

THE SAINT LOUIS MAGNET.

Vol. 1.

SAINT LOUIS, APRIL 1, 1846.

No. 12.

PROGRESS OF SCIENCE.

Electricity, Galvanism, and Magnetism, are fast becoming the ultimate of motive power. Horse power, water power, and even steam power, are becoming too gross, too slow and sluggish, for the doubly refined, and lightning-propelled minds of the nineteenth century. Telegraphic speed is now the order of the day. The good old days of plodding along at a snail's gallop, when every thing was to be met, and nothing to be overtaken, have gradually given place to innovations, until the simple expedients of the olden times have been gradually dropped, and now, instead of the stone in one end of the bag, and the meal in the other, the Yankee notion of meal in both ends, and frequently in the middle too, has dethroned the stone, and even expunged its name from the pages of history, in the balancing operations of going to mill—a great saving of time and unnecessary weight. Water power succeeded the necessity of horse power; but think ye that it was not combated and denounced as a *humbug*, by those who believed horse power to be the *ultimate* of perfection? but water power triumphed, and took the first seat in the synagogue, and for many a long day it sat as supreme judge over all other innovations which sought to snatch the imperial crown from his head. But after a mighty struggle, in which many well contested battles were fought, steam came in for a full share of the *motive* power, and the kingdom was equally divided between these formidable rivals. But, unfortunately, neither water power nor steam power, like the generations of their respective ages, have learned any charity for succeeding innovations, which may possibly supplant them both; as do succeeding generations supplant those of preceding ages.

Electricity and its modifications, as motive powers, though in an *adolescent* state, are already viewed with a jealous and suspicious eye, and every inch of ground is disputed and contested with all the monopolizing power of two great monarchs. But Electricity, Magnetism, &c.,

are more *etherial* in their characters — more *sentient* in their operations, and consequently more consonant with the present improved, refined, and lightning travelling minds of the present age.

Horse power, water power, steam power, as well as all the more gross and rude materials of nature, are gradually giving way before the refining power of the arts and sciences. Agriculture, in its rude and unimproved simplicity, was nothing more than the digging up of the ground with sharpened sticks. The seeds were rudely and unscientifically sown, awkwardly cultivated, indifferently preserved, and vulgarly devoured. But Time moved on with his refining wheels; the constitution of our globe has gradually improved, and kept pace with the wheels of time in their revolutions. The vegetable kingdom has steadily kept pace with the constitution of the globe. The animals partake of the nature of the food upon which they live, and consequently have kept pace with the vegetable kingdom; and man, the crowning perfection of nature's works, combining within himself the elements of the whole, omniverous in his character, possessing the nature of all, in both extremes—their uses and abuses, in every variety of combination—harmonizing, not only with the vegetable and lower animal kingdoms, in their present improved condition, but also with the present improved condition of the constitution of the globe itself.

Hence, we perceive the *rationale* of the improvements of the day, which are connected with the past, and linked to the future. Man, in his language, has gone through thousands of modifications—innovation after innovation has come and gone, in words and their significations; in sentences, and their grammatical constructions; in ideas, their truth and falsity. Languages have risen and fallen. Theory has supplanted theory. The philosophy of to-day is passing off the stage of action, preparatory for the philosophy of to-morrow; like the waves of the ocean, they are rolled up by the breezes of heaven, only to be swallowed by the mighty abyss of time.

In dress, man has not been less capricious; the dress of each preceding age has appeared absurd and monstrous to the next. The same is true of all mechanical operations, one improvement succeeds another in such quick succession, that the inventors have scarcely time to reconcile the wonderfulness of the invention with the incredulity of the age, until it is eclipsed by some invention more wonderful still; and thus the excitement is kept up, and the mind is carried along, at telegraphic speed, through the rude and uncouth operations of the primitive ages, in a regular series, and connected chain of improvements, down to the highly refined and polished operations of the present day.

Take up the pages of history, and through them as a telescope, exercise the mental eye. View man in his primeval simplicity, before art and its imps, (*or the evil one*) insinuated its winding (*or serpentine*) devices into his peaceful and contented abode, (*or the Garden of Eden.*) In those days of simplicity, man's physical constitution was unimpaired by disease. No taint of the forbidden fruit, (*the abuse of the passions,*) had ever manifested itself through the physical and mental operations of Adam and Eve, (*or the first man and woman,*) and their posterity. Man was then a beautiful machine, erect in his form, noble in his countenance, and hale in his constitution. No physical ailments preyed upon his vital organs—man was physically great. His mental power partook of the same character—quick in his perceptions—retentive in his memory, and correct in his reasoning—the triune powers—the three great divisions which constitute the man. 1st, the physical system; 2d, the vital principle; and 3d, the mental power, were each healthy—perfectly organized and adjusted to each other. No morbid or diseased desires manifested themselves, through either thought, word or action. Then did man enjoy the fruits of the earth in disinterested happiness.

The physical law was obeyed, and man lived and died free from bruised bodies and broken bones;—pains, aches, and soreness were strangers in the land.

Man walked forth as strong as the lion and as elastic as the nymphs of the morning.

