foresight of Cautiousness, and with no remarkable portion of reasoning power, dreams not of obstacles until they actually start up before him. If easily surmounted, all is yet well. But if they seem to be insurmountable, or so far formidable as to require a long-sustained effort to overcome them, then his confidence, not being founded on any estimate of what he had to hope for or fear, or on a feeling of his own superiority to the circumstances, as suddenly forsakes him as it was suddenly generated. If, indeed, he is in a situation where *the love of glory* may still affect him; where he knows that the eyes of his country or his king are upon him, he may still bear up; but not if thrown entirely upon his own resources, and upon the native energy of his own mind. Many historical facts prove the truth of these remarks, and the conduct of the crews of both nations, on the loss of the *Alceste* and *Medusa* frigates, is in itself an excellent illustration.

The lively gesture and vivid natural language of the French proceed

from this difference in their mental constitution, aided by more Imitation than we have. Every faculty being active, has a language of its own, easily intelligible to those who have the same in an ordinary degree. Now the natural language of Love of Approbation is the display of every quality to attract notice, and the vivid and unrestrained emission of every thought as it rises in the mind. The natural language of Secretiveness, on the other hand, is that of the cat watching the mouse; it is quiet and concealment; that of Cautionness is attention and seriousness. In point of fact, therefore, we exhibit the natural language of the different faculties quite as correctly as the French do. The only difference is, that the faculties which predominate in us are only secondary in the mind of the Frenchman, and *vice versa*. So that an Englishman meeting a stranger, with a grave face and silent tongue, exhibits the natural language of his predominant feelings, quite as much as the more vivacious Frenchman with the friendly smile, polite bow, and shrug of the shoulders.

The French have long excelled as elemental writers in natural and physical science, from the clearness and precision with which they apprehend and communicate their ideas. This is to be explained, partly from their large Individuality enabling them to perceive and to retain for use what they have once acquired, and partly from a large Concentrativeness, which enables them to separate what is essential from what is of no importance, and merely to state what bears upon the point. Individuality furnishes them with a ready command of the ideas which they have in store. Hence the perspicuity and fluency of many of their lecturers, Guy Lussac and Thenard, for instance, who never use written discourses or even notes.

There is another general but important difference which phrenology has more clearly brought to light and explained, and for it I beg leave to use the words of the Edinburgh Review, lest it be imagined that it is a difference perceptible only to "*oculi interni*."

"To their ability in the art of war, the French have joined considerable glory in literature, in the fine arts, and much ingenuity, but hardly any of these things which denote or constitute dignity of intellect, or energy of character, or vast and comprehensive capacities; in short, they are deficient in most of the features which the large pencil of history would paint as exalted. In painting true and general nature, in delineating great features of mind, and strong emotions of soul, they cannot be compared to us, because they have an imperfect original of these things before their eyes." Some of these peculiarities are referable to the particular combination of faculties already mentioned, but the

general defect is to be attributed to a smaller size of the brain, as a whole, than is found in England. It is general size alone, joined to a favorable combination, which gives a commanding power and energy to the mind, and fixes the attention and makes an indelible impression on the minds of others, and it is in such cases that every tone seems to an inferior mind the natural accent of command. In our own profession, Gregory was an excellent instance of this effect of size, and Abernethy is still another. The French have not this quality; they have greater activity of brain, they work more cleverly, and go over a great deal of matter in a very pleasing manner and in a short time; but there is no overpowering sense of greatness to weigh down the hearer, or make him feel his inferiority. Such are a few of the distinguished characteristics of the French and English characters, and such is the explanation of them afforded by phrenology; it is for you to judge how far it is sound or satisfactory.

ARTICLE IV.

ON THE STUDY OF HUMAN NATURE, AS A BRANCH OF POPULAR EDUCATION.*

The past history of man, we are all in the habit of admitting to be a record of inconsistencies and errors. The admission, indeed, seems rather to soothe than to disturb our self-complacency. We find something pleasing in our implied superiority, when we sit in judgment on our predecessors, censuring each successive generation, and forgetful how closely we are acting over the same scenes, and how soon we are destined to become subject in turn to the same tribunal. It is well, now and then, to change our procedure, to look upon ourselves in the light in which posterity will view us, and to inquire whether ours may not prove a history of paradox, and we found as much mistaken in our estimate of our own acquirements, as we know our predecessors have been in theirs. The view may not be agreeable to our Self-esteem, but it is not therefore the less useful. The zealous liberal, who, on either side of the Atlantic, lavishes his ink in support of equal rights and ultra-democracy, and in the same breath upholds the despotism of Napoleon; the agitator who alarms John Bull with his fearful tales of the burdens of the assessed taxes, while he applauds his Isaachar-like patience under the weightier matters of the excise and customs; the legislators who have immortal-

* From the *Annals of Phrenology*, No. 3d, vol. 1.

ized themselves by spending thousands of the public money on the exact settlement of the last cent of an appropriation item; what judgment may the statesmen and economist of another age be expected to give of their consistency?

But it is not with mistakes of this class that we have at present to deal. There are others, less suspected indeed, but not less important in their results on the public. We live in a time, when much, though by no means too much, attention is directed to the subject of education, and we are continually boasting of our own doings in this respect. We contrast the difficulty-making system, once the glory of our teachers, with the labor-saving machinery of our our present schools, and the still more accommodating spirit of their ancestors. We talk of popular, as opposed to scholastic education, and insist on the necessity of teaching a few, at least, of the useful realities of life, instead of making a school course what it once was, a mere matter of words and names. In the olden time, say the eulogists of present fashions, it was maintained that obstacles in the way of knowledge were but so many blessings in disguise to those whose fate led them along its dry and steep ascent; and religiously would the pedagogue preserve, if indeed in the sincerity of his faith he did not at times increase, its time-honored inequalities, lest the energies of the pupil's mind should be too little overtaken at each successive step. Hence the everlasting labors of the spelling-lesson, the undirected though not unpunished operations of the copy-book, the mysteries of the 'Rule of Three,' the difficulties of the 'Pons Asinorum,' the ambiguity and intricacy of the English grammar, and, worse than all, the superadded dog-latin of the 'propria quæ maribus' and lexicon. Nor was the region, thus roughly traversed, of itself the most inviting. Reading, writing, arithmetic, and grammar, each taught after a fashion, were the components of an English education, and more was never thought of except by the few whom their friends' or their own choice engaged in literary or professional pursuits; while even to these few an acquaintance with some of the abstruser results of Euclid's axioms, with the pedantry of the so-called learned languages, and with the absurd and often disgusting legends of their mythology and history, a passing glance at some marvellously short abridgment of Aristotle's logic, and a smattering of what was styled Mental Philosophy, were held out as the highest achievements of the liberally educated. We have changed all this, they tell us. Reading, both as regards its orthoepy and its elocution, is fast becoming a tolerable, if not actually an attractive task. Teachers of penmanship engage already to convert, as if by magic, their pupils into masters in a day; and, quackery apart, there are those of them

whose pretensions are but a trifle less extravagant, and who actually redeem their pledges. Our new elementary books of Arithmetic, Geometry, and Grammar, have changed the entire aspect of affairs in their departments, and our scholars now seem to travel happily as on a rail-road of the newest and most approved construction. Still further, a new world of knowledge, so to speak, has been opened to us, and by its means, many old acquirements, before esteemed of little value, have become available for the most important uses. Natural Philosophy in its various departments is made the sequel to the less directly useful branches of the pure Mathematics, and has indeed in its outlines become a source of popular amusement to many who have never mastered the abstrusities of the introduction. The observation, too, of the world around us, has given origin to a host of other sciences, each at once practical and interesting; and the external features of our globe, its internal structure, its various productions, vegetable and animal, are all examined and reasoned on with enthusiasm and success. The pursuit of the living languages, again, has been added to that of the dead, and has brought to our knowledge new literatures, abounding many in works not surpassed, perhaps not equalled, by any of the wonders of Rome or Greece. All this, and more too, we are told, has been effected, and we often seem disposed to sit down in quiet exultation, content to follow on in the tracks already opened, without once inquiring if there may not be still other pursuits, equally if not even more important, to which our attention might advantageously be directed.

In this our combination of zeal for the advancement and diffusion of our favored sciences, with indifference to the addition of others to their catalogue, is there not an inconsistency, and one which we ought by all means to be willing to remove? It is our present object to show that there is, and that it concerns us nearly, that we lose no time in undertaking its removal. That much has been done of late to improve education, that most of what is now taught, (always of course excepting those of our institutions whom a reverence for antiquity has prevented from giving way to modern innovation) is eminently useful, that the mode of teaching it is in the main good, and that to return towards the older landmarks would be to change for the worse; all this we are ready as any to admit. Our position is, that there exists a wide field, to which the great body of our teachers never for a moment look, but which, if properly attended to, could not fail of producing even more good fruit than that on which our efforts have as yet been expended. "These things ought ye to have done, but not to leave the other undone."

When we have succeeded in giving to our architects and linguists

their due amount of mathematical and literary schooling, with the smallest possible expense of time and money, have we done all that should be done to fit them for their several pursuits? They have each a nature of their own, which it will be theirs, as the case may be, to improve or neglect; are they, under the existing system, in the least instructed in regard to it? Some things are conducive to, others destructive of, corporeal health; have they been urged to study the organization of the body, and the laws which determine its relations of health or disease, that they may obey those laws, and reap the advantages of obedience? They have natural impulses or feelings, ever urging them to action of one kind or another; have we taught them any thing in regard to those feelings, so that they may recognize them in their results upon themselves or others, and may so combine and modify them as to make them ever the ministers of good, rather than of evil? They have intellectual powers; do they know their range and character, or the laws by which their improvement and discipline is by the Creator's fiat regulated? As members of society, have they learnt the nature of their duties to its other members, in their several capacities of sons or fathers, friends or strangers? As citizens, have they any knowledge of the modes of operating with advantage on their fellows, of the principles of reasoning, teaching, legislation, &c., in ignorance of which, they must of necessity be perpetually the dupes of their own whims, or of their neighbors' cunning? As beings to whom is addressed what purports to be a revelation from their Maker of his will in regard to them, have they, that they might understand its messages, been instructed to compare them with the character and circumstances of those to whom they have been sent; and have they, by such comparison, been shown, what without it cannot be fully shown, the perfect fitness of the message, the nature of the duties it imposes on them, and the mode in which its advantages may be best conveyed to others? We are not to be understood as saying that there is *literally nothing* done in these respects. Our charge is simply this, that what has been done is very little, and that, generally speaking, even our educationists are making no exertions for its increase. If this charge be true—nay, if *any* of these branches of education be neglected in our present system, (and surely no one can deny that they are) then we maintain that to be indifferent to such an extension of the system as will embrace them, and to be all the while indefatigable in our efforts to learn and teach the size and color of a pebble, leaf, or spider, is an inconsistency as glaring as any of those for which we laugh at or condemn our forefathers.

What class, then, of our institutions can, *as such*, claim exemption

from the charge? How stands the case with our colleges? In many of them, no doubt, there are chairs of Anatomy and Physiology, and these chairs are filled by talented and active teachers; but their talents and activity are in general required only as conducive to professional instruction, and their departments are not acknowledged to be among those absolutely necessary to the strictly collegiate course. These studies should be presented to every student as in the very highest rank of relative importance; but instead of this we find them, perhaps, not even holding the first place in the professional course, and certainly with hardly any place at all beyond it. The results we need not dwell upon. Complaints are common of the short lives of the educated class, of the almost uniform degeneracy of their children, and of the long list of diseases, hereditary or otherwise, which embitter the existence both of child and parent. These things should not be; we may even venture to say they could not be, but for the operation of a system which gives a man more knowledge of every other object in nature than of himself.

If from these we turn to the Metaphysical studies, as they have been styled, which are connected with the inquiry into human nature, what rank do we find them commonly, we do not say, quite uniformly, occupying? Intellectual and Moral Philosophy, Logic, Rhetoric even—these departments, it is notorious, can hardly so much as hold their own in the Curriculum, and are utterly inadequate to any extension of their influence. There are exceptions to the rule, cases where the talent of an individual incumbent has rendered one or other of them for a time attractive, but in ordinary cases, are they not regarded almost as the crumbling ruins of an exploded system, venerable from their age, but wholly useless? Is not the attention paid to them looked on as a sort of penance, to be duly undergone for the sake of a degree, and imposed for no better reason than that it always used to be imposed? A large class of our reformers already call for their abandonment, and some of our most respectable institutions have yielded to the call. The new university in London (and its youth in no slight degree makes it a fair index of the fashionable creed on this subject) has no chair of Moral Philosophy at all, and we believe not even of Rhetoric. Whately, in terms not to be misunderstood, deplores the odium under which both Rhetoric and Logic have fallen, even in Oxford, whose adherence to the good old ways has not yet suffered her to give them up to their unpopularity. In this country the case is little, if at all, better. Many of our colleges do scarcely anything, all of them do much too little, to direct the current to its proper course. A few months over a text-book, recited, *almost* every where, *literatim*, and without note or comment

from the teacher, a few lectures *possibly*, a rarely recurring and but half systematized exercise in composition—and this is all. Years are devoted entire to the Languages and Mathematics; weeks are doled out sparingly to the sciences, whose foundation is the philosophy of man. and whose results bear obviously and directly on all his dearest interests. Other sciences are useful; we make no complaint against our colleges that they are too much or too well taught; we claim only a pre-eminence for these. This pre-eminence has not been given them. Some may allow more to them than others, but none are liberal enough. There are degrees, but they are degrees of error.

But we shall be reminded, that whatever may be the state of those older departments, there are others, the results of more modern study, to which more attention is directed; Jurisprudence, for instance, and Political Economy. We answer, that attention to those no more makes up for inattention to the former, than the study of the differential and integral calculus would for the omission of the elements of Algebra. It is on man *as he is*, in other words, it is on his intellectual and moral faculties as given by his Maker, that all the experiments of legislation or persuasion are to be made; and it is by the laws which regulate the reasoning process, the great principles which distinguish truth from error, that the propriety of each experiment must be tested. If the experimenter is in ignorance of the qualities on which he has to operate, and of the rules by which his operations should be guided, do we wonder at his failures? As the case stands, need we wonder that in these departments, thus detached from those which should serve as their foundation, there is found so much of doubt and contradiction as to lead many to look on them and their professors with distrust? But, waiving for the moment this radical flaw in their constitution, let us ask what is the real amount of attention which, in our colleges, is commonly allotted to them? In the majority, the answer might almost be given—*None*. Not that we do not often hear of recitations from some text-book, more or less connected with one or other of them, but that, while they ought to rank as *practical sciences*, as matters of real and deep concern *as such*, they are in fact neglected, and thrown in rather as the trifling amusement of the last months of a college life, than as an essential to the political training of the citizen. The time given to them, so far from being a compensation for time not given to other things, is actually unequal to their own requirements.

History again, the record of the past phenomena of human nature, the philosophy of man as taught by the examples of successive ages—is there any exception to be made in regard to it? As in other branches,

so in this we have, no doubt, some teaching; but we have also some deficiencies, both of mode and quantity. If a text-book, written, so to speak, prior to the very birth of philosophical history, and which records little more than names and dates too numerous for any recollection, be indeed a sufficient summary from which to learn the answers of the only oracle that can inform us of the fate of nations, if a few hours carelessly or grudgingly devoted at the outset of a college course, be time enough to extract those answers, then indeed we may be satisfied with matters as they are. If, on the other hand, such arrangements do not meet the emergencies of the case; if it is required of us in our teaching to reform alike the object and the means; to aim at illustrating principles, rather than at recounting dates, and to do this by inducing to continued study and reflection, instead of forcing to occasional exertions of memory, we ought rather to be anxious to remove the charge of error from ourselves, than to speak boastfully of improvements elsewhere made by others. Abroad there are, no doubt, colleges, where the proper importance has been given to this pursuit, though even there, in the want of accordance between the regular theory of the mental philosopher, and the practical application of the historian, may be seen one of the many evidences that, to the mass of the world at least, the philosophy of man is still in expectation. Here we have not yet gone far; if we had, we should most likely hear less than we do of the liberty and virtue of the Roman, the chivalry and honor of the middle ages, and other fictions, which the near relationship of the unknown to the magnificent, has so long imposed on us.

On the theological deductions from the study of man, a similar remark may be required. It is true, that most, though unfortunately not all, of our institutions have adopted measures much like those already spoken of, for inculcating the great arguments of natural theology, and that in some the course is even carried out to the discussion of the analogies which nature offers in support of revelation; but we never hear of the systematic discussion of these subjects, based on the whole length and breadth of the philosophy of man, and pursued in all its details with the caution and interest of men, who are examining the most important questions that can be presented for their decision. The theology of the undergraduate is an episode in his college life. In its source it is hardly traceable to the philosophy he has learnt, and in its results it is represented in too slight a connexion with his own immediate character and interests. Hence, in a great degree, arises his too common neglect of it. To be made efficient, as its Author surely meant it to be made, it must be otherwise presented. It must be raised to its proper dignity, supported

as the necessary result of sound philosophy, and urged on the attention as the highest object of existence. Hence, as elsewhere, our whole procedure needs reform; it is only that we ourselves are blind to its necessity.

If then our collegiate system is deficient in all these respects, is the exception to be made out for our schools, public or private? A word or two will suffice in answer. "*Mutato nomine, de te*"—the same particular reservations, the same general complaints have to be repeated. A few schools might be found, no doubt, where deficiency on this point is scarcely to be observed; but in the great mass of them, all, from first to last, is wanting. A change is happily beginning to appear; there is a moving "on the waters," a general feeling among our better class of teachers, that something is wanting to make their teaching what it should be. The "Child's Book on the Soul," as an attempt to introduce our youngest pupils to some knowledge of their mental nature, and "The House I live in," as a similar attempt to draw their attention to their bodily constitution, are favorable omens. The class books of Political Economy, History, Anatomy, and Physiology, designed for our older pupils, though widely differing from one another in style and ability, are yet all valuable as introductory and conducive to a new and happier era in education. Still with all this, it must yet be granted that almost without exception, our students, from those of the town school up to those who after seven or eight years of university reading, pass on to the continued studies of professional life, are, to all practical intents and purposes, left ignorant of that which it most nearly concerns them all to know—their own nature.