The organic law was then obeyed, and man lived, until the vital machinery was naturally worn out by the friction of its own continual motion,—when he as gradually and as imperceptibly sank down into the grave, as he had gradually grown into manhood. No affections of the heart to produce timidity; no diseases of the liver, to render man melancholic; no disease of the kidneys, to disable and enfeeble; no disease of the stomach, to sicken; no disease of the lungs, to flatter and increase the hopes for life, while death was severing the last chord upon which life was suspended; no inflammation of the brain, to disenthroned reason, while it carried its victim down to a maniac's grave. In this healthy condition did man go forth to till the ground, and gather the innocent fruits of his labor.

The moral law was obeyed, and man cultivated a due degree of respect for his fellow man. His benevolence was exercised, and he divided with and assisted those whose condition required his assistance to make their condition equal with his own. Hope was exercised, and to-morrow always came provided with a sufficiency to satiate our natural wants. Conscientiousness was exercised, and justice was dealt out to

all. In short, to love mercy, deal justly and walk humbly with the truth, was the order of the day. No loud and hypocritical professions were made in high places; no pharisaical prayers were made at the corners of public streets; no wolves prowling about in sheep's clothing, to rob the flocks of their fleeces; no fleeces, (*money*) then required to carry on the works, of the Lord, (Priests); no Devil to scare the people to be good; no *fire and brimstone* to punish them for being bad;—but one eternal round of just harmonious nature was universal and complete, man came forth from the dust of the earth, “in the Lord’s own appointed way,” and to the dust did his body return, and “the spirit to the God who gave it.”

The intellectual law was obeyed, and man exercised his perceptive faculties, and observed all the operations of nature, and discovered that he could not create or annihilate anything; that he could only decompose and recompose—*modi y*. His retentive faculties were exercised, and his observations were stored up, and remembered. His reflective powers were exercised, and memory was drawn on for facts, which were analyzed and synthetised, compared and justly disposed of. His constructive faculties were exercised, directed by reason, and all the conveniences of the age were spoken into existence. Under the guidance of reason, prompted by Acquisitiveness, Ideality, Approbativeness, &c., were the arts and sciences cultivated and improved, until man walked abroad the very image of greatness; like the sun in the meridian, he shone forth with unalloyed refulgence, surrounded by all the blessings of a beneficent world. He had nothing more to do, than to continue in the obedience of these *great* laws of nature, and pure unalloyed happiness would have remained his eternal and immutable companion from the cradle to the grave.

But, alas, the serpentine insinuations and desires of the passions of the mind, Avaritiveness, Alimentiveness, Combativeness, Destructiveness, &c., tempted man, and overcame his moral and intellectual faculties, and he partook of the forbidden fruits,* and did eat even to gluttony, which destroyed the equilibrium of the three great powers which constitute man; the seeds of disease were sown henceforth in the vital organism—man no longer walked erect in the image of his Creator—he found himself groping about in the dark alone, blind and halt. The organic law violated and the penalty was attached—man was brought low *upon the sick couch*—a violent fever parched his skin, and pain racked his body. Hence, the son of man, (*the doctor*) was sent by his heavenly father (*the goodness of his own nature*), with glad tidings of great joy, (*health and long life*), to all who should believe, return and be obedient to the simple law of our nature. But man has not believed—he would sooner continue

* What is meant here by forbidden fruits, is the abuse of every thing which may be used. It was only the abuse which was forbidden, not the use.

in the gall of bitterness, and follow some far-fetched and empirical views, indicated by a morbid condition of the selfish passions, than to return to the simplicity of his nature; obey the organic law and reap its rewards—health and happiness. The son of man, (*the doctor*), whose province it was to redeem man from his fallen and diseased condition, from *sympathising* too strongly with his patients, became equally contaminated and liable to disease, and not only failed to redeem and save the world from disease and premature death, but was actually taken captive by disease, tried—condemned—and crucified between two malefactors, empiricism and quackery, (*or ignorance and design*.) Since which time the human family have been left unguarded and unprotected, against the wiles of disease, which has gone on committing its ravages upon the constitution of man until there is no soundness in him. Sickness, pain and premature death cover the earth as the waters do the mighty deep.—Henceforth Doctor after Doctor appears direct from heaven, (*or the starting point*), with the balm of Gilead, (*or the heaven-born medicine*) the very touch of which converts disease into health; and such are its sanative powers that the whole human family are abroad, jocund and gay, with imaginary health and happiness; all singing praises to the heavenly deliverer, who has thus timely mediated between them and death, and opened up the way for their safe delivery and return to health and happiness. And it is not until they have puffed the doctor into a princely fortune, and given him full assurance of their whole-souled gratitude, by swallowing his millions of *nostrums*, that they, to their great astonishment, find themselves still blind, sick, pained, and sore; and as a demonstrative proof of the wonderful efficacy of the doctor's *nostrums*, the far greater proportion of them are in due time gathered to their fathers, the promised *heaven* of the faithful, where all diseases are blotted out with one dash of the pen, which records the facts by blanks!

But the time has not passed yet for the arising of heaven-born missionaries, neither in medicine nor religion. They have both ascended and descended; or, in other words, they have come from above and below, according to the peculiar notions of the respective ages in which they appeared. They are now coming, and they will continue to come, as long as doubt and uncertainty are convertible into articles of traffic, and greedily exchanged for truth, [*or one hundred cents to the dollar*.]