These things, we repeat it, ought not to be. The omission thus almost complete and universal, is a fatal one, and threatens more of mischief to society than all our other improvements, useful as they are, promise to it of good. We are making all our physical knowledge and education contribute to our ease and wealth, without once asking how that ease and wealth, so highly prized, will in its turn affect ourselves. Other nations have fallen under the effects of wealth: we never inquire how we are to escape their fate. Are factories, rail-roads, and steam-engines the only business of life? Is it no concern of ours how we are discharging our duties to our fellows or our country? Surely, we should do well to recollect that our acts have their influence on others; nay, more, that the acts of others influence ourselves; that our government and freedom, the very security of our property itself, is dependent on these influences; and that, when the mass of the people are too ignorant of their own interests, in other words, of their own nature, to be able and willing to maintain for us these blessings, they must fall. How then

are we to improve the people, for our own security even, if we neither ourselves nor them, nor human nature generally—if we understand neither our instruments, nor our material, nor our model? We must lose no time in this matter, if we would remove the already too apparent evils which have sprung from past neglect. Our institutions, to judge from signs which can hardly be mistaken, are even now in danger. Opinions, the wildest and most extravagant in their conception, and the most dangerous in their results, yet find firm and numerous supporters. No experiment is too rash, no change too violent, to have its advocates. Whichever way we look, whether to our moral, or political, or religious controversies, we see still the same scene. Every inch of ground contested, not to say removed from us, no common principle admitted, no common object aimed at—we have surely little cause enough for exulting in the certainty of our physical knowledge, in view of the all-pervading insecurity of our moral systems. A better state of things must be produced. It is not at our option to withhold assistance from the effort, as from some idle fancy of a dreamer's benevolence. The most benevolent course is in this case the most selfish, the only one, indeed, which can benefit ourselves. In order to the individual's happiness, others must be happy; and the lowest as strongly as the highest motives urge on us the necessity of exertion for this object. We would have ourselves and our neighbors enjoying health, rather than trying to remove disease; we would see all acting in their several relations well and wisely, for the good of all, not constantly, by ignorance or rashness, prejudicing the common interest. To effect this, we must at once apply the only remedy for our present evils; we must acquire for ourselves, and induce others to acquire a knowledge of themselves—of human nature.

(To be continued.)

ARTICLE V.

ON THE ABUSE OR PERVERSION OF CERTAIN FACULTIES IN RELIGION.

That man is naturally endowed with a moral and religious nature, is a principle, we believe, generally admitted. Now phrenology is the only system of mental philosophy, which makes us acquainted with the precise character and number of the faculties of the mind which belong to this part of man's nature. Of these the three leading faculties are Conscientiousness, Benevolence, and Veneration, whose dictates, when

properly enlightened, prompt their possessor "to do justly," "to love mercy," and "walk humbly before God." These faculties are perfectly disinterested in their nature, and have reference solely to the relations which man sustains to his fellow beings, and to his Creator.

The laws of mind, as developed by phrenology, furnish the most satisfactory and conclusive evidence, (aside from the light of Revelation) of this design in the Creator, viz. that man's moral nature or sentiments should have a controlling influence over all his other faculties, and invariably take the lead in the formation of his character. It may, moreover, be shown, by means of the same principles, that the moral sentiments afford the only solid and permanent foundation for true Religion. For if it is based chiefly on man's animal or selfish nature, it can never make his character what God designed it should be, or what his own nature requires, in order to secure the greatest amount of happiness even in this life. But it is a lamentable fact, however, that the religion of the *present day is based* altogether too much on the animal feelings and selfish sentiments of man—that it calls into excessive, and improper exercise, certain faculties which mar the beauty, consistency and perfection of christian character. This is the grand secret that occasions so much waywardness, inconsistency and imperfection in the outward conduct of the professed disciples of Christ. Such evils, we admit, are unavoidably necessary to some extent, in the present depraved state of human nature, but they would not continue to be long encouraged and increased, as they actually are, if theologians, divines, and religious people generally only understood the true nature of man. The members now of nearly all religious denominations, whether they wish to exert an influence over each other or on the world, resort altogether too much to motives which appeal exclusively to Love of Approbation, Self-esteem, Cautiousness, and Destructiveness, and do not address themselves sufficiently to those purer and more disinterested faculties, Conscientiousness, Veneration, and Benevolence. To such an extent has this been carried that the religion of the present day is in a great measure based on man's selfish nature, and its exhibitions as seen in the conduct and lives of its professors, are not unfrequently marked by the excessive and improper exercise of Self-esteem, Love of Approbation, Cautiousness, Destructiveness, and Combativeness. In order to show the unhappy effects of such a perversion of the mental faculties, we are induced to copy part of an article which appeared in the fifty-second No. of the Edinburgh Phrenological Journal. After making some omissions and corrections to adapt the matter to this country, as well as to our own pages, the article reads as follows:—

The intemperance which afflicts too many professing Christians, and is particularly remarkable in some ministers of the Gospel of Peace, is perplexing to those who do not see human affairs through the medium of the true philosophy of the human mind. The phrenologist can take his station on the elevation of his science, and, looking down on the turmoil, can see the spring of every movement which agitates the passion-driven crowd below. Several fundamental truths come to his aid. He knows that the cerebral organization of each individual, acted on by his circumstances, determines the direction of his opinions and feelings. The intellectual powers in two given individuals being taken to be the same, one of them, in whom the moral feelings of Benevolence, Conscientiousness, and Veneration preponderate, will be gentle, kind, candid, respectful and religious; while the other, in whom the balance inclines considerably to the animal feelings of Self-esteem, whose abuse is pride, insolence, and love of power—Acquisitiveness, whose abuse is eggregious desire of wealth—Combativeness and Destructiveness, in their abuse contention, violence and revengefulness, feelings especially excitable by resistance to the desires of Self-esteem and Acquisitiveness—such an individual, in all he does, will, especially when opposed, be selfish, unfair, insolent, tyrannical, unmerciful, violent, and revengeful. The individual first described is essentially moral in his character; the other, from the preponderance of the lower feelings, and their state of abuse, is essentially immoral. It may here be remarked, that the breadth of immorality is greatly narrowed in its common acception. It has been confined, and especially by religious professors, almost entirely to sins against chastity, temperance, and common honesty; while selfishness, insolence, avarice, envy, detraction, revenge, and violence, may all in their turn, or all together, be manifested by an individual, who nevertheless would be actually astonished and enraged if any one dared to call in question his right to the repute of a perfectly *moral* character. While his pretensions are disowned by sound ethics, founded upon the relative gradations of worthiness in the human faculties, they are equally opposed to the most obvious principles of Christianity; and there is perhaps nothing in which the imperfect teaching and defective practice of that divine system is more glaring than the error just alluded to. The brand of immorality is rightly placed, no doubt, on the abandoned sensualist; but reason and scripture alike extend its remark to the uncharitable, the censorious, the proud, the tyrannical, the uncandid in controversy, the violent, and the intemperate.

The phrenologist farther sees that Christianity is addressed to the higher or moral sentiments of man; that it consists in their practical

exercise; and that it can only be extended to others by the channel of the intellect and these sentiments. On the other hand, all attempts to *force* its extension, in other words, to dispense with intellectual and moral means, and to impart it dogmatically in one peculiar form, by the sanction of commands and threats, pains and penalties, is to convey it through a channel at variance with its nature, and to address it to lower feelings, which, from their very nature, will reject it. Hence all such attempts have failed, and will always fail, to produce genuine christianity. They are essentially persecution, which necessarily rouses resistance, and thus gives strength and vigor to opposite opinions, if they are already entertained. This is the *rationale*, deduced from the nature and action of the human faculties, of the fact that persecution always confirms what are called heresies.

It follows that he is the more fit, and will be the more successful, teacher of christianity, (intellect, as conditioned, being equal) who, from possessing a large endowment of the moral faculties, readily receives and responds to its precepts and truths, and uses the gentle but powerful influence of the same feelings in teaching it to his brethren of mankind. While he in whom animalism predominates, is utterly unfitted for the sacred office of a religious teacher; and when character is more studied in relation to pursuits in life than it has ever yet been, it will be held to be as absurd in such an one to assume the holy office of the ministry, as in a deaf man to teach music, or a blind man painting. From the manner in which the salaried offices of society are now filled, not because the individual suits them, but because they, from their gain, suit the individual, many unfit persons do intrude themselves into holy orders; and, as *these per se* do not change the character, we find too many men presenting the most direct contrast, in their whole demeanor, to that spirit which ought to distinguish, by excellence, the servants of the meek and lowly founder of christianity. This quartering for life, as it may be called, of men of war, not of peace, upon a country, this bounty on unfitness, is an evil in permanently endowed clerical offices, which no candid person will dispute, it would require very decided advantages to counterbalance.

A jealous dogmatism, since the Reformation, has endeavored to chain down the faculties of man to certain views; and has denied practically what is weekly recommended in theory from the pulpit, the *right* to interpret, as following the *duty* to search, the scriptures. This persecution is not the less real in fact, or less popish in spirit, because there is in Protestant countries no power to torture, hang, and burn, for opinions. 'To say nothing of a wide field yet open at law for punishing the

unavoidable conclusions of the faculties called opinions, there is an incalculable amount of persecution perpetrated by the tongue and the pen. Character is stabbed in secret by the most unchristian censoriousness and slander, and denounced, in public, yet more boldly, by loud appeals to the mass, by reproachful names, or rather the reproachful use of the names denominating distinctions of opinion—one of the basest forms of injustice—and as we have often seen with absolute disgust, by raising the mad-dog cry of “*heretic*,” “*infidel*,” &c., against every opponent, even in matters of opinion and church government.

It cannot be too strongly inculcated that all means of propagating christianity but those of reason and moral feeling, are not only against Nature, but against christianity itself. Away, then, with the drivelling of those whose Self-esteem and Combativeness persuade them that fighting is yet, and always will be, necessary for the propagation and defence of christianity, and that *they*, forsooth, are God's champions whose religion will fall unless *they* prop it up; that the “good fight” is to be fought against their fellow men, and not, as in its true meaning, against their own internal corruptions, against their very fighting propensities. They will ask you, Where should we have been but for the combats of the Reformers themselves? No fallacy can be more gross. The Reformers fought against tyranny, against the very abuses which they are doing their zealous but feeble endeavors to re-establish.

No purely benevolent and philanthropic individual who sincerely and ardently wishes the happiness of the race, can look on some of the present manifestations of religious conduct, without being grieved and feeling his heart pained within him. A tyrannical dogmatism, a “rampant” orthodoxy, tolerates no interpretations, no opinions, differing, even by a shade, from its own; denounces with acrimony, as infidel and heretic, all attempts, however conscientious and benevolent, intellectually to enlighten, morally to elevate, and even religiously to improve, mankind in any way differing from theirs, even in the mere phraseology of language; dooms, so far as their power extends, to a kind of social proscription, and consequent ruin, men who are spreading philosophical truth, calculated to humanize mankind, and render christianity no longer a form, but a practical living principle in beautiful accordance with Nature; whose pages glow with the purest love of their fellow men, and shine with the clearest guidance in the path of temporal, one earnest of eternal, happiness. Who, moreover, if they do touch scriptural truths, use but the right which the scriptures themselves bestow, of understanding these according to their conscientious convictions. A calmer, better educated, more *moral*, generation will review the sentence

with which it has been vainly attempted to crush such benefactors of their species; while those who have pronounced it, will, along with their own convictions, account for that sentence to their God, whether they have done good or evil.

But it is the spirit of bigotry, intolerance and persecution, exhibited by one sect towards another, that may differ from it only in some of the minor and unessential points of religion, which, now more than anything else, degrades christianity and brings reproach upon the cause of Christ. It is even a painful and disgusting task to read the publications, and hear the declamations, of some professed ministers of Christ, against these their brethren—recriminations thrown back, reproaches heaped, *the lie* given, defiance hurled, vengeance denounced, *judgments* allotted, perdition almost invoked! There are, of course, individuals more prominent in these unchristian enactments, while many deeply deplore the suicidal course which they pursue. A glance is sufficient to convince a phrenological eye that in these platform combatants there is the animal organization of the genuine gladiator. In barbarous times—*if* we are yet entitled to call our own civilized—these men would have figured as the warriors of personal prowess; but we are civilized enough to *limit* them now to effusions, spoken and written, of insolence, pride, intolerance, and violence. Their very voices, true to the well observed pathognomy and natural language of the faculties, are harsh and loud, and their gesticulations and whole manner coarse, noisy and threatening. See any of these men in the heat of platform or pulpit combat, and then carry back the thoughts to the serene Master whom they profess to serve and to glorify, who never uttered an angry word, save against hypocrisy, and instantly repressed violence whenever in his presence it was either proposed or attempted! The lesson is awful! How long shall it remain of none effect on more temperate religious men? When will *they* disown the prize-fighters, as well stationary as itinerant? When will they practically believe that “the wrath of man worketh not the righteousness of God?”

ARTICLE VI.

THE EDINBURGH PHRENOLOGICAL JOURNAL.

There is, perhaps, no one agent or work which has effected so much for the advancement of Phrenology, as the one heading this article. It was the first regular periodical started which was devoted to the interests of this science, and is very appropriately called, in distinction from all others, *THE Phrenological Journal*. As there are some facts connected with the history and agency of this publication, which are identified with the interests of Phrenology, and in which every true believer in the science cannot but feel deeply interested, we propose to give a brief notice of the origin, history and character of the above Journal.

In the year 1815 a most violent attack was made on Phrenology in the *Edinburgh Review*, by Dr. Gordon. This induced Dr. Spurzheim to visit that city the following year, whose labors resulted in making quite a number of converts to his doctrines in Edinburgh. As the science was most bitterly opposed, they were led to examine its claims more thoroughly and labor more zealously for its support. In the years 1817 and '18, Mr. Geo. Combe contributed a series of articles in its defence to the "*Literary and Statistical Magazine for Scotland*." These essays were collected and published in the year 1819, in a distinct volume, which afterwards called out the celebrated attack of Lord Jeffrey. About the same time, Sir Geo. Mackenzie published an excellent little work, titled "*Observations on Phrenology, as affording a systematic view of Human Nature*." In 1820, the Edinburgh Phrenological Society was formed; and within about two years from that time, published a large volume containing the transactions of the Society. In the fall of 1823, the first number of the *Phrenological Journal* was issued. Its proprietors were Mr. William Scott, Mr. James Simpson, Dr. Poole, Dr. A. Combe, and Mr. Geo. Combe. The first number contained over 160 pages and was well filled with able articles. The publication of this number created quite a sensation among the enemies of phrenology, and led to the sale of many copies of the work. The first volume was edited by Dr. Poole, who was then a practicing physician in Edinburgh, but now has the charge of a large Lunatic Hospital. The connection of Dr. Poole as proprietor, as well as editor, of the work, terminated at the close of the first volume. The four next volumes were edited by the proprietors themselves mutually. In the year 1828, Mr. William Scott withdrew from all connection with the work, when it devolved on the

three remaining proprietors to conduct and manage it. which they continued to do till the year 1837. Mr. Robert Cox, however, aided a part of the time in editing it, and has contributed in all more than sixty articles to the work. In 1837, it changed hands; and its publication was transferred to London. At that time its original proprietors in their address to the public, remarked as follows :—

“From the first moment of the undertaking, the proprietors have been actuated solely by the desire to cultivate and extend the knowledge of what they considered to be a science fraught with the most beneficial consequences to the human race; and they have endeavored to accomplish this end in that spirit of moral and intellectual purity and peace which phrenology so strongly inculcates on those who embrace its truths. Wherever they have fallen short of this aim, as in many instances they have done, it has been from the imperfection of their own faculties, and the unfavorable circumstances in which they were placed. From the beginning all the proprietors have been actively engaged in professional pursuits, and could boast neither of pecuniary independence nor of literary leisure. The conducting of the Journal, therefore, was the work of those hours which professional men generally devote to pleasure and recreation. Far from being cheered in their labors by the hopes of gratifying their ambition, they were warned by their friends that they were laying a sure foundation for their individual ruin, by opposing public opinion with such marked determination. They were spurned as weak and mischievous enthusiasts by the men who then took the lead in literature and science; some of whom, nevertheless, rather inconsistently put forth their most powerful efforts to extinguish them by argument and ridicule, and where these failed, by misrepresentation. Amidst these difficulties, they were not sustained by the approbation even of any considerable body of followers animated by principles congenial to their own. The views of human nature brought to light by phrenology were so new and unexpected, that few even of the most enlightened minds were prepared to embrace them. Their consequences were obviously important, but they were shrouded in so much obscurity that the public shrunk back from investigating them. The conductors of the Journal, therefore, labored amidst obstacles and discouragements of the most formidable description, and for many years the circulation of their work was so limited that they had the painful certainty of having but few supporters in the world. It was only the consciousness of the purity and dignity of their motives, and an irresistible conviction of the importance of the cause in which they were engaged, that supplied them with confidence and enabled them to persevere. They felt that they were

acting for posterity, and although they knew that they should never personally hear the verdict of an impartial and enlightened community on their labors, they relied on its justice, and, through faith, were cheered with the hope of an ultimate acknowledgment that they had done some service to the cause of human improvement. The real merits or demerits of their work will be appreciated more justly as its consequences are developed by time: but even now, they believe, it will be generally acknowledged that the whole annals of science do not present such a record of the state of public feeling regarding a great discovery at its first promulgation, as is contained in the ten volumes of the *Phrenological Journal* which they have just completed. Throughout the whole work, the labors of the proprietors and all the contributors have been gratuitous; and it is solely owing to disinterested zeal that the work exists."

We do not believe the annals of history can present another such specimen of zeal and devotion to science—a science which is calculated ultimately more than all others to advance the happiness and best interests of mankind. Such an example is well worthy of being recorded and transmitted to posterity, so that where the present generation fails or neglects to reward true merit, the future will do it ample justice. The series of volumes of the *Edinburgh Phrenological Journal* already published, amounting now to thirteen volumes, will long remain a noble monument of the disinterested zeal and gratuitous labors of its proprietors and contributors. For the first ten years of its existence, the necessary expenses of the work fell considerably short of its receipts, and for the last eight years, its sales have been only sufficient to defray the expenses of paper and printing, affording no remuneration whatever for editing it or managing its business affairs. Such would have also been the case with the *American Phrenological Journal*, had not its proprietors contributed liberally for conducting the work.

In 1837 Mr. Hewett C. Watson of London, became sole proprietor and editor of the *Phrenological Journal*. It was published, however, only three years at London. Mr. Watson, though decidedly an able writer and justly distinguished in other departments of science, did not by some means manage the work satisfactorily to some of its readers. We would here remark that in the present state of things, it is a very difficult matter to conduct such a publication well—that is, to treat the science properly in all its bearings, and at the same time, suit a majority of its advocates. It requires such a combination of natural qualities and acquired attainments as very few persons in the community possess. The number belonging to either of the learned professions in Great Britain or this country, who are competent to write a good essay on the science, is very small. Most of the

articles which have been published in the *Edinburgh Phrenological Journal*, are the exclusive productions of a few individual minds. The number of good writers on the subject, however, is of late increasing.

In January, 1841, the publication of the *Phrenological Journal* was transferred back to Edinburgh and placed in the hands of Mr. Robert Cox, who was formerly connected with the work, and who appears to be ardently devoted to the interests of the science. The numbers recently issued, have been well filled with able and interesting articles, and we sincerely hope the work will hereafter receive that encouragement and support which it so richly merits.

MISCELLANY

Adaptation of Religion to the Nature of Man.—Divines very properly tell us that the "chief end of man is to serve and glorify God." Now before man can glorify God to the fullest extent, he must understand correctly his *own nature*, or the laws which govern his existence in this world. God has placed him here on probation and established certain laws for his discipline and improvement. These laws are the laws of the mind, and constitute an essential part of the moral government or will of God. There must be, therefore, a perfect harmony between these laws and the injunctions and requirements of Revelation. But there is reason to believe that this harmony or adaptation of the one to the other, has hitherto been very imperfectly understood. The Rev. Henry Clarke, of Dundee, Ireland, in his lectures on the teachings of the New Testament, respecting the animal, moral, and intellectual nature of man, has the following excellent remarks on this point. "One thing is certain," says he, "that either the human mind and christianity have never yet been fairly brought into juxtaposition and permitted to act mutually on each other, or the religion of Jesus is wholly unadapted to the great majority of minds. That God should present a moral and religious system to man, quite unsuited to the nature and condition of the mass of those for whom it was designed, is impossible. To cherish the thought would be impiety—a daring insult to Heaven. A Revelation from the Father of All, must be adapted to all—designed for all. Why, then, does it reach the minds of so very small a majority, and influence the hearts of so few even of these? Not surely because of any imbecility and inaptitude of christianity: nor can it be because the mind is unadapted to this religion; for if it were, then the religion would be just as unsuited to the mind. The very partial reception of Christ's holy gospel must be owing to the lamentable fact that the nature of the mind is so imperfectly understood by both the people and their instructors—that how rightly to apply christianity to its moral diseases, the majority know not.

It is indeed owned that Christ is a physician, and that his doctrines are medicines to the mind: but it is not generally perceived that each individual is himself to use the sanatives offered; and in order to do so, he must understand what his own mental constitution requires, and what regimen best agrees with his case; but he who is not at all, or but slightly acquainted with his own constitution, cannot know how to use the medicament. To him it is therefore inefficacious—worthless, although it came from Heaven, and is a boon of Heaven's King. Its efficacy and worth are its application and effects. To secure its benefits and blessings, man must know himself. Phrenology offers to give this knowledge. If it can fulfil its promise, then, it must be the friend and helpmate of christianity."

Large Alimentiveness.—Dr. S. G. Morton of this city, has in his collection one of the best specimens of large Alimentiveness that we have ever witnessed. It is found in the skull of one Pierce who was once a convict at New South Wales. It appears that he, with several others, made their escape into the woods, and hunger compelled them to prey upon each other, till only Pierce and another were left. Pierce being the stronger, killed his companion and lived sometime upon his remains. From this time his propensities acquired their full development, and having joined a part of his fellow prisoners, he frequently persuaded one after another of them to escape with him to the woods, for the sole purpose of killing them and devouring their flesh. He was at last caught, and being asked if he knew where one of his companions was, deliberately pulled an arm out of his pocket and shewed it to the soldiers; whereupon, he was apprehended and executed. Dr. Morton obtained his skull from Calcutta. The skull of Pierce is large and enormously developed in the animal region. It is very broad and low—there being almost an entire deficiency in the Moral Sentiments. The organs of Destructiveness and Alimentiveness are larger than in any other head we ever examined. A cast of this skull is in Mr. Fowler's cabinet.

Connexion between the Soul and Body.—In a very antiquated work, titled "Intercourse between the soul and body, by Emanuel Swedenborg," which has been placed in our hands by a friend, we find these curious sentiments. Says Swedenborg: "Many people suppose that the perceptions and cogitations of the mind (as being spiritual things) present themselves to us naked and destitute of all organized forms; but this is owing to their ignorance of the formation and offices of the brain with the various intertextures and convolutions in its cineritious and medullary substances. Now, upon the good condition of these parts, depends the soundness of the intellectual operations and the regular determinations of the will in this our natural state, so that man is deemed rational and moral in proportion to the right organization of his mental forms; for the rational sight of man which is his understanding, can no more be said to exist here in this outward world, without organs properly adapted to the reception of spirit and light, than the bodily sight to exist without eyes; and so of the other senses. Let it be observed that the seat of the understanding is in the brain or the forepart of the head, but that of the will is in the cerebellum or hinder part."

Head of Sir Walter Scott.—A friend has placed in our hands an excellent likeness of Sir Walter Scott, which may be found in the July No. of the New York Mirror for 1835. It shows a large head and a very great development of brain in the anterior and coronal region. This likeness was drawn by the distinguished artist G. S. Newton, Esq., of London, and has been pronounced by the best judges as remarkably correct. As some anti-phrenologists have seen fit to state that the head of Sir Walter "*was not large*," we will here copy a description of his head by an American gentleman who obtained this likeness of Mr. Newton, and took a careful survey of Scott while he was sitting for his portrait. 'This gentleman is not a phrenologist, and was merely describing Sir Walter's looks to a friend. "The most remarkable peculiarity," says he, "of his head, is its extreme depth from sinciput to occiput, which I should think was more than nine inches and a half. I am wrong, however, in saying that this was the *most* remarkable peculiarity of his head; striking as it was, perhaps the eye would be more certainly and quickly caught by the immense pile of forehead towering above the eyes and rising to a conical elevation which I have never seen equalled in bust or living head. You could not look upon that admirably proportioned head—so enormously developed in its anterior portions—without being convinced that the intellect working within was a mighty one."

Notice of Dr. Gall.—Dr. Elliotson, in his large work on Human Physiology, pays the following just compliment to the labors and merits of Dr. Gall: "The indefatigable industry of Gall during the whole of a long life, constantly observing all persons he met with, and searching after all who were in any mental respect remarkable, travelling as he did to most of the prisons, mad-houses, and hospitals of the continent; examining the habits and heads of brutes innumerable for comparison; engaging M. Niklas, Dr. Spurzheim and others, for a pecuniary consideration, to work under him and examine points for him, in the way of reading, dissecting, casting, moulding, and observing persons, is astonishing; and the success and importance of his researches will, I am satisfied, ensure him a place among the greatest names of the human race, although, like every great discoverer and benefactor, he has been loaded with ridicule and abuse."

Head of Carlyle.—We find in the new work of Miss Sedgwick—giving an account of her tour in Europe—several allusions to Phrenology. In describing Carlyle, the distinguished writer, she says: "His head would throw a phrenologist into ecstasies. It looks like the 'forge of thought' it is; and his eyes have a preternatural brilliancy. He reminded me of what Lockhart said to me, speaking of the size of Webster's head, that he 'had brains enough to fill half a dozen hats.'"

It is with sincere regret we learn that the health of Dr. Andrew Combe is on the decline; he has been troubled for many years with an affection of the lungs.

THE
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ARTICLE I.

**ON THE COMPARATIVE MERITS OF PHRENOLOGY, AND THE PHILOSOPHY OF
REID AND STEWART.**

In the year 1836, a correspondence took place between Professor Alison, P. Neill, L. L. D., and Mr. Geo. Combe, (all of Edinburgh) in reference to the merits of Phrenology, as compared with the philosophy of Reid and Stewart. This correspondence was called out in consequence of there being two rival candidates for the chair of Logic in the University of Edinburgh, whose claims for election were based on entirely different systems of Mental Philosophy. Sir William Hamilton, who proved the successful candidate, is a thorough-going advocate of the philosophy of Reid and Stewart; while Mr. Combe's views of mental science are well known to be based entirely on the principles of phrenology. As the correspondence alluded to, enters pretty clearly and thoroughly into the comparative merits of the two systems of philosophy, we propose to transfer from Mr. Combe's testimonials the more important portions of this correspondence to our pages. Dr. Alison, who took a part in the discussion, is a Professor of Physiology in Edinburgh, and is well known as an able writer on Medicine. Dr. Neill, who was also engaged in it, is a member of several learned societies and is distinguished for his literary and scientific attainments. He appears as the advocate of phrenology in the following letter to Professor Alison:

According to promise, I shall now, as briefly as possible, yet I trust intelligibly, state my reasons for differing from you in regard to Reid and Stewart's philosophy, and for thinking that the credit of our University is so far from being bound up with that system, that it would, on the contrary, be signally promoted by adopting a mental philosophy founded on the discoveries of Gall. It may appear bold in a person situate as I am to venture to differ on such a subject from you; but after having been rather an attentive pupil of Finlayson and Stewart in 1799 and 1800,

and after reading the best treatises in our language, I was led many years ago, by intimacy with Mr. Forster, Dr. Leach, and Dr. Spurzheim, to examine Gall's system with considerable care; and I have also availed myself of the admirable writings and lectures of Mr. Combe. Now, if it so happen that you have not bestowed attention on the new doctrines, and have not examined the evidence on which they are founded, (which I suspect is the case) then, inferior as I feel myself in all other respects, I have here the advantage of you.

In my humble opinion, then, Reid and Stewart's philosophy is altogether unsound in its basis. It rests on observations made by each individual on his own consciousness. Now, consciousness gives us no intimation of any thing in mental philosophy, except the *state* of our *own* minds at the moment when we attend to our inward condition. Some of the consequences of this important fact may here be traced.

1. We cannot thus discover the existence and functions of the mental organs, because consciousness does not indicate their presence in mental operations.

2. We cannot thus distinguish primitive faculties from mere modes of action of the faculties; i. e. if we only had consciousness to guide us in regard to the philosophy of the external senses, we should be led to describe taste, smell, sight, hearing, and touch, all as modes of action, or modes of impression, of the mind generally, and should never discover that they are separate and distinct senses. In like manner, in regard to the internal faculties, the school of Reid mistakes Memory, Imagination, Conception, and Perception, for primitive powers; while the most indisputable facts prove that these are only modes of action of the real faculties, ascertained by the school of Gall, and called in phrenological language Locality, Coloring, Individuality, &c.; each having a distinct organ, and there being, of course, many kinds of memory.

3. In consequence of this radical defect in the basis of Reid and Stewart's philosophy, it can never, I apprehend, become useful, or afford the foundation for any sound logic. For example, if a metaphysician of the Reid school were rather deficient in organs of Conscientiousness, he might be apt to deny the existence of a moral sense; and so of others. Further, in consequence of reflecting merely on his own consciousness, he must remain totally ignorant of many of the active impulses, such as (if you will excuse me for again using phrenological language, which I find the most precise) Combativeness, Destructiveness, Acquisitiveness, Secretiveness, which strongly prevail in the world of real life, but which may possibly never indicate themselves to the philosopher in the calm retirement of the closet. Hence such metaphysicians can never, by

their mode of investigation, arrive at a correct knowledge of all the faculties; for each philosopher will naturally be inclined to deny the existence of faculties in the organs of which he may himself happen to be rather deficient.

4. Reid's philosophy never can give an explanation of the differences between the mental capacity of one man and that of another, because it is confined in its basis to the mind of *the individual* who studies it.

5. It cannot possibly explain the phenomena of insanity, because it totally overlooks the organs, by the diseases of which insanity is occasioned, as now admitted by many eminent physicians and physiologists of the greatest experience in asylums.

6. It cannot be applied to the elucidation of the causes of the tendency, of some individuals to one pursuit, and of others to other pursuits; of some to mathematics and others to painting; of some to hoarding and others to profuseness, &c.; because these differences depend on differences in the relative size and on the activity of certain organs, of which that philosophy takes no cognizance.

7. A sound philosophy ought to expound the whole faculties of man, both affective and intellectual, the relations subsisting between them and the external world, physical and mental, and the method by which they may be best applied in the attainment of good, morally—and of truth, intellectually. The philosophy of Reid can never accomplish these ends; because it never reaches the primitive faculties at all, but deals in generalities about their modes of action.

In consequence of the imperfect analysis of the mind thus presented by this philosophy, we would never have been led to think of *educating* the faculties, feelings, and affections, as is now, by the lights of phrenology, successfully done from the earliest ages in infant schools, up to grammar schools where the teachers have had the good fortune to become acquainted with phrenology.

I entirely dissent from your conclusion, therefore, that phrenology will merely enlarge the sphere of the philosophy of Reid and Stewart. According to my views, phrenology will rather sweep that away; and if we get something more useful, why should we deplore its being so swept away? When I consider the light which phrenological books are throwing on the causes and cure of insanity, (so interesting in any discussion about mind) on education, on criminal legislation, I clearly perceive the superiority of the new philosophy, and wish it all success. It is perhaps rather a low consideration, but is an important one, that the writings of Dr. Reid and Mr. Dugald Stewart are no longer in demand in

this country, while new editions, of thousands, of Mr. Combe's works are in constant request.*

Dr. Reid and Mr. Stewart admitted in general terms, as Professor Alison does, that a connexion subsists between the mind and the brain; but in their whole doctrines the following considerations are overlooked:—

1. The influence of the condition of the brain, as to age, size, health, and temperament, on the mental manifestations.
2. The connexion of particular parts of the brain with particular mental faculties.
3. The influence of the size and condition of each particular part on the mental faculty which it serves to manifest.

A description of the phenomena of mind, omitting these considerations, bears the same relation to mental science which a detail of the phenomena of vision, omitting all notice of the structure of the eye and its laws of action, would bear to optics. Science is perfect only in proportion as it embraces and elucidates the causes and relations of the phenomena of which it treats. Tried by this test, the philosophy of Reid and Stewart is extremely defective; for it omits all practical consideration of the material organs of the mind, on the condition of which depend its power of acting in this life, the degree of its vigor, the soundness of its perceptions, and the strength of its different functions.

Not only is it chargeable with these actual deficiencies, but its methods do not admit of their being supplied. Mr. Stewart, as I have said, repeatedly refers to our own consciousness as the grand source of information in mental philosophy, to which Professor Alison adds "inferences as to the mental acts of others;" but neither reflection on consciousness, nor inferences regarding the mental acts of others, will enable us to discover the influence of the brain on the mental faculties. We are not conscious of the influence of the organs on the faculties, and, in observing the action of other men, we do not perceive indications of the influence of their brains. We must go a step farther. We must compare the condition as to size, health, age, and temperament of their brains, and of each particular part of them, with their powers of manifesting the mind and its particular faculties; and, whatever "fallacies" this method may be liable to, no progress can possibly be made in discovering the influence of the organization until this shall be done.

Professor Alison is disposed to admit the connection of the fore part

* We here leave the correspondence between Dr. Neill and Professor Alison, to introduce Mr. Combe's letter which discusses more definitely and fully the points at issue. Mr. C. is, therefore, to be credited for the remaining part of this article. Ed.

of the brain with the strictly intellectual acts, and of the propensities and sentiments with the upper and back parts of it. This connection, in favor of which he thinks there is strong probability, could not be discovered except by comparing the power of manifesting these mental powers with the condition of those parts of the brain; and why not pursue the same method into its more minute details? This is like a naturalist who should admit orders and genera, but refuse to inquire into characteristics of species and varieties, on the ground that this last investigation (although identical in its principles with that which had led him to make these admissions) appeared to him "to be liable to very considerable fallacies."

The imperfect and erroneous nature of the methods pursued in Reid and Stewart's philosophy, becomes apparent when contemplated in their results.

First, in regard to the *feelings*. Phrenologists admit that Reid and Stewart, and other metaphysical authors, have enumerated, under the head of the "active powers," a number of primitive desires and emotions, which are found to have organs in the brain; for instance, the love of offspring, the love of fame, the desire of society, and some others; but they observe, 1st, That no notice is taken by these authors of the influence of the condition of particular parts of the brain, on the vigor with which these and the other desires are experienced, and that this influence is so important that the mere enumeration of the emotions, without adverting to the organs, is no more entitled to be regarded as the science of mind, than observations on the revolutions of the planets considered apart from the laws of motion and gravitation are entitled to be called the science of astronomy; 2dly, That many desires and emotions are altogether omitted in their enumerations, such as the inclination to destroy, the tendency to conceal, the tendency to venerate, and others; 3dly, That the existence of the most important tendencies and emotions is a subject of dispute among them, while their principles of investigation afford no satisfactory means of settling the difference of opinion; for example, Mr. Stewart denies that the love of property is a primitive faculty of the mind, and ascribes avarice to association; he and Reid admit a benevolent affection, while Hobbes and others deny it; he and Brown admit a native sentiment of justice, while Mandeville, Hume and Paley reject it, and Sir James Mackintosh considers conscience as a compound result of many affections. While philosophers refer only to their own consciousness, they cannot settle these disputes satisfactorily; because some men are conscious, and others are not conscious, of the emotions. Even when they call in the aid of observation on the acts

of other men, they fail to arrive at certainty; because if the observer be deficient in the feeling himself, he does not easily recognize it in the acts of others, but is apt to ascribe their manifestations of it to other affections better known to himself; and, moreover, some men do, while others do not, manifest these feelings, so that two observers might report different results, and each adduce real instances in support of his conclusion.