Each age must give birth to its great discoveries, and each discovery must have its discoverer. Nature does not work without tools, any more than doctors do without *nostrums*, divines without *creeds*, or lawyers without *tautological formula*. Nature is now about to exercise this noble function—her creative power. A great and magnanimous discovery is about to burst

upon this age—one which will turn the doctors *topsy-turvy*, and convert their empyrical and butchering operations into a mild, efficient and harmless practice—a system in which opinion and presumption will be exchanged for knowledge, and doubts for certainties.

Every effect will have its cause, and every cause will have its antidote. The old astrological notions of the ruder ages, will give place to the simple philosophy of the nineteenth century. The world is ripe for it. Inquiry, examination, and discussion, have awakened a latent interest, which is spreading wider and deeper, until the whole civilized world has become aroused to its importance and necessity, and are now, at this moment, anxiously awaiting the appearance of the second coming of the *King of Heaven*, who is to banish the monster, Death, with all his torturing imps, from the face of the earth, and leave man as we found him before his passions triumphed over his reason—healthy, happy, and wise.

This great *personage* has been promised ten thousand times, and as often has the world presumed it beheld him; and as often has it been disappointed. Perfection does not belong to any age nor its philosophy. Progressive improvement is the order of nature. There probably never was an age in which great practical discoveries followed each other in such quick succession. The imponderable agents have been snatched from their hiding places, and have burst upon the astonished world, productive of the most *etherial* and glorious effects. Yet every new discovery in its turn has been pronounced a *humbug*, when in reality the generation thus sitting in judgment is the *humbug*—it is they who are found to be in the wrong and not the principle discovered. Even Christ and his doctrines were pronounced a *humbug* by the Jews, and *crucified* for his innovations !!!

But notwithstanding all this, the world steadily advances, and those principles which are considered the *humbugs* and innovations of this age, become the *settled* principles of the next. Time rolls on, and prejudice after prejudice gives way, and innovation succeeds innovation, until the people have become reconciled to the fact that innovations constitute a part of the immutable operations of nature. And now, instead of repulsing every new discovery and denouncing it as a *humbug*, they are anxiously and impatiently awaiting the appearance of this remarkable *personage* which has been so frequently promised,—

AND HERE HE IS—

The Electrical theory of health and disease—the duodynamic practice of medicine—the science of healing the sick, not by poisonous drugs thrown into the stomach, which irritate and corrode the delicate membranes of the vital organs, producing congestion and death;—but by vibratory motion,

produced by the negative and positive *forces* passed through the part affected—healthy actions are produced, disease removed, and health speedily restored. No draining of the vital fluid — no nostrums to be swallowed — no death struggles to be witnessed between disease and the doctors!! “The vale is rent in twain, from bottom to top.” The darkness of obscurity is exposed to view. The light is reduced to its simplest element, and presented without alloy. From the days of Hippocrates, medicine has been practised by the wise of the earth. It has been taught in schools for more than two thousand years, yet it has changed more than a hundred times since the days of Galen. Every age has its innumerable schools, and every school has its two or three infallible remedies, upon which it depends for the removal of every disease; finally, modification succeeds modification, as fast as one generation of physicians succeeds another. Each school, and each generation; and indeed each practitioner denouncing the practice of the other, proving conclusively, that there is neither science, order, beauty, certainty, nor advantage to be derived from such a heterogeneous mass of corrupted nonsense.

But it is not good policy to pull down without building up. When Christ came on earth, he said, “I came not to destroy the law, but to fulfil it.” Such should be the policy of every philanthropist, to build up that which he believes to be true, leaving error to fall with its own ponderous weight. Upon this principle we design to act, however our motives may be questioned. Lest we monopolize too much of this number, we reserve our theory, to commence with the next number.

MEDICAL.

CLAIRVOYANT EXAMINATION OF MRS.—BY CHARLES EAKER.

Disease:—“This patient is inclined to inflammatory actions—The blood determines too much to the lungs, and very frequently to the head—the lower extremities become very cold. There is too much serum in the blood—it is of a watery consistency. The patient labors under great difficulty of breathing; especially when under the influence of the least cold. There is severe pain in the left side, and also in the left shoulder under the Clavical bone. Great irregularity in the menstrual secretions.—The Euterine organs are quite morbid, and require correcting. The lungs are sympathetically affected.—The air cells in the left lobe are considerably contracted. The liver is not sufficiently active, and the digestive organs are consequently feeble and do not perform their functions properly.”

Remedies.—One oz. Dandelion (*Leon todon Tarazacum*,) $\frac{1}{2}$ do. Blood root, (*Sanguinaria Canadensis*) add one quart of water and boil down to three pints, drink half a gill three times per day."

2d. "Two oz. of Sarsaparilla, (*Aralia Nudicaulis*] two do. Pleurisy root, *Asclepias Tuberosa*, Skunk Cabbage, *Ictodes Fœtida*, one do., Blood root, *Sanguinaria Canadensis* two and a half do., Wild Cherry bark, *Prunus Virginiana*, two do., Liverwort, *Hepatica Amricana*, three do., Hoarhound, *Marrubium Vulgare*, two and a half drachms Copsicum; add water and boil till all the strength is obtained, reduce to three pints, and add loaf sugar, and best spirits to make a syrup. Take table spoonful three times per day."