By the phrenological method of observation, these difficulties are greatly diminished. Each student is informed that he has the strongest consciousness of those inclinations and emotions, the organs of which are largest in his own brain. If he be very deficient in the organ of Conscientiousness, he is warned that his own consciousness is not a trust-worthy index of the existence and strength of the feeling in other men. If he possess that organ large, then he is acquainted with the emotion, and he is capable of observing the presence or absence of its manifestations in other men. By comparing the size of a certain part of the brain with the vigor of this emotion, he may obtain demonstrative evidence of its existence. Cases of imperfect manifestation of it by some individuals, if found in connection with a deficiency in the organ, will become additional proofs of its existence, instead of operating as facts negative of its reality.

Secondly, in regard to the *intellectual faculties*. Professor Alison affirms that the phrenologists, in contending for the existence of different faculties of Form, Coloring, and others, merely use the term *faculty* in a different sense from that in which it is employed by Reid and Stewart. He says that Reid and Stewart described "distinctions among the acts of the mind themselves;" while the phrenologists, in the instances now mentioned, arrange the study according to the *objects* to which these acts are directed. There are much greater differences than these—the extent of which will again appear by the results. The phrenologists admit Perception, Conception, Memory, Imagination and Judgment, to be *acts* of the mind, but not faculties. What they mean by a faculty will be understood by taking the example of an organ. There is an organ of Coloring, for instance. When it is large and active, the individual is capable of perceiving, conceiving, remembering, and imagining colors, with vigor and facility; when it is slightly deficient, he is capable of perceiving and remembering them, but has little power of imagination in regard to them—he could not, for instance, invent new combinations of them to enable him to paint unwonted appearances of colors in nature; when more deficient, he is capable only of perceiving, but not of remembering them; and when very deficient, he cannot even perceive them distinctly. When the organ is spontaneously active, he

conceives colors vividly; when it is stimulated by disease, he sees colors that have no outward existence. The same illustrations might be given in regard to the organs of Form, Number, and others. Now, what Reid and Stewart did was to describe the acts of perception, conception, memory, imagination, and judgment, in general, and to call these *faculties*. The extent of difference between this and the phrenological method of expounding the science of mind, admits of easy illustration.

Imagine one physiologist, when treating of secretion, to describe its mere general phenomena, and to mention that these are performed by the body in general; and another to proceed to an exposition of the stomach, as the organ which secretes the gastric juice, of the liver as that which secretes bile, and of the salivary glands as those which secrete saliva. Suppose the latter farther to point out the structure, modes of action, and relations of each of these organs, and to explain the effects of the state of it on its own peculiar secretions; suppose him also to describe the phenomena which are common to all these secreting organs, and to deduce general laws applicable to them all, but still to discriminate the peculiar functions, modes of action, and laws of each—which would have best unfolded the *science* of secretion? Undoubtedly the latter.

Again—suppose one philosopher to describe *sensation* as a general mental power, and the body as its organ; and another to distinguish each variety of sensation, to ascribe it to its own peculiar organ, and to expound the effect which the state of that organ had on the sensations connected with it—which of them would deserve the credit of having taught the *philosophy* of sensation? Assuredly the one who had expounded the particular organs. And would it not be more correct to apply the term *faculty* to each of the senses, than to use that word in reference to some general act performed alike by them all?

These cases are illustrations of the differences between the philosophy of the intellectual faculties taught by Reid and Stewart, and that expounded by Gall and Spurzheim, and their followers.

Farther—what opinion should we form of the physiologist who, having announced that secretion in general is performed by the body in general, should affirm that those who opposed this notion, and who had established distinct organs of secretion, with distinct products, had merely classified the phenomena of secretion *according to their products*, and made *additions* to his system? We should admire his confidence more than his discrimination; yet this is parallel to the statement of Professor Alison, that Drs. Gall and Spurzheim have only classified the mental phenomena *according to their objects*, and made additions to the philosophy of Reid and Stewart. It would be necessary to “sweep away”

the whole doctrine of secretion being one general organ, before a single step could be made in establishing the sound philosophy of that function; and the same conclusion holds good in regard to the intellectual philosophy of Reid and Stewart.

The organs of the different faculties exist and produce their natural effects, and common language is full of expressions indicative of the existence and activity of the related faculties. For example, men speak of individuals as addicted to pride, to avarice, or to vanity; of others, as having talents for drawing, or for painting, or for mechanics, and so on; while other individuals are mentioned as being deficient in these powers. These facts have intruded themselves as it were into the writings of Dr. Reid and Mr. Stewart, but they form no part of their philosophy. Indeed, they are excluded by that of Mr. Stewart. After enumerating Consciousness, Perception, Attention, Conception, &c., as intellectual powers, he adds: "*Besides these intellectual faculties, which in some degree are common to the whole species, there are other more complicated powers or capacities, which are gradually formed BY PARTICULAR HABITS OF STUDY OR OF BUSINESS. Such are the power of taste; a GENIUS FOR POETRY, for PAINTING, for MUSIC, for MATHEMATICS; with all the intellectual habits acquired in the different professions of life.*"

According to the phrenological system, a genius for poetry depends on a fine temperament, combined with a large developement of certain parts of the brain. A genius for music depends on certain *other* parts being highly developed; and a genius for mathematics on still *other* parts being largely possessed; high temperaments being always added. According to Mr. Stewart's philosophy, these powers are not the gifts of nature, but are gradually formed by particular habits of study or of business. Nothing can be more dissimilar than these results, and the cause of this dissimilarity is to be found in the difference of the modes of philosophizing adopted by him and the phrenologists. He mistook mere general acts of all the intellectual faculties for faculties themselves. Perception, for instance, is the result of the lowest degree of activity in each of the phrenological organs devoted to intellect, such as Form, Coloring, Number, &c. Conception results from another mode of action in each of these; and Imagination from a third mode of action. But there is the same difference between these modes of action and the primitive faculties themselves, that there is between sensation, regarded as a general power, and vision, smell, and hearing, as particular faculties of sensation.

In point of fact, the philosophy of Conception, Perception, Memory, and Imagination, was not known until it was explained by phrenologists;

and so far was Mr. Stewart from being acquainted with it, that in his philosophical writings there is a confounding of primitive faculties with modes of action, and with the laws of their action, which proves that he had not attained to systematic views on the subject. The following sentence, which occurs in the very threshold of his *Elements*, affords a striking illustration of this remark: "Upon a slight attention to the operations of our own mind," says he, "they appear to be so complicated, and so infinitely diversified, that it seems to be impossible to reduce them to any general laws. In consequence, however of a more accurate examination, the prospect clears up; and the phenomena which appeared at first too various for our comprehension, are found to be the result of a small number of simple and uncompounded faculties, or of simple and uncompounded principles of action." It is extremely difficult to comprehend the *distinction* between "*faculties*" and "*principles of action*," which is obviously implied in the terms of this sentence. Mr. Stewart proceeds: "*These faculties and principles are the GENERAL LAWS of our constitution*, and hold the same place in the philosophy of mind that the general laws we investigate in physics hold in that branch of science." This is evidently erroneous. The propensity of Destructiveness, for example, is a primitive faculty, and it acts according to certain laws. One of these laws is, that it is excited by injury or provocation; and that it lies dormant when its possessor is gratified. Under certain influences it may become diseased, and then it is a law of its constitution that it becomes extremely vigorous, and ungovernable by the other faculties, and that it adds greatly to the energy of muscular action. The propensity itself is a primitive faculty of our nature, and the phenomena which it exhibits take place regularly, and this regularity is metaphorically expressed by saying that it acts according to certain laws, which are called laws of our constitution: but there is a want of discrimination in mistaking the laws which the propensity observes, or its mode of action, for the propensity itself, which Mr. Stewart here obviously does. The same want of penetration is apparent in his remark in regard to the objects of our investigation in physical science. It is true, that in astronomy, the objects of our investigation are the *laws* which the principles of gravitation obeys; but in chemistry, which is equally a physical science, the elements and the inherent properties or qualities of substances, whatever these may be, are the ultimate objects of investigation, just as the primitive faculties are in mind. The modes of action of chemical substances, and the laws which they obey, are obviously distinct objects of study from the substances themselves. The mineralogist, for instance, studies the diamond, simply as it exists;

while the chemist investigates its elements, and its modes of action when exposed to heat and other external influences. Again, it has long been disputed, what *caloric* is in itself, whether it be a *substance*, or a *state* merely arising from certain modes of action in matter. But the laws which it obeys in being radiated, in being reflected, and in being concentrated, are clearly distinct objects of consideration from its substance, and yet Mr. Stewart confounds them. This incapacity to discriminate between primitive faculties and their modes of action, runs through almost all his writings. Sometimes he recognizes original principles distinctly, as in pp. 367, 371, 372. On other occasions, he loses sight of the distinction between them and modes of action.

Having thus stated the extent to which the philosophy of Dr. Gall will "sweep away" that of Reid and Stewart, and the differences between them, I revert to the reasons of Professor Alison "for not studying so carefully as perhaps he ought to have done," the evidence adduced by the phrenologists. He says, "Measurement of skulls, and comparison of these with the known characters of their owners, have always appeared to me to be liable to *very considerable fallacies*, affecting both the *physical* and the *mental* parts of these observations; and, therefore, to be inadequate to the purpose of fixing the size of the different portions of the brain, *unless supported and confirmed by other observations*. I can conceive them to derive that support and confirmation from three sources—from comparative anatomy—from the results of experiments on animals—and from the effects of injury or disease of individual portions of the brain in the human body. But, after taking some pains in the inquiry, I have come to this conclusion, that *from none of these sources of information is there any confirmation* of the special appropriation of the different parts of the brain to the different acts of mind, which the phrenologists consider as ascertained."

These reasons are not philosophical. It must either be, or not be, possible to compare the size and condition of different parts of the brain with the mental powers and dispositions manifested by individuals. If it be *possible*, the thing should be done, without regard to its deriving support and confirmation from any other source. Difficulty offers no apology for not doing it. Professor Alison, standing in the situation of a public teacher, seems bound, in duty to his pupils, to make reasonable efforts in order to ascertain whether so great an addition to human knowledge to his department as the discovery of the functions of different parts of the brain has in reality been made.

Phrenology is a science of observation, and the most rational, the most certain, and the most speedy way of ascertaining the real merits

of its pretensions is, for the inquirer to repeat the observations in the manner pointed out, after duly qualifying himself to do so. It is strange that there should be so great an aversion to follow this plain course in regard to phrenology. Dr. Roget proposed to inquire into the competency of Drs. Gall and Spurzheim to make their alledged discoveries, before he would put them to the test of observation; and now, Professor Alison abstains from studying the evidence, because it appears to him to be liable to "very considerable fallacies," unless supported by other observations. Phrenologists have never asked any one to admit their doctrines on the faith of their recorded cases, but have constantly said, appeal to nature. Professor Alison would have ascertained the truth of phrenology by appealing to nature in half the time that he has spent in arguing the question whether he should do so or not.

But I shall advert to the alledged sources of fallacy themselves.

The *first* element in the evidence in favor of phrenology, is, that the size of the different parts of the brain (the functions of which are described as ascertained) may be discovered during life. This, I presume, is the physical part of the fallacies. On this point I refer to the following authorities.

Magendie, in his *Compendium of Physiology*, says, that the "only way of estimating the *volume of the brain* in a living person, is to *measure the dimensions of the skull*; every other means, even that proposed by Camper, is uncertain."

Sir Charles Bell also observes, "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." Dr. Gordon likewise, in the 49th number of the *Edinburgh Review*, has the following words: "But we will acquiesce implicitly for the present in the proposition (familiar to physiologists long before the age of Gall and Spurzheim) that there is, in most instances, a general correspondence between the size of the cranium and the quantity of the cerebrum; that large heads usually contain large brains, and small heads small brains."

If the whole skull indicate correctly the size of the whole brain, it is not unreasonable to believe that the developement of different parts of it, with certain exceptions (which are stated by phrenologists) will indicate the size of the different parts of the brain.

2dly, As to the *mental* fallacies, by which I presume Professor Alison means the difficulty of ascertaining the real character of the individual observed, I have discussed this subject in my *System of Phrenology*, 4th edition, p. 85-7. But there is another answer, which Professor Alison will perhaps find more constringent. In the second

paragraph of his letter he says that the foundations of the philosophy of Reid and Stewart are "*inferences as to the mental acts of others, as well as consciousness of mental actions in ourselves.*" The words here in italics must mean that the philosophy of Reid and Stewart is founded partly on observations made on the mental acts of other men. If such observations be competent to afford a foundation for their philosophy, why is the same practice liable to very considerable fallacies when resorted to by phrenologists?

Professor Alison states, however, as a further apology for not studying the evidence, that the conclusions drawn by the phrenologists derive no support or confirmation "from comparative anatomy—from the results of experiments on animals—from the effects of injury or disease of individual portions of the brain." I beg leave to offer a few observations on each of these topics.

1st, As to Comparative Anatomy. Cuvier, speaking of the cerebral lobes being the place "where all the sensations take a distinct form, and leave durable impressions," adds, "L'anatomie comparee en offre un autre confirmation dans la proportion constante du volume de ces lobes avec le degre d'intelligence des animaux."—(Report to the French Institute in 1822 on the Experiments of Flourens.) And it is elsewhere stated by the same eminent naturalist, that "*certain parts of the brain, in all classes of animals, are large or small according to certain qualities of the animals.*"—(Anat. Comp. tom. ii.) This is pretty strong authority; to which more might be added. The general conclusions from comparative anatomy in the brain are ably stated in the 94th number of the Edinburgh Review: "It is in the nervous system alone that we can trace a gradual progress in the provision for the subordination of one (animal) to another, and of all to man; and are enabled to associate every faculty which gives superiority with some addition to the nervous mass, even from the smallest indications of sensation and will, up to the highest degree of sensibility, judgment, and expression. The brain is observed progressively to be improved in its structure, and, with reference to the spinal marrow and nerves, augmented in volume more and more, until we reach the human brain, each addition being marked by some addition to, or amplification of, the powers of the animal—until in man we behold it possessing some parts of which animals are destitute, and wanting none which theirs possess."

Is Professor Alison acquainted with Dr. Vimont's "Treatise on Human and Comparative Phrenology?" In that work Dr. Vimont delineates, in plates possessing the highest qualities of fidelity and beauty, the brains and skulls of a variety of animals, and points out the

connexion between particular parts and particular instincts or powers. Professor Alison will probably treat this work with contempt because Dr. Vimont is a phrenologist. Dr. Vimont, however, was an anti-phrenologist until he made the investigations which he has now published; and it was Nature that forced him to change his opinions. Farther, his plates are visible and tangible; the brains and skulls of the animals delineated are easily accessible; and their instincts are, in many particulars, generally acknowledged. On what principle of reason, then, Professor Alison is entitled to avert his eyes and his understanding from such facts; and, without being able to affirm that they are erroneous, to allege that they afford no confirmation of the appropriation of different faculties to different parts of the brain?

Professor Alison proceeds: "Indeed, as to comparative anatomy, you must probably be aware, that the result of observations in that science goes completely to disprove the idea, that any fixed relation exists in the different tribes of animals, between the degree of intelligence that can be observed in them, and the size or complexity of structure, or *indeed any circumstance of structure* that has yet been pointed out in their brains."

My information on this subject is very different. Desmoulins and Magendie state that in numerous examinations of the brains of almost every genus of the mammalia, they found a nearly constant relation between the extent of surface presented by the brain in each genus, and the amount of intelligence displayed by it. When differences occur in one of these points, differences are stated to be usually found in the other, not only between genera, but between different species of the same genus, and also between different individuals of the same species. Professor Tiedemann of Heidelberg, in his work on the Brains of Apes and of some other animals, has accurately delineated and described the progressive diminution and final disappearance of the folds of the brain in the mammalia, from the Apes down to the Rodentia; and, according to Desmoulins, this progression corresponds exactly with the diminution of intelligence. The most striking difference exists between the apes of the old world and those of the new. Many of the former are capable of being trained and employed for useful purposes, while the latter are incapable of instruction, and scarcely exceed squirrels in the degree of their intelligence. This corresponds with the state of the convolutions. In some dogs, especially those employed in hunting, the convolutions are scarcely less numerous and deep than in the higher tribes of apes; while in the less intelligent species, and in wolves, they exist in a much inferior degree of development. Every one must have been struck by

the great difference as to docility observable between dogs and cats; an equally striking difference is found in the appearances presented by the number and depth of the convolutions of their brains—a difference so great that Desmoulins estimates the convolutions of the dog to exceed by six or eight times those of the cat. The paucity of convolutions found in the cat prevails throughout the entire genus to which it belongs. That genus, *Felis*, which includes the cat, lion, tiger, panther, and other animals of a similar nature, is likewise remarkable for the *uniformity* observed in the number and arrangements of the convolutions in the different species; and in no genus are the species more distinguished for similarity of disposition, for through none do the faculties of Secretiveness and Destructiveness prevail in so extreme a degree of strength.

Sir Charles Bell observes: "When we compare the structure of the brain in different animals, we find that in certain lower classes there are no convolutions; the surface of the cineritious matter is uniform. As we ascend in the scale of beings, we find the extent of the cineritious matter increased. To admit of this, it is convoluted, and the depth of the sulci is the consequence of the extension of the great cineritious mass; and in man above all other animals are the convolutions numerous and the sulci deep, and consequently the cineritious mass, and its extension, of surface, far beyond that of all other creatures."

Farther.—I have pointed out to hundreds of students the difference between the skulls of the carnivorous and herbivorous animals; between the tiger and the sheep; between the cat, dog, and fox, and the doe; and between the cat and the hare, in the region immediately above and behind the ear, the situation of the organs of Destructiveness and Secretiveness. The parts are so much larger in the carnivorous than in the herbivorous animals, that it is almost impossible to fail in perceiving the differences, unless the eyes be utterly blinded by prejudice. I have exhibited also the difference between the skull of the beaver and that of the dog and fox in the region of Constructiveness. Does Professor Alison deny these facts; or has he only not attended to them? They assuredly afford some confirmation of the appropriation of different parts of the brain to different instincts in these animals.

Finally on this topic; Professor Alison admits that there are reasonable grounds for ascribing the intellect to the anterior lobe, and the feelings to the posterior and upper regions of the brain. *Quæritur*, Where did he find the evidence for this opinion? The method of direct comparison of size with manifestation is liable, he says, to "very considerable fallacies," and he has never practised it; while comparative anatomy, according to him, "goes completely to disprove the idea that any relation

exists between the degree of intelligence and any circumstance of size or structure in the brain." If these sources of information be excluded, it will be difficult for him to shew the reasonableness of the admission which he is disposed to make.

3dly, The next reason assigned by Professor Alison for not studying the evidence adduced by Gall and Spurzheim and their followers is, that their conclusions are not supported by "the results of experiments on animals." On this topic I shall simply refer to the following report of a discourse delivered by Sir Charles Bell before the Anatomical Section of the British Association, which appeared in the *Scottish newspaper* of the 13th September, 1824.

"On Thursday and Friday there was a numerous attendance in the Anatomical Section, when Sir Charles Bell gave an interesting exposition of his views of the nervous system. He was the first to demonstrate what other physiologists had previously conjectured to be probable, viz., the existence of separate nerves of motion and of sensation. His statement was a recapitulation of his publication, and we did not observe that he added any new facts. In several particulars we were gratified by his exposition, as marking the certain, although slow, progress of truth. Dr. Spurzheim, when he visited Edinburgh in 1816, maintained that the uses of the brain could not be philosophically ascertained by mutilations of the brains of animals; but he was ridiculed for saying so, and it was asserted that this was one of his numerous back-doors for escaping from adverse evidence. Flourens and Magendie in France, Sir William Hamilton here, and various other individuals, have, in the interval, performed numerous experiments on the brains of the lower creatures, and published results which have been extensively cited as evidence against phrenology. Yesterday, Sir Charles Bell explicitly stated, that he also had made such experiments, and had obtained no satisfactory results; and he then shewed why he had failed, and why all other experimenters must fail who pursue this method of inquiry. These experiments always, and necessarily, involve a great shock to the nervous system in general, and cannot be confined in their effects to the parts cut out. We may add—If we do not know what office the part performs in health, how can we know whether the function has ceased in consequence of the ablation or not? It may be true, that if we were to cut out the organ of Tune from the brain of a canary, the bird would never sing again; but if, in ignorance of what part is that organ, we were to cut out any other portion of the brain, with a view to discover it, we should be disappointed; because, whatever part we injured, the effect on its singing would always be the same; it would cease to

sing, for the obvious reason that singing and a mangled brain are not compatible in nature. We rejoiced to hear this method of investigation renounced and condemned by so great an authority."

4thly, The last reason of Professor Alison for not studying the evidence is, that the results derive no support or confirmation from "the effects of injury or disease of individual portions of the brain." Such a statement could proceed only from a person who had confined his reading to the report of non-phrenological or of anti-phrenological authors. In the Phrenological Journal, as well as in other phrenological publications, there are many well authenticated cases, shewing that these results receive the strongest confirmation and support from the effects of disease or injury of individual portions of the brain. Among the testimonials which I had the honor of presenting to the Town Council of Edinburgh in June and July, 1836, when I became a candidate for the Logic Chair, are several from physicians to lunatic asylums, who testify in direct opposition to the assumption made by Professor Alison. Sir W. C. Ellis, superintendent of the asylum at Hanwell, says: "It is unnecessary for him to inform Mr. Combe that, residing amongst 600 lunatics, no day passes over in which the truth of Phrenology is not exemplified." Dr. James Scott, surgeon to the Royal Hospital at Haslar, and medical superintendent of the Royal Naval Lunatic Asylum, says "As I have been for nearly ten years the medical attendant of the Lunatic Asylum in this great hospital, my opportunities, at least, of observing have been great indeed; and a daily intercourse with the unfortunate individuals entrusted to my care and management (whose number has never been less than thirty persons, and often many more) has firmly, because experimentally, convinced me that mental disorder and moral delinquency can be rationally combated *only* by the application of Phrenology." H. A. Galbraith, Esq., surgeon to the Glasgow Lunatic Asylum, says: "Situated as I am in the midst of a wide field for observation, more particularly in regard to disordered mental manifestations, I have been for several years past led to compare these with the phrenological developement of the individuals in whom they appeared; and from the result of numerous and well-marked instances, which have not only been known to me during a state of morbid activity, but from authentic accounts of the previous mental indications, I have not the least hesitation in declaring my firm belief in the general principles of phrenology." Many other certificates to a similar purport were brought forward by me on that occasion, and copies of the whole of them were presented by me to Professor Alison. I do not say that he was bound on that evidence to embrace phrenology; but, with all

deference, these testimonials render his statement that the results of Drs. Gall and Spurzheim's investigations derive *no* confirmation from "the effects of injury or *disease* of individual portions of the brain," not entirely credible, and scarcely leave him an adequate apology on this ground for delaying to "study the evidence" by a direct appeal to nature.

While, however, Professor Alison practices a boundless caution and incredulity in regard to every fact, argument and doctrine brought forward by phrenologists, these mental qualities appear to forsake him when he considers facts, doctrines, or experiments brought forward by persons adverse to the science. He disbelieves in the cerebellum being the organ of Amativeness, because this is affirmed by Dr. Gall, and he believes in its office being to regulate "muscular motions," because this is asserted by Magendie and Flourens. I venture to ask him whether, in forming these opinions, he has read and candidly weighed the evidence adduced by Dr. Gall in his "*Physiologie du Cerveau*" on this point, and given due weight to the observations of Sir Charles Bell on the effects of mutilations of the brain, in considering the experiments of Flourens and Magendie? He knows that the nature of the details given by Gall prevents the phrenologists from printing them in merely popular works; but as a scientific enquirer he was bound to consider them in their original records. My suspicion is, that he has omitted "to study the evidence adduced by Gall and Spurzheim and their followers on this subject so carefully as perhaps he ought to have done," and by this supposition alone is it possible to account for his rejecting the one and embracing the other opinion. Dr. Broussais, in his lecture on the functions of the cerebellum, reported in the *Lancet* of 30th July, 1836, accounts in a manner that appears to me satisfactory, for the effects of mutilations of the cerebellum on muscular motion, in perfect consistency with the functions ascribed to that organ by Dr. Gall.

Professor Alison remarks that "a book on intellectual or moral philosophy going in a few years through many editions, may be safely set down as a very superficial book." The same might be said of a book on any other science; yet Sir John Herschel's *Discourse on Natural Philosophy* has gone through many editions in a few years, and it is generally regarded as being a very profound and able work. Superficiality alone will not render a book on any subject acceptable to numerous readers: there must be something more. If the work address itself to strong existing prejudices, it may be temporarily successful and yet superficial. Beattie's *Essay on Truth*, as contrasted with Hume's *Essays*, is an example in point. But if a work oppose public opinion,

if its author enjoyed no previous or extrinsic reputation, if it have been combated and dissected by men of the first talents, and if, nevertheless, it have constantly advanced in estimation and circulation, the conclusion does not inevitably follow that its success has been owing entirely to its superficiality. It *may* have advocated important truths in so clear and forcible a manner as to have interested numerous reflecting men, and on this account have been successful.

Professor Alison is pleased to conclude by expressing his opinion that "the injudicious pretensions of the present supporters of phrenology will ultimately be fatal to the personal reputation of most of our present phrenological authors." As I have the misfortune to be one of these authors, my remarks on this sentence must be received with due qualification; but as he has raised a question of *pretensions*, I leave the public to judge whether his condemnation, uttered avowedly without having studied the evidence, betokens greater or less modesty than my asseverations in favor of certain propositions, *after* having examined the proofs. Allowing for a great superiority in genius, perspicacity, and learning, on the side of Professor Alison, the study of the *evidence* may be reasonably allowed to add *something* to the probabilities of my assertions being true. This point, however, the public alone are competent to settle. It is probably that the contests which are now maintained on this subject, may ultimately prove fatal to the reputation either of the phrenological authors or of their opponents—which is more likely to suffer, it is not my province to decide. If I look forward with confidence to the ultimate decision, it is, *first*, because I *have*, in all humility and with all assiduity, *studied the evidence* adduced on the subject, and have endeavored, so far as in me lay, to advance no opinions which are not warranted by evidence; and, *secondly*, because I find that the more narrowly intelligent inquirers have examined into the facts, they are disposed to recognize the greater extent of truth in the doctrines which I advocate. All individuals who have examined them, entertain a more favorable opinion of these arguments than Professor Alison, who has not seen reason to do so. The history of science has presented some examples of men opposing great and important discoveries, whose reputations were not advanced in the estimation of posterity by such applications of their talents. A writer in the 94th number of the Edinburgh Review, alluding to the opponents of Harvey, says: "The discoverer of the circulation of the blood—a discovery which, if measured by its consequences on physiology and medicine, was the greatest ever made since physic was cultivated—suffers no diminution of his reputation in our day, from the incredulity with which his doctrine was received by some, the effrontery

with which it was claimed by others, or the knavery with which it was attributed to former physiologists, by those who could not deny, and would not praise, it. The very names of these envious and dishonest enemies of Harvey are scarcely remembered; and the honor of this great discovery now rests, beyond all dispute, with the great philosopher who made it." If the great doctrines of phrenology as now taught shall be approved of by competent judges who *have* studied the evidence, posterity will probably be disposed to pronounce a similar judgment on the merits of those who have rejected and opposed them. If the doctrines, when thus tried, shall be found at variance with Nature, the reputation of all phrenological authors will most deservedly vanish.

Finally: in judging of the merits of living phrenological authors, it is necessary to keep in view to what their pretensions relate. They maintain that Dr. Gall has discovered the functions of many particular parts of the brain, and that this discovery is of great importance in medicine and mental science. They offer to his memory the homage of a profound and sincere admiration, on account of his having made this valuable addition to human knowledge; and affirm that those individuals whose duty it is to study the evidence of his discovery and apply it, but who neglect to do so, are not deserving of esteem for this omission; but here their pretensions stop. They claim no merit in the discovery for themselves, they boast of no superiority of talents or of general learning over their adversaries; on the contrary, they allow to them every possible advantage on these points, and limit their own pretensions to the humble merit of having observed and interrogated nature on this subject, while their more gifted opponents, in the pride of their own greatness, have closed their understandings against "evidence" which obtrudes on their attention. To have pretended to less, would have been traitors to the cause of truth; that they have pretended to more, is an unjust accusation against them.

ARTICLE II.

PHRENOLOGICAL CHARACTER OF MRS. L. M. CHILD,

Author of *Hobomok*, *The Rebels*, *The Mother's Book*, *The Girl's Book*, *The Frugal Housewife*, *Philothea*, *Appeal for that class of Americans called Africans, &c., &c.*
 —Given by L. N. FOWLER, July 7th, 1841.

From curiosity Mrs. Child visited Mr. Fowler's office in New York, as a perfect stranger. He had no means whatever of conjecturing her

name or character, and not a word was spoken by her until after the examination of her head was completed and the following results written down:—This lady's temperament is a predominance of the nervous, and indicates great mental activity. She is capable of much intellectual exertion—more so than physical. Her thoughts and feelings are intense and vivid. She has a positive character, and a self-directing mind. Her mind does not run in channels with other persons; her thoughts are not others' thoughts. The leading points of her character are perseverance, ambition, friendship, powers of reason, and ability to retain information. Her selfish faculties have comparatively an inferior influence. She is whole-souled in every thing she attempts; is half way in nothing. She is *very* strongly attached to her friends, and is at times too much influenced by her friendships. Her tastes are decidedly social and domestic; and she has strong connubial love and affection. It is unnecessary to go into details; it is sufficient to remark that this head indicates a combination of qualities peculiarly calculated to confer and enjoy domestic happiness. She likes the society of men better than that of women, and feels more interest in the subjects on which they converse. At no period of her life has she ever enjoyed *womens'* society so highly as that of intelligent and cultivated men. She has strong attachment to place and home; would like to live in one place, and have her own room, with books and accustomed conveniences about her; is homesick among strangers, and does not enjoy rest and food so well when absent from home. She takes a deep interest in the welfare of children, and as a parent, would be most devoted. She would be *naturally* fond of teaching children, and helping them wherever they happened to come under her observation. Her sympathies are *very easily* excited by distress, and she is always ready to lend a helping hand; yet Love of Justice is more largely developed than Benevolence. She would like to know whether the beggar made false pretensions, or *was impoverished* by his own vices. She enjoys herself with a book and pen more than in household arrangements, or general society. She can and will discharge the every day duties of life, as a matter of conscience, and to promote the happiness of the family; but inclination would not lead her to do it. She would prefer to hire *some one* to do her household work for her. She has fair conceptions of order and arrangement; but, somehow or another, her things "wont stay put." She likes method in household affairs, but is not old-maidish or fastidious in this respect. She has more mental than physical arrangement; this shows itself in a clear and orderly manner of expressing her thoughts. She has a fair appetite, yet easily controlled. She eats to live, and does not live to eat. If I mistake

not, she sometimes wishes it were possible to live without eating, considering it a waste of time. She places little value on property, as such, but wants money to use, not to hoard up. At times, the influence of Acquisitiveness is not sufficient to control her other faculties. She is much more prudent in the use of money, than anxious to acquire it. She dislikes the trouble of pecuniary details, and would prefer to have another arrange them for her; but she is cautious in expenditure. Her maxim is, "A bird in the hand is worth two in the bush." She would prefer a small, certain income to magnificent chances; would rather make sure of the one dollar she has, than risk it to obtain more. She has great resolution, spirit, and force; does not stop at trifles; and is always ready to defend herself and the cause she advocates. She is *very* firm, determined, and persevering. There is a good deal of General Jackson about her in this one particular. She has more than an ordinary degree of moral courage; is never afraid to defend what she thinks right; speaks in unqualified terms of any thing she considers morally wrong; and is a severe critic upon those who violate principles. The strongest trait in her moral character is love of justice. She would rather avoid opposition and difficulty, if possible; but fearlessly defends what she thinks true, regardless of consequences—having faith that they will take care of themselves. She is radical in her notions; does not go by old landmarks; is not satisfied with the world as it is, and has more than an ordinary degree of ambition to turn over a new leaf, and bring about moral, social, and intellectual reforms. Her hopes and anticipations are strong, yet never get the better of her judgment. Ambition is more likely to lead her astray than Hope. Combativeness is large. I know not whether it has been exercised in scolding; but in some way or other this faculty has been active. She takes no pleasure in cruelty, and never retains malice. She may feel indignant, and wish the object of her displeasure out of the way, but she is sarcastic only when occasion requires, and never takes pleasure in giving pain to gratify her temper. She is rather cautious, but never hypocritical in her movements. She looks a great ways a head; always consults consequences, and is not easily ensnared in difficulties for want of judgment. She values her character very highly; from a child, was always ambitious to excel in some department. Her ambition would be likely to take an intellectual or moral turn. As a scholar, she was probable very desirous of being No. 1. In all that she does, she feels as though the eye of the public was upon her, and has strict reference to the influence she exerts; she never felt retired, and as if she had no influence. She cannot bear exposure, and is grieved at being found fault with by her friends. She

has sufficient Self-esteem to produce dignity without pride. She is not aristocratic and reserved, but social and familiar, frank and open-hearted. She enjoys herself best when she can throw off restraint, and express thought and feeling in a free and easy manner. She is very direct and plain-spoken: utters herself with great clearness and distinctness, and never mystifies what she has to say. She can convey her ideas better with the pen than in conversation. She may be rapid, but not copious, in the use of language. She has a mind capable of a high degree of discipline. She can connect her thoughts and feelings as long as circumstances require, but is not tedious and prolix. Some persons, who have the faculty, weary their hearers with minuteness of detail; it is not so with her. She has a clear, discriminating, analogical mind, capable of tracing a subject from beginning to end; can reason connectedly, both from analogy and from cause to effect. She is very open to conviction, desirous of improvement, and always learning. She has naturally an excellent memory of what she reads, and of historical accounts; more theoretical than practical talent; better judgment of principles than knowledge of facts and details. She is fond of discussion and philosophical investigation. Her mind is better adapted to the study of literature and mental philosophy, than to the natural and exact sciences. Her reflective faculties have been developed at the expense of her perceptive. She thinks more than she observes. She is not incredulous, but readily receives moral impressions; is rather spiritually minded, and is devotional and respectful toward every thing *she* considers holy; yet much that others regard as sacred, appears to her in a ludicrous light. She may, perhaps, make fun of many of the religious notions of the day, because they appear to her perfectly absurd. She enjoys a joke, and has a quick perception of the ridiculous and the incongruous. She is fond of poetry, but her poetical feelings are not of the extravagant and bombastic kind; she peculiarly appreciates poetry of the affections and sentiments. Her imagination is strong and vivid. She has a correct idea of proportion and outline, and a very strong love of the beautiful, both in nature and art. She can copy drawings, and work after any pattern. She has a great versatility of talent, and is seldom at a loss for means to accomplish her ends.

ARTICLE III.

ON THE STUDY OF HUMAN NATURE AS A BRANCH OF POPULAR EDUCATION

(Continued from page 513.)