3d. "Three drachms of Sulphate of Iron, *Ferri Sulphas*, five do. Carbonate of Potash, *Potasæ Carbonus*, make into four grain pills. Take one three times per day—gradually increasing the quantity to three per dose."

4th. "Blister on the back between the shoulders."

5th. "Sponge the system over once per day with tepid saline water, taking care to rub the patient thouroughly dry with a coarse towel or flannel."

6th. "It will be necessary for the patient to take a gentle emetic once per week, for two weeks. This course with care in dieting will soon restore to health."

We here submit another case examined by the same clairvoyant, which also proved very successful. The case was a desperate one, and one of long standing. "This patient is nearly blind; the optic nerves are very weak; one is too far gone to be restored—the right one; the other may be restored, to some extent, by careful treatment. There is a dark aqueous matter secreted from the bloodvessels of the eye and deposited between the retina and the aqueous humor in which the eye swims. This serves very much to obstruct the vision, and unless prompt treatment is resorted to the patient must soon become entirely blind. The disease arises from a scrofulous and rheumatic humor which exists in the blood. In the first place, he felt a pain above the eyes. The eyes are improved by the action of the machine, which serves very materially to strengthen the optic nerves and remove the humor. The right eye might be operated on surgically, but there is great danger, and would not advise it now. There was at one time a great inflammation in this eye, and that was the time to have removed the difficulty. It is now too late to do anything for this eye, but the other may be improved. The nerve of this eye is very weak, and must be gently roused into action. The blood is in a bad condition, and does not circulate equally—it determines too much to the head, in the region of the eyes.

Prescription.—"The patient should take an active cathartic, once per week, of cream tartar and mandrake, (*podophyllum peltatum*.)

2. $\frac{1}{2}$ oz. Tincture of Capsicum, $\frac{1}{2}$ do. Tincture of Iodine, in which put one drachm of Belladonna; rub this well in round the eye and back of the neck, every morning and evening. Bathe the head well with cold water before using the liniment. Bathe the feet every night in hot water, and once a week apply to the eye a poultice of slippery Elm and stramonium leaves, wet with spirits. Use the magneto-electrical machine once per day, taking care to apply the negative pole to the eye, and the positive to the back of the neck. The patient must be careful not to strain his eyes by looking at objects. Must not go out in the hot sun, as it causes the blood to flow too strongly to the head, and by this means irritates the eyes. His diet should be light, principally vegetable, and his drink cooling. No liquor or coffee, as either serves to inflame the blood. Should be bled in the feet once per week for three or four weeks, taking one pint of blood at each bleeding."

We have found the use of this machine very efficacious in removing weakness and dimness from the eyes; also inflammation, and even cata-ract. If it does not effect an entire cure in every instance, there is no case in which we have used it in which it has not proved beneficial. The great forte of this machine is to rouse a thorough and complete action in any particular part, or throughout the whole system. In order to rouse an action through the whole system, it is necessary to apply the positive pole to the bottom of the feet, and the negative pole to the back of the neck. The feet had better, in most instances, be placed in hot water. This will prove successful in rousing an action in general; and at the same time serve very materially to equalize the circulation. I have applied it in this manner, in cases of determination of blood to the head, producing the most decidedly beneficial results in a few minutes. In cases of consumption, where the hectic glow was strongly depicted on the cheek, we have caused it in the same manner to pass off in ten minutes, leaving the cheek quite pale; and every time the machine was applied, the flush would return less vividly. We have succeeded in removing several difficult cases of this character; and we are very sanguine in believing that, where this disease is not too deeply seated, by the aid of Clairvoyance and this machine, we can, in far the greater number of cases, produce a perfect cure.

We have in several instances applied this machine very successfully in cataleptic fits. In every case of derangement of the catamenial discharges, it has proved entirely successful. One application removed a case of six months standing; but in most cases it requires several judicious

applications. This machine, although simple in its application, requires as much skill in its use, for producing the best results, as does the giving of medicine.

These small vibratory and rotary Galvanic Batteries, which from their cheapness are falling into every bodies' hands, are destined to injure, and for a time almost entirely ruin, the Duodynamic practice of medicine.—These batteries have not sufficient power in chronic cases to produce a re-action in the system, especially where unscientifically applied. But when properly applied, they are capable of producing very fine results in many instances. The magneto-electrical machine is, however, unparalleled in its power and efficacy in every class and degree of disease.

The vibrations produced by this machine, in the system, are more full and flowing. The effects are quicker, more readily perceived, and more lasting. No remedy or class of remedies has proved so successful in our hands as this simple machine.

METEOROLOGY.

ANCIENT HISTORY OF THE SCIENCE.

By the Senior Secretary to the Meteorological Society.