But some one will say that this view of our existing means of knowledge is a partial one ; that an important item in the list has been omitted ; and that, after all, the reformation may not be so urgently required as we have represented. Do we not (we shall be asked) make up in after life for these alledged deficiencies in our earlier training. Experience is worth more than precept, and he who would be practically master of these subjects, will do better to exercise his common sense upon the open pages of the world, than to pour over the sealed volumes of the schools. To all this we answer by putting the same question to our objectors. Will the engineer whose reliance is thus confident on common sense to guide him in his intercourse with man, in his notions of education, politics, &c., give equal confidence to the same guide in his own profession ? Will he tell his pupil that he had better study languages, and botany, and chemistry ; but that for mathematics and all that, he may trust to his own untaught common sense, when he comes to the practice of his profession ? Does the sailor trust to common sense in navigation, the general in the art of war, the antiquarian in detecting medals, or decyphering manuscripts, or the physician in the treatment of disease ? They may require, they do require it in their practice, but they require also more ; they know that a systematic thorough knowledge of all that can be taught of their several professions is the first thing to be gained ; that this is the material on which common sense must operate, and that without this knowledge, common sense is, indeed, what the satirist has called it, the least common of the senses. Each may rely on their blind guide for the paths of which he himself is ignorant, but no one of them will trust to his guidance in his own. All men, in fact, on those subjects where they are qualified to be judges, decide at once for regular, in preference to accidental teaching ; and the inference is plain, that no consent, however universal, of men who on any one point are not judges, to set aside the principle in that instance, can have weight to reverse the sentence. We apply the inference to the study of Human Nature. Those who know nothing of it, may not be aware how much better it is to teach it systematically, than to leave it to be learnt or not by each pupil, as the case may be : but those who have devoted themselves to it, (and it is their opinion we must take) determine otherwise. With them, the amount to be acquired is great, and training, careful and long-continued, insisted on as necessary for its acquisition. Some may do much without

it, others little with it. This is not the point. We do not profess by education to create, but only to improve and cultivate. There are very few too low for improvement; but beyond this point, there are none to whom teaching is not serviceable. The highest talents will be raised by education; and every degree of talent will be only the better raised by it, in proportion to the completeness and system with which it is communicated. Like every other branch of science, the philosophy of man to be generally understood, must be regularly taught, or our present amount of teaching fails to attain its object. The reform is needed: the only question is, how it may be best effected.

By the philosophical mind, nothing is ever ascribed to chance. Every effect is referred to its antecedent; and the only way proposed for altering or confirming it, is to ascertain, and act upon the circumstances which have produced it. If in the physical world derangements happen, the first step to be taken towards their remedy, is to learn their cause—the second to remove it. The case is the same in the moral world. Before attempting a reform, we must see clearly where it is to begin; in other words, we must account for its necessity, assign to each abuse its cause, and then proceed to its correction. Any hastier procedure is empirical, and must fail of accomplishing its object.

Why, then, we ask, have these studies been hitherto so little thought of in our schemes of education? It cannot be that their pursuit is an unnecessary, and therefore useless tax on the attention of our scholars. We have seen already that their results, if rightly gained, must, from the very nature of the case, be the foundation of all our practical sciences in regard to man; that they are, in fact, to all, in their capacity as men and citizens, what geology is to the miner, mathematics to the engineer, or natural philosophy to the machinist; that without them, a man is no more qualified to the full discharge of his public and private duties, than a blacksmith would be to his business, if he had not learnt the qualities of iron, or the uses of the forge; and that to be thoroughly acquainted with them, regular, and not accidental teaching, is as much required as in any other branch of education. Can it then be the case that this is a department which admits of no such thing as thorough knowledge, which cannot be reduced to system, or elevated to the rank of science? To judge from the expressions of a large class, even of our educated men, one might almost conclude it to be so. We hear of anti-theorists, *practical men* par-excellence, who reject all systematic views of human nature, all far-fetched references to general principles, and who look only to experience, (that is to say, their own experience) for direction in every emergency. We see these men trusted by the many as safe counsellors,

while the few, whose decisions are given on more general grounds, whose experience is more extensive, who are in fact the more practical, because the more philosophical and better informed class, are set aside by these empirics, and disqualified for credit by the magical name of theorists. To conduct a chemical analysis, we select the practised and educated chemist, not the babbler, whose knowledge consists only of a few crude notions, picked up accidentally; for the superintendence of a canal or rail-road, we require a thorough engineer, not a common road-surveyor; why are we not consistent throughout? Theory is the result of long experience, properly expressed. On every other subject we insist on its necessity; why should this be the exception? Is man the single object in creation whose nature is incapable of systematic description? We are fond of exulting in his superiority over other beings. Surely this is not the quality in which his superiority consists. We must look to some other cause for an explanation of our inconsistency.

Are we then to ascribe it to the incapacity of those who have made the effort to remove it, to a general want of ability in the mental and moral philosophers of our schools? Successful or unsuccessful in their effort, there cannot be a doubt that, as a class, they have been, to say the least, equal to any other of our literati. If 'the race had been to the swift, or the battle to the strong,' they must have won it. Why then have they failed? Some say they have not failed, that they have interested and improved themselves by their pursuits, and that if others have slighted their speculations, the fault lies with the public, not with them. We answer, that, with such a subject, not to have interested others is to have failed. It cannot be that the true philosophy of man has been so long and so well presented to intelligent men, and so long neglected by them as useless. Are any of the physical sciences thus treated? Is there one in ten of those who read the metaphysics of the schools, who ever give them a thought in after-life? The sentence of the literary world has been long given, and is past recall. The whole system is a failure, not indeed from want of power in its supporters, but from radical defects in its own construction. To ensure success, able men must labor in the right way. In this case, able men have failed, and the fault is to be attributed, not to themselves, nor to their subject, but to their mode of operation.

If we refer to history we shall find abundant confirmation of this view. Before the time of Bacon, there was the same confusion in the physical, as we now find in the moral sciences;* and the explanation of that

* We have spoken here and in other passages, of the sciences, as divided into physical and moral; meaning by the former, those which inquire into external nature,

confusion, which that philosopher arrived at, and by means of which he was led to the reform he effected in regard to it, was precisely that which we now offer for the still remaining confusion of the other branch of knowledge. "Whence," he asks, "can arise such vagueness and sterility in all the physical systems which have hitherto existed in the world? It is not, certainly, from any thing in nature itself; for the steadiness and regularity of the laws by which it is governed, clearly mark them out as objects of certain and precise knowledge. Neither can it arise from any want of ability in those who have pursued such inquiries, many of whom have been men of the highest talent and genius, of the ages in which they lived; and it can, therefore, arise from nothing else but the perverseness and insufficiency of the methods that have been pursued." Substitute the word "moral" for "physical," in this extract, and we have the authority of Bacon for our inference.

and by the latter, those which embody our knowledge of our own. The expressions thus used, though common, and on the score of brevity, convenient, are not, however, perfectly correct. Mackintosh has perhaps best defined them; though not in ordinary and frequently even in philosophical language, his distinction between them is not preserved. The physical sciences, he tells us, are those which answer the question, "*what is?*" the moral sciences, those which tell "*what ought to be.*" In this sense, Anatomy, Physiology, and Phrenology, (properly so called) all rank with the physical sciences, as much as Botany, or Chemistry. Anatomy tells us *what is* the conformation of the body; Physiology, *what is* the use of its several parts; Phrenology, *what is* the constitution of the mind. On these are based the strictly moral sciences connected with man. Hygiene, for instance, is the doctrine of *what ought to be* the condition; Ethics, of *what ought to be* his feeling and judgment of right and wrong; Natural Theology, of *what ought to be* his religious feelings and perceptions; the philosophy of Taste is the statement of *what ought to be* his perception of the beautiful; Logic, of *what ought to be* his perception of truth and error. The number of the moral sciences thus belonging to Anthropology, is, it will be seen, considerable, and no small portion of them have not commonly been otherwise classed. Even this definition of the term "moral," however, is open to objections. Some other word would be preferable. In nothing, indeed, has science generally been so defective, as in its nomenclature and classification. Phrenology has effected in the physical department of the science of the human mind, the reform which the Linnean system has introduced in Botany. It has given significant names to all the faculties yet ascertained, and it has arranged them in practical and obvious principle. Its operation has to be extended further. The several moral inquiries founded on it, must be classed and named according to the faculties to whose action they have reference. The limits of a note, however, are insufficient for more than a hint on this point.

In the text, as we have observed, the laxity of the more popular language has been allowed; the true distinction between the term "physical" and "moral" being immaterial as regards the matter there discussed. It would be more correct, though less convenient, to substitute "anthropological" for the latter, and the "sciences relative to external nature," for the former.

The same high authority which thus determines the cause of our past failures, furnishes us also with the means of avoiding their recurrence. "As things are at present conducted," he observes, (still speaking of the natural philosophers of his own time, and using language in regard to them which may easily be referred to the mental philosophers of our own,) "as things are at present conducted, a sudden transition is made from sensible objects and particular facts to general propositions, which are accounted principles, and which, as round so many fixed poles, disputation and argument continually revolve. From the propositions thus hastily assumed, all things are derived, by a process compendious, and precipitate, ill suited to discovery, but wonderfully accommodated to debate. The way that promises success, is the reverse of this. It requires that we should generalize slowly, going from particular things to those which are but one step more general; from these to others of still greater extent, and so on to such as are universal. By such means we may hope to arrive at principles, not vague and obscure, but luminous and well-defined, such as nature herself would not refuse to acknowledge."

We say, then, that the present state of the sciences which treat immediately of man, is precisely that which, according to Bacon, characterized the sciences of external nature in his time. Our comparatively fashionable systems of human nature at once vague in their details, and barren in their results; their supporters, though few in number, are yet men of the highest talent, and their failure to work out a clear, precise, and practical system from the abundant materials which nature offers them, is a result of the insufficiency of the mode they have adopted in their operations. This insufficiency can be illustrated only by entering somewhat into detail.

In the first place, then, a large portion of our philosophers have given a wrong direction to their inquiries. They regard all science as an *explanation* of the phenomena of nature, and therefore aim at *explaining* by their systems the phenomena of man. Now, in one sense of the word "*explain*," this definition is correct, in another, it is not so. Natural philosophy may be said to explain the fall of an apple, or astronomy the revolution of the planets, by referring to the laws of gravitation; but when this reference has been made and admitted, what more do we know of the *real cause* or *nature* of the phenomenon than we did before? Nothing. The natural philosopher will tell us, and tell us rightly, that his science cannot *explain* the fact in this way; that it collects and analyzes particular facts to arrange them under general laws, but that the essential nature of the objects presented to its scrutiny,

as well as of the proximate cause of the changes to which they are subject, it knows, and can know, nothing. Thus the chemist arranges, by an analysis of their qualities, certain objects under the class of acids, and another yet under that of alkalies; and he tells us the general law that their combination with one another produces a certain result, which he describes and names. But if you ask him to *explain* the qualities of either, or the fact of their neutralizing one another, he cannot do it. He can go no further than his facts. Analysis and classification are the whole explanation he can offer. The case is the same in every other department. The grass grows, water finds its level, heat is communicated from one body to another; we can collect and arrange the facts of nature, on all these points, and speak of general laws, and so on; but this is the limit of our science. We can in no single instance, strictly speaking, *explain* the laws, and we therefore wisely turn our attention elsewhere, and labor only to learn and apply them.

Do our mental philosophers observe this distinction? We find them, for example, at variance among themselves, in regard to the nature of the mind. One class insists on its immateriality, the other argues its dependance on material organization, and each denounces the other as the holder of a fearful heresy. Suppose, now, that our naturalists were to give their attention to the discussion whether vegetable life is a result of an immaterial principle, or of material organs, and were to neglect the study of the organs themselves, and of the various plants which exhibit them, where would be their science? The answer may be drawn from history. The time has been when they did thus act, and the science of botany dates from the period when they reversed their procedure. So it is with the philosophy of man. We can know no more of the immateriality of the mind, than we can of the materiality of the body, and that is nothing. The naturalist can tell us neither *what matter is*, nor *how* its changes are produced; neither can the metaphysician define *mind*, or account for its phenomena. Both must collect their facts, and keep to them soberly. Any theory, on whatever subject, which pretends to more than an arrangement of facts, is a useless exercise of human ingenuity, not a valuable contribution to human science.

Again—our students of human nature are in many respects much too hasty and partial in their conclusions. They go too much on a principle of subdivision, separating from one another connected branches of knowledge, and assigning their prosecution to particular classes. Thus our educationists and politicians seldom look for any system of philosophy, intellectual, moral, or religious, by which to estimate their plans for

human improvement or government. Even our moralists and theologians, so called, too frequently frame their systems without reference to those collected facts which throw light on the mental constitution, and which ought, therefore, to form the basis of their speculations. The mental philosopher, in return, takes no thought, in his inquiries, of the wants of his fellow-laborers, who should be building on his foundation, and for whom he should be collecting the material. Nay, among those whose pursuits are confined to what may be termed the *physical* or *natural* departments of the science of man, in contradistinction to its speculative and practical departments, there is found the same disunion and indifference to one another's studies. The anatomist pursues his process of distinguishing between and naming the several portions of the body, without reference to the physiologist, whose province is to ascertain their uses. The physiologist, again, inquires diligently into the functions of the body generally, its bones, muscles, blood-vessels, &c.; he even goes so far as to analyze its system, its powers of voluntary motion, and of sensation; but, beyond this, generally speaking, he does not venture. From nerves of voluntary motion, to nervous organs for the mental feelings, from nerves of sense, to nervous organs for the intellectual powers, is an easy and natural gradation; but he does not take the step. The physiology of the brain is left in obscurity, and the philosophy of the mind is consigned to the metaphysical observer. He in return, exhibits the same professional courtesy. Bodily organs for the mental powers are not looked for by him. Man was created, we are told, "out of the dust of the earth, and there was breathed into his nostrils the breath of life, and man became a living soul." Our philosophers divide what in his creation was joined together. One examines the body without the mind; the other speculates about the mind, without once thinking of the body. Nor is this the whole. The metaphysician studies man as if he were the sole inhabitant of the earth, instead of being one of a vast multitude of species, and "having dominion," only, over all the rest. Man is fond of fancying himself unique, subject to no laws but such as relate wholly to himself; but this fancy is an error, and must be corrected before he can proceed far in the process of self-discovery. He is peculiar, no doubt; but no peculiarity can be known unless by comparison and contrast. To resolve even the simple problem which meets us almost at the threshold of our philosophy, as to the distinguishing characteristics of our species, we must have studied it, not alone, but in close connexion with the other works of the Creator. All this, however, is left to the naturalist, and the naturalist stops short on the same frontier, studying all but man, and leaving him

to others. We may, indeed, trace the lines of demarcation further. The metaphysician will not even occupy the whole field of observation offered him by his own species. He takes but an individual of it. "*Self-observation*," "*internal consciousness*," is referred to as the sole foundation of his system of philosophy. It is for the biographer to contemplate and describe his neighbors, and for the historian to discuss the varieties of national disposition; all this tedious process may safely be neglected by the philosopher. The old proverb, "many men, many minds," is dispensed with in his favor, and he is required only to closet himself for his own likeness to be drawn by his own hand, and then published as the unvarying type and pattern of his species. The historian, or biographer, is, of course, at liberty to take his own or any other type he pleases, or none at all, if he likes that course better; so that while our theories, thus partially constructed, take no note of the varieties of human character, our actual records of those varieties are in practice so drawn up as to contribute little or no material for creating any sounder system.*

Now, in all this, we say nothing against the true principles of the division of labor. No man is wise at all times, or on all subjects. It is not necessary that every one should aim at making discoveries of his own in every department at once. It is well enough that one should be an anatomist, or physiologist, another an observer of the mind, and a third be devoted to historical researches; that different classes should select morals, religion, and taste, as the subjects of their several speculations; and that other classes still should undertake to reduce all to practice by teaching or legislation. All this is, so far, as it should be. One is better fitted for success in one department, another in another. The fault lies in their non-intercourse, not in their original separation. The surveyor of a public work makes one set of his workmen dig and bring materials, another set design, another execute, and of each sect he assigns his subdivisions to the particular sections of his work; but does he, for the sake of a division of labor, tell them each to work without regard to their fellows? The materials are provided with a view to the design; the design is regulated by the materials, and directs the mode of execution; the execution is dependent upon both; the most distant sections of the work proceed with constant reference to one another.

* Welsh, in his life of Dr. Brown, tells us that his course of lectures was composed at the rate of a lecture a day, each during the day before its delivery. They were never materially altered afterwards. Brown was at the time a young man, and, with such rapidity, it is wonderful that he should have brought together so much valuable matter as his system contains. How striking a contrast does the history of Phrenology furnish!

True, the labor is divided among many, but the many are kept in communication, more or less direct; their efforts tend to the same result, and the strength of the laborers is in their union. Now there is none, or next to none, of this among our philosophical laborers. One class gives itself no concern about the successes of another. The practical cares nothing for the rise and fall of theories; the speculator gives himself no trouble to look at the practical working of his schemes; the collector of knowledge neither seeks to know its uses, nor to bring them about. There is a great work to be effected—the improvement of man; but it is lost sight of in the multiplicity of its details, even by most of those who are engaged in it. They have divided the work so completely as to forget its real unity, and are each idly thinking to do all themselves, by working at some odd corner of it, instead of all combining with each other to carry on all parts together.

It is owing mainly to this cause that so many clashing theories of man, that so many opposite schemes for educating and governing him, have been at different times brought forward by men, themselves in all respects competent to solve the problems which these inquiries suggest. So long, indeed, as this cause continues to operate, the same result must follow. On the basis of internal consciousness, one man with great honesty of feeling, and comparatively less of reflective power, founds the doctrine of a moral sense, acting instinctively, as an integral part of himself, and hence of all men; another, with less of the feeling, and more of reflection, on the same principle denies its existence, and maintains a doctrine of utility. The benevolent man is apt to refer all honesty to kindness and good feeling; the religious man, to the influence of a creed; the ambitious, to the operation of society. Here, again, we see a philosopher dwelling on the insufficiency of the evidence for the existence of external nature; there, another declaring his entire satisfaction with it. The one is of a reflective rather than of an observing turn; and because unable to supply his want of observation by reasoning, rejects the evidence of his senses altogether; the other is an observer, and because of his observing powers, cannot do what belongs to the reflective, takes the directly opposite course, and laughs at speculations really true, though brought forward by his antagonist a little out of place. A third, whose mental constitution is, so to speak, more symmetrical, sees the fallacy of both, and gives a divided empire, reason and observation, the two sources of his own belief. There is no end to such diversities of doctrine. As matters stand, it is the great business of each of our public teachers to pull down the conclusions of their predecessors, that they may erect their own instead of them. This

procedure will continue till each philosopher is taught to widen the field of his observation, so as to embrace not only the peculiarities of an individual, but those of all men in all ages and places to which history refers—the entire range of the phenomena presented by his species, as contrasted with those of other animals, and viewed in connexion with those other varieties of a corporeal nature which are also observed between them. This is more than is attempted by the naturalist in his department. When a theory, or, in other words, a systematic natural history of man, is raised on this wide and deep foundation, it will be found to serve the purpose of our speculative moralists, and also of our practical men; and they, instead of elighting, as they now too often do, the physical department of their science, will carry it out to results, which shall be acknowledged by all as in the highest degree important to humanity.

But there is another defect in our present fashionable course, which should be noticed. We have been too apt to rest contented with mere general terms and statements, as if these were really knowledge, instead of being merely means for making knowledge easier of attainment by arranging its results. Useful knowledge is special in its character, and treats not of abstracts, but of concretes. Abstraction and generalization are but aids to our thorough conception of the particulars arranged. For a botanist to talk merely of organized matter, is not the way for him to benefit his pupil, or to communicate to them any useful information. He must descend to particular description in order to attain his object. Trees must be distinguished from other vegetable productions, the oak species from other trees, the particular kind of oak from every other kind, the peculiarities of each kind as influenced by the circumstances of the individual specimen. These particulars are what we make use of in real life. The general laws, as they are called, of nature, serve us only as they give us an easy clue to a vast multitude of them. How stands the case with our students of the mind? We read a vast deal about such abstractions as pain and pleasure, vice and virtue, emotions, perceptions, &c.; but is this all we want to know? There are different kinds of pain and vice, of feelings, powers, and senses. It is with these particulars that we have to do in real life, and the object therefore of philosophy should be so to generalize her statements in regard to them as to help us to recognize and distinguish them in the actual appearances which they present to us. This is not the case with the older systems of the schools, and hence, in part, their unprofitable character.

Such, then, are among the causes which may be cited to account for the existing prevalent neglect of the study of human nature. A question

may be raised as to the extent of their influence. Have all inquirers hitherto pursued the wrong course, or are there not some to be excepted from the censure? It is common among the adherents of the older schools to affect contempt for the newer pretensions of the phrenological system. Is this contempt justifiable, either on the score of their own pre-eminence, or of their opponents manifest inferiority? "First cast out the beam out of thine own eye," is a direction from a high authority. The men who, for so long a course of years, have gone on, one after another, all more or less mistaking both the object and the mode of inquiry into their own nature, are not the persons whose oracular mod is at once to sentence another system, and one better constructed than their own, to neglect.

We speak of Phrenology as a system better constructed than any of its predecessors. Is it not so? Regard it in all those points of view to which we have just subjected its rivals. After mature discussion, through a long series of years, in the course of which it has been assailed by men of abundant talent, and with very abundant zeal, it is now supported by a very large proportion of the scientific world, by a majority indeed, a large and overwhelming majority of those men of science who have ever really studied its merits. These adherents, in different countrys, of different creeds, with different mental powers and dispositions, under different influences of habit and education, do yet, in every essential point, agree, both as regards the results and the course of procedure of the first founders of their doctrine. Long before Stewart's death, Brown's system of philosophy had supplanted his in the halls of his own university, just as his own had in a great degree supplanted Reid's. The philosophy of Brown, in its turn, has yielded its supremacy, and is no longer received in the class-room which was once its own. But where is the supplanter of Gall, or Spurzheim, or Combe? It is true that in some things, even these three men do not wholly coincide; but on every leading point, on every thing essential to their doctrines, they and their followers agree as closely as, perhaps more so than, any equal number of inquirers into botany or chemistry, or any other of the admitted sciences.

The procedure in which they all thus coincide, is just that which we have marked out as deserving and receiving the sanction of the father of the inductive philosophy. They have studied and are studying man, in the widest sense of the term, all his powers and propensities, as variously modified in different individuals and nations, in different states of health and cultivation, and at different eras of time. They study man as one of the many species inhabiting the world, and compare and

contrast him throughout with his lower fellow-creatures. They study all these, his mental phenomena, thus brought together in every quarter, in connexion with the bodily phenomena which the hand of nature has connected with them; making the philosophy of the mind proceed soberly and steadily with the physiology of the brain, just as the philosophy of the senses does with the physiology of other portions of the nervous system. They have dispensed, too, with all those antiquated speculations of the older school, which the experience of ages has shown to be alike endless and unprofitable; and instead of aiming at vague abstractions, and expressing them by general terms, have sought always for those special truths on which only useful knowledge can be founded. Is all this error?

The results arrived at—are they too monstrous to be credited? Our enemies themselves being judges, do we not hear the system continually depreciated as an *ingenious speculation*, the organs *ingeniously located*, the names and definitions *cunningly contrived*? There has been no ingenuity nor cunning in the matter. Any one who will read may know that of all this supposed tact and felicity of speculation, not a trace was to be found till many years after the patient Baconian system of Gall and Spurzheim had been expended on its discovery. The objectors then used to complain of the unsystematic and irregular form of many of their statements. Now the complaint is in a new form. The plodding practical “men of skulls” are suddenly converted into ingenious theorists, to suit the convenience of those who, *per fas aut nefas*, are resolved on having an excuse at least for the rejection of what they do not like, because they do not happen themselves to be its discoverers.

But we will not quarrel with the objection. We are willing to take it as it is offered, and to urge it as the strongest proof of the doctrine which it is brought forward to oppose. “The harmony of a science,” says Lord Bacon, “supporting each part the other, is, and ought to be, the true and brief confutation and suppressions of all the smaller sort of objections.” It was never objected to Reid and Brown, or even to Kant or Cousin, that their doctrines are so ingeniously made to gain support from every page of the historian or dramatist, or to explain the acts and feelings of men, alone or in society, that they deserve to be laid aside unexamined by those who wish to understand and direct their fellows or themselves. The fact, undenied because undeniable, that Phrenology is a system suited to actual life, consonant in its several parts with the thoughts and language of practical men, that those who understand it, all insist on its constant utility to themselves in all their relations of life—this fact in combination with its equally notorious history as

being a result of many years of tedious and patient investigation, pursued as Newton, Davy, and Linnæus pursued theirs, is the convincing argument in its favor.

We return to the point from which we started. In our fashionable systems of education, at school, and at college, we neglect those studies which are founded on, and conduce to, the knowledge of human nature. This omission is productive of serious evils, and cannot be too soon corrected. So far as it concerns the doctrine of the metaphysical writers generally, it may be accounted for by the errors into which those writers have fallen. The sources of these errors have been avoided in the course of the phrenological investigations; and the arguments, therefore, recurs, that the omission we have noticed is to be supplied effectually only through its means. When the phrenological views shall have met with the attention their subject requires from the public generally, they will be taught and carried into practice by all, as they now are—we should say, better than they now can be, by the comparatively few who understand them. "*Knowledge is power.*" The source of man's greatest power will be found to be the knowledge of himself.

ARTICLE IV.

CASE OF LAURA BRIDGMAN.

The history and mental developements of Laura Bridgman, a member of the Massachusetts Asylum for the Blind, have already attracted considerable attention. She is now in the twelfth year of her age, and has from early infancy been entirely destitute of the sense of hearing and of sight, as well as the power of speech; in other words, she is *deaf, dumb, and blind*. Her case possesses great interest both in a physiological and phrenological point of view. But as all the more interesting facts in her history and character have been extensively circulated, and freely commented upon, in various works, we shall here refer to only one or two particulars.

In the last annual report of the Trustees of the Massachusetts Blind Asylum, may be found an interesting statement of some facts which occurred in the course of her education during the past year. This account is drawn up by Dr. S. G. Howe, (the Superintendent of the Institution) who is an able and experienced phrenologist, and who has

especially distinguished himself for his inventions and improvements for the instruction of the blind. It is fortunate that Laura Bridgman has fallen into the hands of a teacher and guardian, who is so peculiarly well qualified to understand her physical organization and mental qualities; and can, at the same time, describe and report the facts in her history to the public, in such a manner as to render them most valuable contributions to the cause of true science and philosophy. We apprehend that the more interesting and important points in her character are yet to be developed. Dr. Howe, in speaking of her progress in learning during the past year, says that a "perceptible change has taken place in the size and shape of her head; and although unfortunately the measurement taken two years ago has been mislaid, every one who has been well acquainted with her, notices a marked increase in the size of the forehead. She is now just eleven years old; and her height is four feet, four inches and seven-tenths. Her head measures twenty inches and eight-tenths in circumference, in a line drawn around it and passing over the prominences of the parietal and frontal bones; above this line the head rises one inch and one-tenth, and is broad and full. The measurement is four inches from one orifice of the ear to the other; and from the occipital spine to the root of the nose, it is seven inches."

Mr. Geo. Combe, who visited the Institution in the fall of 1838, and then again one year afterwards, says, on the last occasion, in referring to Laura Bridgman, "She has grown considerably in stature since last year, and I observe a distinct increase in the size of her brain. The coronal, or moral region, in particular, has become larger, not only absolutely, but also in proportion to the animal region. Her temperament is nervous with a little sanguine. The head altogether is of full size and well formed. The organs of the domestic affections are amply developed, and in the best feminine proportions. Self-esteem, Love of Approbation, Cautiousness, Firmness, and Conscientiousness, are all large. The anterior lobe of the brain also is large, and both the knowing and reflecting departments are well developed. The organs of Order are large, and she shows great tidiness in all her arrangements. I perceive a manifest and important improvement since last year. She manifests the most sensitive delicacy in regard to sex. When I placed my hand on her head, she was troubled and removed it; but she did not interest herself to remove a female hand. The natural language of her countenance expresses intelligence and happiness; and we were told that she is very happy."

Dr. Howe concludes his report of Laura Bridgman with some excellent remarks respecting her moral nature or sentiments. These observations

are so truly philosophical, and harmonize so perfectly with the principles of Phrenology, that we cannot refrain from presenting them entire in Dr. Howe's own language. Says Dr. H —There seems to have been in this child no innate ideas or internal moral principles; that is, in the sense in which Locke, Condilac, and others, consider those terms. But there are innate intellectual *dispositions*; and, moreover, *moral dispositions*, not derived, as many metaphysicians suppose, from the exercise of intellectual faculties, but as independent in their existence as the intellectual dispositions themselves. I shall be easily understood when I speak of innate *dispositions*, in contradistinction to innate ideas, by those who are at all conversant with metaphysics; but as this case excites peculiar interest, even among children, I may be excused for explaining. We have no innate ideas of color, of distance, &c. Were we blind, we never could conceive the idea of color, nor understand how light and shade could given knowledge of distance. But we might have the innate disposition, or internal adaptation, which enables us to perceive color, and to judge of distance; and were the organ of sight suddenly to be restored to healthy action, we should gradually understand the natural language, so to call it, of light; and soon be able to judge of distance by reason of *our innate disposition or capacity*. So much for an intellectual perception. As an example of a moral perception, it may be supposed, for instance, that we have no innate idea of God, but that we have an innate disposition, or adaptation, not only to recognize, but to adore him; and when the idea of a God is presented, we embrace it, because we have that internal adaptation which enables us to do so. If the idea of a God were innate, it would be universal and identical, and and not the consequential effect of the exercise of Causality; it would be impossible to present Him under different aspects. He would not be regarded as Jupiter, Jehovah, Brahma; we could not make different people clothe Him with different attributes, any more than we can make them consider two and two make three, or five, or any thing but four.

But, on the other hand, if we had no *innate disposition* to receive the idea of a God, then could we never have conceived one, any more than we can conceive of time without a beginning—then would the most incontrovertible evidence to man of God's existence have been wanting, viz. the internal evidence of his own nature. Now it does appear to me very evident, from the phenomena manifested in Laura's case, that she has innate moral dispositions and tendencies, which, though developed subsequently (in the order of time) to her intellectual faculties, are not dependent upon them, nor are they manifested with a force proportionate to that of her intellect. According to Locke's theory, the moral qualities

and faculties of this child should be limited in proportion to the limitation of her senses; for he derives moral principle from intellectual dispositions, which alone he considers to be innate. He thinks moral principles must be *proved*, and can be so only by an exercised intellect.

Now the *sensations* of Laura are very limited; acute as is her touch, and constant as is her exercise of it, how vastly does she fall behind others of her own age in the amount of sensations which she experiences; how limited is the range of her thought! how infantile is she in the exercise of her intellect! But her moral qualities, her moral sense, are remarkably acute: few children are so affectionate, or so scrupulously conscientious; few are so sensible of their own rights, or regardful of the rights of others. Can any one suppose, then, that without innate moral dispositions, such effects could have been produced solely by moral lessons? For even if such lessons could have been given to her, would they not have been seed sown upon barren ground? Her moral sense and her conscientiousness seems not at all dependent upon any intellectual perception. They are not perceived, indeed, nor understood—they are *felt*; and she may feel them even more strongly than most adults. These observations will furnish an answer to another question, which is frequently put concerning Laura. Can she be taught the existence of God, her dependence upon, and her obligations to Him? The answer may be inferred from what has gone before; that, if there exists in her mind (and who can doubt that there does) the innate capacity for the perception of this great truth, it can probably be developed, and become an object of intellectual perception, and of firm belief.

I trust, too, that she can be made to conceive of future existence, and to lean upon the hope of it, as an anchor to her soul in those hours when sickness and approaching death shall arouse to fearful activity the instinctive love of life which is possessed by her in common with all. But to effect this—to furnish her with a guide through life, and a support in death, much is to be done, and much is to be avoided! None but those who have seen her engaged in the task, and have witnessed the difficulty of teaching her the meaning of such words as *remember, hope, forget, expect*, will conceive the difficulties in her way; but they, too, have seen her unconquerable resolution, and her unquenchable thirst for knowledge; and they will not condemn as visionary such pleasing anticipations.

ARTICLE V.

PRACTICAL PHRENOLOGY DEFENDED.

BY O. S. FOWLER.

Ever since 1833, when the writer and his brother, L. N. Fowler, introduced PRACTICAL PHRENOLOGY, or the examination of heads, into this country, as a *distinct profession*, phrenologists have entertained conflicting opinions as to its merits. Some maintain that the science is capable of being applied to the ascertainment of the *leading* traits of character *only*, contenting themselves with pointing out here and there predominant qualities, and with philosophizing upon its application to education, to mental philosophy, criticism, legislation, insanity, &c., whilst they undertake to delineate character *in detail*, and attempt to describe the feelings, talents, tendencies to conduct, &c., of men, by means of their phrenological developments, including temperament, &c.

These philosophizing phrenologists maintain that this is impossible, because of the modifying influences of the temperaments, combinations of faculties, education, habits, regimen, associations, religious and other opinions and professions, conditions in life, and other circumstances, which render its application so uncertain, and its mistakes so numerous and palpable, that the credit of the science itself must suffer from such an attempt.

Now if this is really the case—if phrenology is thus uncertain and anti-Baconian—if its inferences are so often at variance with the characters of those examined, and, though excellent in *theory*, it is so uncertain in *fact* that its deductions cannot be depended upon, it is comparatively valueless—its students may as well close their books and cease their observations, its authors lay down their pens, and its advocates seal up their lips, lest it should pierce the hand that relies upon it. But from a daily and constant *personal* experience for many years, we affirm that this is by no means the case. On the contrary, multitudes, in all parts of the Union, are living witnesses to the fact that both in our public test-examinations and in our professional capacity, we have described themselves and their friends even more accurately than could have been done by a long and intimate acquaintance with them, or even by the individuals themselves; and this, too, *without* a knowledge of these other conditions above specified, but from the *developments alone*.

Whenever he can well do so, the phrenologist should by all means ascertain these modifying influences; otherwise he is liable to mistake, not so much the *natural* characteristics or talents, as their *direction* and

manner of exhibition. But by knowing these influences, the almost unerring precision with which he can portray, even in detail, the nicer shades in the character and conduct of men, must be truly astonishing to those who have never witnessed any such applications of the science. Many examinations of this character have already been recorded in the Phrenological Journal, but for a more complete and extended collection of facts on this subject, the reader is referred to our large work on "*Practical Phrenology*," or "*Phrenology Proved, Illustrated and Applied*," in which more than a hundred pages, including a table of the developements of marked heads, are taken up in stating the results of these examinations as compared with the characters of those examined.

It is true that where the developements are only commonplace, little can be said, and that little not emphatically; but even here, phrenology is as true to the *real* character and talents as it is in those that are more striking. Of course these ordinary heads should *never* be produced as *test cases*.

That practical phrenology has indeed great difficulties to encounter, is readily admitted; but the question at issue is, whether they are really *insurmountable*? This we deny. True, it requires an amount of study and experience, an adaptation of faculties, and a power of mind demanded by no other study or occupation whatever. If the students of law and medicine must study constantly some ten years before they can be admitted to practise, what amount of preparation—of both original talent and of acquired knowledge—are required to fit one for the practice of a science far more complex and extensive than both law and medicine united?—a science embracing within its vast range all the ever-varying emotions and mental manifestations of the human mind—all the never-ending phenomena of thought, feeling, opinion, and conduct appertaining to man! Let any one undertake to calculate, arithmetically, the number of changes that can be rung on the thirty-seven faculties in all their different degrees of developement, and he will find them to be inconceivably great, and the modifications produced by differences of temperament, habits, associations, parentage, &c., double even this vast sum many times over.