The early history of Meteorology is involved in much obscurity and uncertainty. The first cultivators of this important science did not arrive at the true cause of those interesting phenomena to which they were eye witnesses; consequently they made but little progress, partly from their ignorance of astronomy, and partly from the want of instruments necessary to make observations. Among the most ancient promoters of the study of Meteorology we find Theophrastus, a celebrated botanist and physician, who collected all the popular prognostics of the changes of the weather that were current in his day; to which he prefixed the most ancient ones that are to be found in the Bible: the whole of which Aratus put into Greek hexameter verse in his "Diasema." These Virgil expressed in the most elegant language in his "Georgics." Lucretius copied many of them into his celebrated book, "De Rerum Natura." Aristotle, Plautus, Seneca, and Lucan, also, accurately took notice of, and recorded, atmospheric phenomena. Thus we find both Greeks and Romans handing down these popular opinions. More modern philosophers have written commentations on all these authors, and expatiated largely upon them in copious notes, and varied illustrations. Still Meteorology made no progress as a science. The object of their observations was to enable them to predict with greater certainty the future changes of the weather; indeed, this is the most useful purpose to which Meteorology

can be applied ; but we do not possess, even at the present time, sufficient data to do this with any degree of certainty. Shepherds, husbandmen, mariners, and others, whose employment kept them almost constantly in the open air, and who had made themselves familiar with the most popular prognostications of the ancient philosophers just referred to, could foretel with greater certainty what sort of weather was coming than their most scientific philosophers and meteorologists : hence they formed a sort of intermediate code of prognosticating rules, founded partly on the ancient traditions, and partly on experience. We find too, numerous little sayings, proverbial adages, and quaint expressions respecting the weather, which have been handed down from the remotest antiquity ; but many of which, from a departure from the ancient writers, and from repeated introductions of new adages, after a lapse of a few centuries, lost their force and dwindled into mere absurdities.

The ancient writers, the authors, or collectors of those adages which had reference to the changes of the weather, founded their prognostics upon their imperfect notions of astronomy. The periods of the heavenly bodies were made use of to measure the parts of the year, and their regular returns were accurately compared with the periodical returns of terrestrial phenomena, and used to designate the year, the months, the days, the hours, and the seasons. Ephemerides, calenders, and almanacs, of all kinds, began to be constructed for the purposes of determining the several seasons and the occupation of the husbandmen in each ; hence we find, in all the ancient works on this subject, numerous astronomical allusions and references to the great antiquity of the constellations, all of which bear testimony to the importance attached to this science, if at that time it could be justly so termed, by our forefathers. Their agricultural occupations were regulated by the rising and setting of the constellations of the zodiac, and others, that were very conspicuous in the heavenly vault ; they then compared these daily phenomena with the arrival of birds, the flowering of plants, and other natural phenomena, and thus laid the foundation of the ancient rustic calenders. Virgil alludes in the commencement of, and indeed throughout his "Georgics," to the celestial signs of the seasons. He says :

—"quo sidere terram
Vertere, Mæcenas, ulmisqueadjungere vites conveniat."

"Under what star we may prepare the ground,
And when to elms the grape vines may be bound."

And to the sailor he says :

"Navita tum stellis, numeros et nomina fecit,
Pleiades, Hyades, claramque Lycaonis Arcton."

"The sailors quartered heaven, and found a name
For every fixed and every wandering star,
The Pleiads, Hyads, and the Northern Car."—*DRYDEN*.

These observations must have been a source of amusement and advantage, both to the shepherds, the husbandmen, and the mariners of old: who, being constantly exposed to the heavens, in a fine climate, and beneath an almost perpetually serene sky, had innumerable opportunities of watching the various changes of the length of the days, the progress of the seasons, and the atmospheric phenomena connected with them. The science of the celestial signs is ascribed by Cicero to the Assyrians and the Babylonians. Other writers ascribe it to the Indians and Egyptians. Of this, however, we are not satisfactorily informed, but we have seen that it was earnestly cultivated both in Greece and Rome, at a very early period. Steering vessels by the stars is among the earliest recorded facts in the history of navigation; so is the planting, sowing, and gathering-in the fruits of the earth by the stars, among the earliest records of agriculture. The ancient mariner had his fixed index of the north pole—the "Tyrian Cynosure:" he watched for the "rainy Hyades, the stormy Orion, and the signum pluviale capellæ." He knew, by the rising of the "Pleiades," when the seas would be open for sailing; he guarded against the coming storm by the setting of "Arcturus," and the rising of the "Hoedi." He knew the hour of the day by the altitude of the sun, and he kept the watches of the night by looking well to the position of "Ursa Major." The husbandmen, too, marked the different seasons by the overflowing of the Nile; for "Sirius, or the Dog-Star," admonished him of its approach: by the setting of "Pisces," and the return of the swallow, he marked his season of spring. In short, every rustic operation had its admonitory sign, and the husbandman regulated his labors for every month in the year by the signs of the zodiac. The shepherd was equally dependent on the movements of the heavenly bodies. He had his Pascal "Aries," and his star of "Arcady." He unfolded his flock with the morning ray of "Phosphorus's," and watched at eventide for the "star that the shepherd fold."

ELECTRICITY.

Continued from page 220.

In the experiments on excitation, (given in the ninth and tenth numbers,) three things are to be considered.

First — How it is, that if the electric fluid is so easily excited, its effects are not always visible.

Secondly — How can these various effects be attributed to the same cause.