* Whilst, therefore, the utmost stretch of man's intellect cannot take into account *all* the phrenological conditions, any more than it can all the astronomical or chemical conditions and phenomena, the phrenologist certainly requires all the assistance that *he can possibly obtain*, together with a strong, an active, and a well-balanced mind. But *with* these helps, including a knowledge of those influences which modify, direct, restrain, and stimulate the several faculties, he *can* predict, with

accuracy, not only all the leading mental qualities, but also a great number and variety of their shades and phases. The fact is undeniable that relative size is *the ruling* phrenological condition, and that it will generally point out the true character and talents, these lesser conditions of temperament, education, &c., to the contrary notwithstanding. It *will* show the *natural* qualities, and these qualities "*will out*" more or less. Dr. Gall has fully established this point in his large work on the functions of the nervous system.

Again: phrenological books and publications alone, however scientific, or argumentative, or eloquent they may be, will never *force home* upon the minds of the *mass* of mankind a thorough conviction, and a complete knowledge, of the truth and importance of the science of phrenology. This great work can be accomplished *only* by its *practical application* to the delineation of *living character and talents*.

We grant that in Great Britain, where the means of knowledge are confined chiefly to the learned few whose minds are disciplined to close and protracted argumentation, scientific works and publications may perhaps form the most efficient and suitable agents for advancing this science, but in *this* country, where all are thirsting for information, yet do not take time to reason profoundly nor to read extensively, where practical observation, experiments, and matters of fact have taken the place of philosophical research, and lectures, of books, the voice of the living teacher must every where go forth accompanied with those *tangible* and *palpable* evidences of its truth which appeal to the senses, and which *experiment alone* can furnish.

Indeed, phrenology itself, in the wonderful adaptation its points out between the perceptive organs and the external world, shows clearly that observation and facts lay at the foundation of all knowledge, and; indeed, of all reasoning. Not only are the perceptive faculties the first called into exercise in childhood and youth, but their organs are usually much larger in the heads of the great majority of mankind, than are the reflectives. The scholastic jargon of the dark ages, their syllogisms, their "major" and "minor" premises, their sequitur and non-sequitur, their subtle disquisitions and endless elaborations, grew solely out of their substituting speculations for facts, and hypotheses for experiments, that is, in phrenological language, their exercising their reasoning faculties alone, instead of beginning with the exercise of the perceptive intellect, by observing and collecting facts. The perceptive faculties are the foundation of all certain knowledge; the reflective, the superstructure. The latter without the former, give the merely speculative, scholastic, abstract, theorizing, metaphysical, therefore-and-wherefore cast of mind

which of itself is valueless; but the perceptive faculties, exercised in observing, collecting, and retaining facts and materials, and the reflectives exercised in working them up into sound arguments and correct conclusions, constitute a well balanced and truly philosophical mind; give the true Baconian, inductive, a priori method of arriving at certain conclusions by ascending from facts up to first principles—the only possible means of arriving at scientific truth. This order of exercising the intellectual faculties, whilst it harmonizes with the constitution of the human mind and is perfectly adapted to the laws of nature, also gives correct judgment, sound common sense, and enlarged and correct views of subjects, whilst the exercise of the reasoning faculties unaided by the perceptive, causes the warped and inconsistent views, the intellectual lameness, and the fallacious and contradictory opinions existing among mankind. These remarks, which hold good in regard to all the sciences, and to every species of investigation, are *pre-eminently* true of phrenology; and the only means of sustaining phrenological societies, or of imparting permanent interest to the science, is for each member to observe and report *facts*, or coincidences between the developement of organs and their manifestations in feeling and conduct, in place of long winded essays and learned philosophical disquisitions.

The principle here stated will explain the want of interest in most, and the complete dissolution of many, phrenological societies, though conducted by men *eminent* for science and talent, and also serve as a hint to those who may form associations for studying phrenology. Even the great body of the common people, the mass, tired with gazing after the abstract and speculative, have caught the principle just explained, and hence the opinion pervades all classes, and is engraven upon every mind, that experiment and observation are the *only* tests of *truth*—that *facts* must *precede* reasonings—that perceptive intellect must observe the data before the reflective powers *can* draw correct conclusions; and therefore, that *theoretical* phrenology, like speculative metaphysics, is valueless. Accordingly, before the community in general, or even the educated portion of it, will listen to mere arguments adduced in its support, or imbibe the beneficial principles upon which it is based, they require to *see* its truth *practically demonstrated* by those who are experienced in the business and are competent to do it justice. And it is fortunate for phrenology that this is the case, because it is to this *experimental* tribunal *alone* that it makes its appeal.

Practical phrenology also enables every individual who wishes to test the truth of the science *in his own person*, to place his real character and talents side by side with his phrenological developements, and by

comparing the two together, to ascertain its truth or erroneousness. Much might be said on the advantages which practical phrenology offers for individual improvement, by presenting the only possible means by which we can obtain accurate and precise knowledge of ourselves—of the real and comparative strength of our mental faculties. And it requires no argument to prove that such knowledge is of the utmost importance in order to make any great proficiency in self-cultivation and improvement.

But the two following questions will place practical phrenology in its true light, and their answer decide its merits. First: Is the uniformity between the phrenological antecedent and its consequent, or between the condition and its accompanying mental manifestation, *fixed*, and *certain*, and *uniform*? Second: Can these conditions, or at least the leading ones, be observed during life? Every philosopher and every phrenologist must answer the first in the affirmative, or abandon the science as anti-Baconian. The second, Gall and Spurzheim have answered affirmatively in the very discovery of the science, and in pronouncing upon the characters and talents of men wherever they went. In fact, Gall never hesitated to express his opinion of the disposition and talents of every individual who wished it, or with whom he fell in company. Witness his visit to the prisons of Berlin and Spandean, where he examined several hundred prisoners, describing accurately their characters, and even the crime in most instances for which they were imprisoned. Spurzheim was also ready on all occasions to test the science practically by examinations.

PRACTICAL phrenology is therefore sustained. It is indeed the Alpha and the Omega of the entire science—both the foundation and the superstructure of the whole edifice, and nothing but this same despised *practical* phrenology can either improve or advance it a single iota. Nothing else can prevent the science from becoming as theoretical, and speculative, and spiritless, as metaphysics now are—nothing else adapt it to the common mind or the present age—nothing else add to its facts or keep it to the true standard of NATURE—the only great storehouse of truth. Why then deride *practical* phrenology? rather let it be hailed as the only bulwark and anchor of the science.

We admit, indeed, that through its medium, many mistakes, occasioned by the carelessness, or inexperience, or obtuseness of the examiner, or by an imperfect acquaintance with those examined, are saddled upon it, which is thus made a scape-goat for the sins of them all. The phrenologist may also find mechanical, or oratorical, or other powers, of which the community in general, and even the individual himself, may be

ignorant. Had a phrenologist ascribed to Patrick Henry before his debut, those transcendent powers of eloquence which he afterwards evinced, he would have been scouted as an impostor, and but for the circumstances which called them out, they might never have developed themselves. Mankind undoubtedly *possess* much more talent, and moral feeling, and integrity, than they manifest in action. But the phrenologist tells us what they *possess by nature*, not what they exhibit, and hence is often considered wrong when he is in fact right. On the other hand, he may sometimes ascribe bad qualities to those who may have artfully succeeded in wearing plausible exteriors. As an illustration of this remark, we would refer to the examination of Benjamin Rathbun of Buffalo, N. Y. Some years since, when that individual was doing a business of several hundred thousand dollars, and was regarded as one of the most honest and trust-worthy men in the whole country, it happened that in company with others, he submitted himself to a phrenological examination. The phrenologist, (being blindfolded) described him as greatly deficient in Conscientiousness and possessing very great Acquisitiveness; that he was prone to dishonesty, and was capable of being a swindler on the largest scale. This was unanimously pronounced as a most egregious mistake, and loudly did the opponents of the science then triumph. But within the short space of two years, this same Rathbun was convicted for committing a series of the most extensive and complicated forgeries ever known.

But it is the envy, and even animosity, existing among men, and the consequent partiality with which they judge each other, that constitute by far the greatest difficulty which the phrenologist encounters. If he ascribes to an individual superior talents, or high moral worth, an evil-eyed neighbor, or a warm political opponent, will consider the examination a total failure, because it did not make him out a real rascal; whilst a *friend* will regard it as perfectly correct throughout. When both friend and foe, and also the individual himself all agree, and the science itself, not its imperfect practitioner, comes in contact with them all, then, and not till then, should an occasional failure be considered a sufficient loop to hang a doubt upon: provided its decisions are in the main correct. This is sufficient to prove and establish the practicability as well as utility of its practical application.

For several years past we have been accustomed to put phrenology to the severest of all tests, namely, that of making examinations *blindfolded*. To this, many judicious phrenologists have strenuously, and perhaps justly, objected, alledging that the examiner imperiously demands *at least* the perfect use of all his *senses*, and also a knowledge of the

temperament. Examining without the eye is indeed like running a race on one foot, impeding his progress, and rendering him liable to stumble; but let it be remembered that he has a mass of incredulity and prejudice to contend against; that his other hits are attributed to his shrewdness and knowledge of human nature, physiognomy, &c.; that by these blindfolded tests *only* can this class of objectors be reached; and that, if successful, they are *seen* and *felt* to be conclusive and final, leaving no grounds of appeal, no room for evasion. If decidedly marked subjects are brought forward, (and on *no* account should any others be selected,) the natural character, besides being strongly indicated upon the head, *will* burst forth *spontaneously* in action and expression, disdaining all artificial restraints, so that no mistakes need occur. In such cases we never fail to hit the true character, and find them to be productive of deeper and more universal conviction than any other means that can be employed.

But these philosophizing, anti-practical phrenologists still farther object to this "examining heads," and "charging one dollar per caput," alleging that it lowers down the dignity of this high-toned and pre-eminently philanthropic science, by prostituting it to the degrading level of a mere catchpenny humbug. Now if practical phrenologists had no *bills* to pay, if they were not compelled to eat and sleep like other men, or if they had their thousands in bank, and could live upon the interest of their money, they might indeed afford to spend their time in prosecuting this noble science *gratis*. But every man must live by his calling, and the practical phrenologist no more compromises the dignity of his science by requiring pay for services rendered, than the lawyer degrades the law by requiring his fee, or the physician by sending in his bill.

But to charge "fifty cents per lecture," and "five dollars for the course," and to require "three hundred subscribers" beforehand at that, and to hold phrenological works twenty-five per cent. higher than other books, not only does not compromise the dignity of the science, but is even deemed necessary by some in order to impart dignity to it; whilst to take pay for *examining heads*, furnishing a chart, and indicating upon it the relative size of one's phrenological developments, greatly "alters the case," and savors strongly of quackery and humbuggery. Now the *fact* is that to require pay for examining the head no more degrades the science than to take pay for books or lectures, or for services rendered in any other profession or calling. The laborer, here, as well as elsewhere, "is worthy of his hire."

When in Boston, the immortal Spurzheim expressed his opinion that the time would come when phrenology, in common with medicine, and law, would become a regular profession, having not only its professorships

in our seats of learning, but its regular practitioners in our cities and villages, who would be consulted by parents touching the education and choice of occupation adapted to their children, and by persons employing apprentices, servants, &c., as much as the physician now is in sickness. This very state of things, this *practical* phrenology is *now* producing.

No one, however, can regard with deeper indignation, or hold in higher contempt than the writer does, this getting a smattering of phrenology, and going about the country *merely* to *make money*. This practice has become a very common, but is a most despicable one, and constitutes one of the greatest barriers which obstructs the onward progress of this noble science. But the season for such empiricism has nearly gone by. Such pretenders cannot now, as formerly, rely upon the mere novelty of phrenology for their success, and hence are fast becoming unable to defray expenses; and judicious minds will not hold the *science* responsible for their blunders. But to say the least, this examining heads affords a great amount of innocent amusement, and a very interesting subject of conversation and discussion; and, more than any and every other method that could be devised, is calculated to promulgate the science by bringing it in a tangible and exciting form before the community at large. And may it not be that the extraordinary rapidity with which a knowledge of, and a belief in, its doctrines have spread throughout our country within the last eight years, is owing *mainly* to this same cause?

MISCELLANY.

Mental and Moral qualities transmissible from Parents to Children.—This is the title of a series of articles now being published in the Mothers' Magazine, at New York. It appears by an editorial note, that they are extracts from a work in manuscript prepared by a Lady on the subject, and which will ere long be published. It is truly gratifying to find so much good sense and sound philosophy emanating from such a source; and, judging from the specimens here presented, we predict it will be a work of no ordinary interest and value. We sincerely hope that the female sex, as they value their own happiness and the best interests of the race, will take up this subject and examine it thoroughly; they will find that it involves principles of the highest magnitude—principles which are a part of the will and moral government of God, and which, when correctly understood and generally obeyed, will constitute the most efficient means which can possibly be brought into operation for the improvement and elevation of man as an intellectual and moral being.

Professor Smith of New York.—An able and extended review of this gentleman's Select Discourses on the Functions of the Nervous System, is now in progress of publication in the Boston Medical and Surgical Journal. The writer under the signature of "Candidus," notices Professor Smith's objections to Phrenology in a manner which, to say the least, cannot be very gratifying to their author. Says the reviewer in relation to Dr. Smith's whole course of procedure: "He has, we may be allowed to say, set up a man of straw, of his own foundation, and then proceeded, *secundem artem*, to demolish it; but he has left unscathed the system of phrenology as taught by its advocates. He "expunged" from their propositions enough to render them vulnerable, and then set fiercely to work to overthrow, not the doctrines of phrenology, but such as he himself has substituted in their place; and then in conclusion, from his lofty perch, chanticleer-like, he crows "*Io triumphe*," and chuckles over his victory!" And after noticing another objection, the reviewer adds, "We regard our author's whole course of reasoning on this subject as disingenuous, unfair, and consequently unsound. He first misinterprets, then perverts, then attacks. It resembles more the quibbling, the petty pleading of a third-rate petty-fogger, than the manly reasoning of a philosopher, intent upon truth, and not victory."

British Phrenological Association.—This body held its annual meeting the first week in June, the particulars of which have not as yet come to hand. The meeting, we learn, was fully attended; Dr. Conolly, formerly Professor in the London University, and who is distinguished as a writer on Medicine, was chairman; Dr. Otto, of Copenhagen, who stands at the head of the medical profession in Denmark, and who has long been an able and decided advocate of Phrenology, was present and addressed the meeting. Dr. Charles Caldwell, from the United States, was also present and made several speeches. A very interesting report of the proceedings of this Association may soon be expected.

Phrenological Almanac for 1842, by L. N. Fowler.—This little annual is already before the public, and contains a great amount of valuable reading matter. This work, though small, and seemingly unworthy of notice, is calculated to be of essential service in advancing Phrenology, and we are happy to learn that from present prospects, it bids fair to have a very extensive circulation the ensuing year.

The Northern Light for July—a monthly periodical published at Albany, N. Y.—contains a well written article on Mental and Moral Philosophy. The writer, S. S. Randall, Esq., speaks of the old systems of philosophy as "abstract conceptions of isolated intellect, captivating, indeed, and beautiful to the fancy, but cheerless and uncongenial to the heart;" while Phrenology is spoken of in terms of warm commendation.

First-Book of Natural History, prepared for the use of Schools and Colleges, by W. S. W. Ruschenberger, M. D. This is an excellent elementary work on Anatomy and Physiology, illustrated with numerous plates, and should have an extensive circulation, as it justly merits.

EDITORIAL NOTICE.

The present number closes the subscriber's connection with the American Phrenological Journal and Miscellany. With the exception of the matter contained in the first number of volume 1st, he alone is responsible for whatever has appeared in its pages; but with what success or ability the work has been conducted, it is left for the public to judge. While many things have conspired to render his editorial duties arduous and difficult, he has been constantly encouraged and cheered on in his labors by the patronage and communications of the friends of the science, as well as from an increasing conviction, on his own part, of the truth and importance of the principles which he has labored to disseminate. In taking his leave of the Phrenological Journal, he would embrace this opportunity to tender his kind regards to its readers generally, and to the conductors of the public press in particular, for their favorable notices of the work; and, especially, he would return his grateful acknowledgments to all whose contributions have enriched its pages, hoping they will find their reward in the satisfaction of having advanced the cause of truth and science.

N. ALLEN.

PROPRIETOR'S NOTICE.

In closing the third volume of the American Phrenological Journal and Miscellany, its proprietors may be allowed to say, that, thus far, its expenses have exceeded its receipts *by several thousand dollars*. Indeed, so great and unremitted have been their sacrifices in sustaining it, that one of them, L. N. Fowler, feels compelled by a sense of duty, to decline any farther responsibility on its account. But though from its commencement it has called into requisition only to exhaust his utmost energies, even to the neglect of his family and to the injury of his health, still the other proprietor feels that he really *CANNOT yet* give up this moral lever, this means of good, for which he has so long lived and labored, be the sacrifice what it may, short of life.

"It is NOT with the desire or expectation of GAIN," therefore, but it is partly because he loves Phrenology as he loves his own life, and this Journal as its life-guard, and partly in the hope that the friends of the science, not by good wishes alone, but *by their subscriptions and exertions in its behalf*, will yet place it upon a permanent foundation, but *mostly* to advance this science of sciences by rescuing from oblivion its most valuable facts and suggestions, that he will *sustain it ANOTHER YEAR*, thereby continuing the probation which it holds out to phrenologists in which to solve the eventful problem: **WILL THE AMERICAN PUBLIC SUSTAIN A PHRENOLOGICAL JOURNAL?**

O. S. FOWLER,
L. N. FOWLER.

N. B. For particulars as to some contemplated changes, the reader is referred to the pages following the index.

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