Thirdly — What is the real cause of them, or of electrical effects in general.

This last proposition we may now discuss. The others will need for their full elucidation the electrical machine. We refer, therefore, under the first and second heads, to the forthcoming chapters on electrics and conductors; and electrical attraction and repulsion. We have now rather to do with

THE CAUSE OF EXCITATION.

It will have been observed, that, wherever we have shown friction, there has also been separation of contact; and upon a strict examination it will be found, that, although the rubbing of two dissimilar bodies together may, and does, occasion the electric fluid to be disturbed, yet it is only when these bodies are held apart, that each is found to put on electrical appearances. We say each, for although only one may appear excited, yet it will soon become apparent that both are equally affected, though in a different manner, as will be explained hereafter. Thus in *Ex. 1* the brown paper is the one body, and the coat the other. In *Ex. 7* the ribbons are excited by the hand, and it is when the hand is drawn away from them that they show themselves electrical; so also in *Ex. 8*, the comb passing over the hair must certainly be separated in turn from those particular parts it touches in its course along, and not till then is it seen that those parts are electrical; and thus in every experiment there is not merely friction, but separation of the parts rubbed together; were it not so no electrical appearance would be perceived, as is clearly proved by

THE SULPHUR CONE.

This apparatus is formed from a large wine or ale glass. This is cleaned, and a part of the outside covered with tin foil. A wire is twisted round this covered part, and bent so as conveniently to hold a pair of pith balls suspended on very fine wires, or on linen threads. Withinside the glass is to be poured melted sulphur, to about the same height, or a little above the edge of the tin foil, and the end of a glass rod, or else of a silk cord, dropped into the sulphur while melted.

Ex. 23. — Lift up, by the glass, or silk handle, the sulphur within the conical glass, and at the moment of separation the pith balls will diverge, or separate from each other. Let the sulphur drop down again into the glass, and this action of the balls will cease. Again produce a separation of contact, and they will again diverge; and thus, for a considerable time, the alternate action will be kept up, even indeed for days and weeks.

Ex. 24. — Take a piece of glass, about five inches long by three inches broad — warm it, wrap tin foil all over it, and rub the outside of the tin foil smartly with the hand. The glass thus excited, held to the cap of Bennet's gold-leaf electrometer, will not show any electrical effect while it remains wrapped in the tin foil, but if this be removed, and the glass alone be presented, the gold leaves will instantly diverge.

Ex. 25. — Varnish one side of a piece of glass — when quite dry and hard scrape off some of the varnish with a knife, on to the cap of the electrometer. The electric fluid, rendered apparent by the separation of contact between the varnish and glass, will be indicated, as before, by the divergence of the gold leaves. Were it needful to illustrate this principle more strongly, the experiments with the *Electrophorus* and *Circular Rubbing Machine* are conclusive.

THE ELECTROPHORUS,

Which may truly be called the cheapest and simplest electrical machine, which is of real value, is described, and may be made as follows:—

Procure a round piece of tin, about ten inches over, and have the edge of it turned up about a quarter of an inch, so as to be capable of holding some of the following mixture, (which is to be mixed together,) one pound of yellow rosin, and two ounces of wax. This being poured into it, and suffered to cool, one part of the *Electrophorus* will be complete. Next provide a round plate of wood, about a half an inch thick, and six or seven inches over, which must have a smooth edge, and without any sharp points or angle, cover this with tin foil, and fix a glass rod to the middle of it as a handle. This may altogether cost fifty cents, and is a really useful electrical machine, capable of showing all the fundamental facts of the science.

Ex. 26. — To excite it, warm and wipe the glass handle, and also the resinous plate. Rub this briskly with a warm flannel, and put the wooden plate upon it, holding it by the glass handle — Touch the wooden plate for a moment with the finger, and it will be full of the fluid in a disturbed state, not, however, apparent until the wooden plate is lifted up, when a spark may be taken from it — put it down again, touch it with the finger, and lift the plate up again, (first removing the finger,) and a second spark may be taken, and so on for a considerable length of time.

Ex. 27.—Fasten near to the edge of the upper plate of the Electrophorus a bent wire, bearing on the end of it two suspended pith balls—whenever the upper plate is removed from the lower, both being excited and touched with the finger as above directed, the pith balls will be violently repelled from each other.

Ex. 28.—If the resinous plate be excited and placed upon a glass stand, and two pith balls be suspended from the rim of it—whenever the upper plate is lifted up, these balls also will diverge, showing that the lower plate only appears excited, when separation of contact ensues.

THE CIRCULAR RUBBING MACHINE

Consists of a square frame of wood, supported by a square foot, having a circular rubber or cushion stuffed with flannel and covered with leather, which is turned by a handle at top. This rubber rests upon a plate of glass, about eight inches in diameter. The under surface of the glass has pasted upon it a round piece of tin foil, three or four inches over, with two pith balls hanging by fine wires or a thread from the centre of it.

Ex. 29.—Prepare the apparatus by warming the glass, and spreading a little *amalgam* on the cushion—turn round the handle, which will produce a friction, and excite the glass. In this state there will be no appearance of the fluid being disturbed, until the cushion be lifted up, when the balls will diverge—placing it down again their motion will cease, and thus they may be alternately moved, by producing and separating contact.

Amalgam.—Melt in a ladle half an ounce of zinc. When melted, add and stir up with it two ounces of quicksilver. When cold, pound it with a little wax or grease, when it will be fit for use.

To be continued.

A HINT.

“ADRIAN was the first emperor who wore a long beard, and this he did to cover the warts on his face.”

Such is the origin of most of our fashions. Some diseased or malformed persons of fortune and distinction find it convenient to hide the odiousness of disease, or the unsightliness of malformation, by some particular fashion in dress, which would be less disgusting to the observer, than the appearance of the disease, or malformation. And this is made sufficient reason for the healthiest or best formed person in the community to ape the example which serves to improve the appearance of one, while it renders the thousands ridiculous—subverts their judgment into mere imitation, converting the man into a baboon, and the woman into a

monkey. To this succeeds profligacy, dishonesty, luxury, idleness, disease, and perhaps death closes the scene, when the curtains drop, and the *monkeys* and baboons are forgotten!

It appears as hopeless to reclaim a fanatic by persuasion as to convince a heretic by stripes. It is fruitless to dispute where men are not agreed upon principles. A fanatic is singly guided by his own internal motive or instinct, which he terms his conscience and his call. He lays no stress upon his understanding, and, therefore, it is idle to reason with him. A different kind of cure is hereby required from that to be used with a heretic. A physician, in this case, may be more successful than a divine. I take fanaticism for a real disease, or a kind of hypochondriacal affection. Experience shows, that those we commonly call the enlightened, have usually their bodies overloaded with bile and corrupted humors. Many fanatics have been cured by medicine, so as totally to lose their gifts of prophecy or commissions, and again become sound members of the community.

DEATH WARRANT OF CHRIST.

The *Courier des Etats Unis* of a late date says: 'Chance has put into our hands the most imposing and interesting judicial document, to all Christians, that has ever been recorded in human annals; that is, the identical death-warrant of our LORD JESUS CHRIST. We inscribe the document from a copy of the translation;

SENTENCE

Rendered by Pontius Pilate, acting Governor of Lower Gallilee, that JESUS OF NAZARETH shall suffer death on the cross.

In the year seventeen of the empire of Tiberius Cæsar, and the 25th of March the City of Holy Jerusalem: Annas and Caiaphas being priests, sacrificators of the people of God, Pontius Pilate, Governor of Lower Gallilee, sitting on the Presidential Chair of the Prætorium, condemns JESUS OF NAZARETH to die on the Cross between two thieves — the great and notorious evidence of the people saying —

1. He is a seducer.
2. He is seditious.
3. He is an enemy of the law.
4. He calls himself falsely the Son of God.
5. He calls himself King of Israel.
6. He entered into the Temple followed by a multitude bearing palm branches in their hands.

Order the Centurian, Quintus Cornelius, to lead him to the place of execution.

Forbid any person, whomsoever, poor or rich, to oppose the death of Jesus.

The witnesses that signed the death of Jesus, are :

1. Daniel Raboni, a Pharisee.

2. Joannus Horobable.

3. Rhapdel Robadt.

4. Capat, a citizen.

Jesus shall go out of the city by the gate 'Strenuous.'

The above sentences are engraved on a copper plate; on one side is written these words :

'A similar plate is sent to each of the tribes.'

It was found in an antique vase of white marble, while excavating in the City of Aquilla, in the Kingdom of Naples, in the year 1825, and was discovered by the Commissariat of Arts, attached to the armies of France.

At the expedition of Naples it was found enclosed in a box of ebony, in the sacristy of Cuartem. The French translation was made by the members of the Commission of Arts. The children requested earnestly that the plate might not be taken from them. The request was granted as a reward for the army. M. Denon, one of the savans, caused a plate to be made of the model, on which he had engraved the above sentences, it was bought by Lord Howard, for five thousand eight hundred and eighty-four francs,

TASTE FOR SCIENCE.

A mind which has once acquired a taste for scientific inquiry, and has learned the habit of applying its principles readily to the cases which occur, has within itself an inexhaustible source of pure and exciting contemplations; one would think that Shakspeare had such a mind in view, when he describes a contemplative man as finding

Tongues in trees, books in the running brooks,

Sermons in stones, and good in everything.

Accustomed to trace the operation of general causes, and the exemplification of general laws, in circumstances where the uninformed and uninquiring eye perceives neither novelty nor beauty, he works in the midst of wonders : every object which falls in his way elucidates some principle, affords some instruction, and impresses him with a sense of harmony

and order. Nor is it a mere passive pleasure which is thus communicated. A thousand subjects of inquiry are constantly arising in his mind, which keeps his faculties in constant exercise, and his thoughts perpetually on the wing, so that lassitude is excluded from his life; and that craving after artificial excitement and dissipation of mind, which leads so many into frivolous, unworthy, and destructive pursuits, is altogether eradicated from his bosom. It is not one of the least advantages of these pursuits, which, however they possess in common with every class of intellectual pleasures, that they are altogether independent of external circumstances, and are to be enjoyed in every situation in which a man can be placed in life.—The highest degrees of worldly prosperity are so far from being incompatible with them, that they supply additional advantages for their pursuit, and that sort of fresh and renewed relish which arises partly from the sense of contrast, partly from experience of the peculiar pre-eminence which they possess over the pleasures of sense, in their capability of unlimited increase and continual repetition, without satiety and distaste. They may be enjoyed, too, in the intervals of the most active business; and the calm and dispassionate interest with which they fill the mind, renders them a most delightful retreat from the agitations and dissensions of the world, and from the conflict of passions, prejudice and interest, in which the man of business finds himself continually involved.—SIR JOHN HERSHEL.

HUMAN LIFE.

Dr. Caspar, of Berlin, says, that the longevity of females is greater than that of males. He shows that the medium or average duration of life, has increased considerably in most European cities of late years.—In London this increase is great, for it would seem that within the last century, probable life has increased by twenty years.

Another important agent or influence on the probable duration of life, is *marriage*. It is proved by Caspar, that the marriage state is favorable to longevity, and especially in reference to the male sex. He adds:

The so called climacteric periods of life do not seem to have any influence on the longevity of either sex.

The medium duration of life is, at present, in Russia, about 21 years; in Prussia, 29; in Switzerland, 34; in France, 36; in Belgium, 36; in England, 38 years.

In reference to the influence of professions or occupations on life, it seems that ecclesiastics are, on the whole, the longest, and medical men the shortest lived. Military men are nearly between the two extremes;

but yet, proportionally, they more frequently than others, reach very advanced years.

The mortality is very generally greater in manufacturing than in agricultural districts.

The mortality among the poor is always greater than among the wealthier classes.—*The World in a Pocket Book.*



BROCCHERI WATER TESTED.—The efficacy of this fluid in staunching wounds, and restoring severed arteries, was fully established in New-York on Monday week, according to the testimony of the Courier and Enquirer, in presence of the editors, and Drs. Washington, Hosack, Wilkes, and other physicians. Dr. Barabino, of the United States navy, opened the carotid artery of a sheep, by a long transverse cut, so that the blood spouted. “A pledget of wool, plucked from the back of the animal, was laid and *lightly* held on the wound, and the water was then plentifully applied. In a few minutes the flow of blood was checked—in ten minutes more it had ceased—in twenty minutes the pledget was withdrawn, not without some effort, owing to its strong adhesion to the part, and the wound was free from blood, and the artery closed! In twenty-three minutes the animal was walking about the yard.” A second experiment was made upon another sheep with similar success. These are the *facts*, as the editors of the Courier testify.

It is said that 2 ounces of brandy, 2 drachms of soda, a little sugar and water, form as good a styptic, as the Broccchieri water. It operates (as alleged) by powerful action on the blood, a good way *within the vessel!*

In a paper read before the Paris Academy on the treatment of sores and ulcers, it was stated that albumen plays the chief part in external and internal diseases, and alone forms the cicatrice and all the formation of the tissues. If an ulcer be touched with nitrate of silver, or other metallic salt, the metal will be found in a state of oxide, which shows that the acid has quitted its base to fix upon the albumen, the true vegetable alkali.

The article on “Gambling and its Consequences, with the comments upon the same by O. S. Fowler, in the preceding number, was copied from the “American Phrenological Journal.” The fact that the proper credit was not given at the time, was overlooked.

We have received the prospectus of the "WESTERN MEDICAL TRUTH-TELLER," edited by W. T. LINN, M. D., to be published simultaneously at Greenville and Hillsborough, Illinois. The mediums of information are multiplying and keeping pace with the growing energies of our country. The effect upon the intelligence of the people is as notorious as a May shower upon a half-blown rose. The former is as necessary to the development of mental power, as the latter is to the development of leaves and flowers.

TERMS.—The Western Medical Truth-Teller will contain 16 large octavo pages, issued semi-monthly, on fine super-royal paper, convenient for preservation and binding. Making a volume of 416 pages of great value, title-page and index, at the extremely low price of ONE DOLLAR per annum,  INVARIABLY IN ADVANCE.  But in case payment be delayed six months, \$1 50, twelve months, \$2 00 will be required.

STAMMERING.—If any one addicted to stammering will inhale the air copiously, or draw in his breath strongly, he will find no difficulty in speaking easily and without stammering. Words cannot come from the mouth without the lungs have their power, and that they cannot have without a sufficiency of air.

TALENT AND GENIUS,

BY SIR E. L. BULWER.

Talent convinces—Genius but excites ;
 This tasks the reason—that the soul delights.
 Talent from sober judgment takes its birth,
 And reconciles the opinion to the earth.
 Genius unsettles with desires the mind,
 Contented not till earth be left behind.
 Talent, the sunshine on the cultivated soil,
 Ripens the fruit by slow degrees and toil.
 Genius, the sudden Iris of the skies,
 On clouds itself reflects its wondrous dyes ;
 And to the earth, in tears of glory given,
 Claps in its airy arch the pomp of heaven !
 Talent gives all the vulgar critics need—
 From its plain horn-book learn the dull to read,
 Genius, the Pythian of the Beautiful,
 Leaves its large truth a riddle to the Dull—
 From eyes profane the lovely Iris screens,
 And fools on fools still ask—"what Hamlet means?"