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ELECTRICAL THEORY OF HEALTH AND DISEASE, OR
THE DUODYNAMIC PRACTICE OF MEDICINE.

[Continued.]

Having solved the problems of health and disease in the preceding number, we now proceed to the solution of a more difficult problem, (*ie.*,) how the healthy organ or body becomes diseased?

It will be recollected, that no organ or body, either organic or inorganic is created, or sustained independent of law. Every organ or body must be created in harmony with a fixed and immutable law, which, we agree to call the organic, because we perceive that *that* law governs organized bodies; or rather, we observe, that organized bodies are governed by a law, which we agree to call the organic, because organized bodies are governed by fixed and immutable principles, which we term law. As, for instance, we observe that the application of fire to the organic body invariably produces excess of heat, and consequently pain, and if carried too far, would produce death. The application of ice would produce excess of cold, and consequently pain, and, if carried to too great an extent, death. So of blood letting, if carried to a certain extent, syncope, and if carried too far, death is the invariable result. Hence, it will be perceived, that what we mean by the organic law is certain, fixed, and immutable principles, which govern organized bodies. We, of course, confine our remarks to the highest order of organized beings.

It will now be evident to the reader, that if the body composed of organs obeys the law which governs those organs, it cannot suffer any penalty. Therefore, neither pain, debility, nor any other form of disease would be known to organized beings. Disease, then, is a penalty attached to a violated law. The word law would be but an unmeaning term, without a penalty attached to the violation of its demands; in fact,

without a penalty, it would be no law, neither in civil cases nor natural and divine.

But, this thing of violated law bringing on disease, is something the majority of the world does not comprehend. Shortly after we located in St. Louis, we took boarding with a respectable family, with whom a maiden lady resided. This lady* was in the habit of calling our attention very frequently to the many sufferings to which she was heir. Having become somewhat tired of listening to the repeated detail of her ailments which was but little more than *inui*, originating out of sedentary habits, we finally replied to her on one occasion, that the body was created and existed in harmony with immutable laws, the violation of which caused us much pain and suffering. That the best advice we could give her would be to study those laws and obey their mandates, and health and happiness would be the result. To this advice which was given in the best possible spirit, she replied: "I have violated the laws no more than you have. I guess I am as law abiding as some others who talk so much about law—I have never killed any body, nor robbed any body—neither have I cheated any body." We expostulated with her, observing that we did not refer to the civil law, but to the divine laws, or laws of nature. But this explanation did not serve to appease her wounded feelings, she became more indignant still, and observed: "I belong to church, I read my Bible, I study the Divine Laws, and I believe I am as obedient to them as most persons." Finding we could not disabuse her mind in respect to the correctness and kindness of our advice, and that she still remained indignant at the idea of being a *law breaker*, we changed our boarding house, and left the maiden lady to enjoy the misery or happiness of laws violated or obeyed, for the want of ability, or the right spirit to comprehend the true principle of law, health, and disease. Since that time, we have been particularly careful in conversing upon laws, and the necessity of their obedience in respect to health; especially before the unthinking and bigoted class of community. Pardon this digression, and we will return to our proposition.

We think we have clearly shown, that it is the violation of the law which governs organic bodies that causes them to become diseased. But the most interesting and valuable part of this proposition is to show how this law is violated, to bring on the various diseases which afflict the human body.

It will be understood, that every organ of the body, or faculty of the

mind, was designed to be exercised in harmony with its peculiar functions, and to that degree which nature teaches us to be prudent. This prudence constitutes the organic law. Now, if an organ either of the body or mind, is not sufficiently exercised, this prudence or organic law is violated, and the organ becomes debilitated, and consequently diseased, and this debilitation or disease will be in proportion to the want of prudence or in proportion to the violation of the organic law. The same would be the fact, if an organ should be exercised too much. An organ may be rendered feeble and diseased by either cause. In the first instance, there is not a sufficient quantity of the nervous or magnetic fluid generated to produce health and strength; and in the second, the nervous or magnetic fluid, or more properly speaking *vital galvanism*, is expended, or thrown off faster by over exercise than it is generated by the natural processes of the body. *

For the want of room in this number, and time to do this problem justice at present, it will be concluded in the next.

ELECTRICITY.

[Continued.]

Before we can proceed with our experimental researches on Electricity, it is necessary to consider some of the fundamental laws by which the fluid appears to be governed; and first as to the difference perceptible when various bodies are subject to electrization. It will have been remarked that the experiments previously given refer only to particular substances, and were they attempted with other bodies, failure would be the result. Numerous failures of this description attended the labors of the first electricians, and early taught them that only certain substances were capable of being excited; these obtained the name of

ELECTRICS.

These, it was supposed, at first, were the only bodies which contained the electric fluid, because in them alone could it be made visible. This is a conclusion natural enough in the infancy of a science, but which in its advance was proved to be incorrect, for it is now known

* The natural processes, by means of which this *vital galvanism* is generated, will be considered in a separate article, under the caption of the electrical theory of the circulation of the blood.

that all substances whatever, by taking proper precautions, can be excited, or made to exhibit electrical properties. Notwithstanding this, as totally different means must be adopted in each case, the characteristic term *electric* is still properly continued, and is intended to designate such bodies, as being rubbed, show for some time afterwards the effect of the fluid's disturbance. This is because electrics are of such a nature that the fluid is *not conducted silently away* over their surfaces, but rests there until some other better conducting body draws it off.

Thus we divide all bodies into the two classes of *conductors* and *non-conductors*; or *electrics* and *non-electrics*; the former parting immediately with any fluid given to them, and the latter retaining it so as to be apparent to the senses. Thus air is an electric or non-conductor, were it not so, electrical experiments would be unknown, the fluid being dissipated as fast as it is accumulated; water, on the contrary, is a good conductor, hence the necessity of keeping the apparatus dry, that the disturbed fluid may be retained. Metals are the best conductors, therefore we use them for such parts of our electrical machines as are intended for the transit of the accumulated fluid. Glass and silk are electrics, or non-conductors, consequently are available as bodies to be excited, and as capable of preventing its escape and dispersion. Thus of an electrical machine the connexion between the cushion and the earth is a metallic chain or wire, to allow of the passage upwards of electricity, the glass cylinder being rubbed sets it free, the brass or tin conductor collects it, and its glass support *insulates* it, and thus prevents its escape to the earth again.

It will be evident from the foregoing remarks that a knowledge of the individual conducting powers of all substances is requisite to a right understanding of the first principles of the science, and that even the simplest experiments may be conducted with success. The following table presents a series of conductors and electrics, beginning with those which have the greatest conducting power, and terminating with those that have the least. The order in which they possess the power of insulating is of course the reverse of this; that is to say, the best or most perfect electrics are at the bottom of the table. It may also be observed that the middle of the table exhibits bodies almost neutral in their properties, being but very imperfect conductors, or very slight electrics:

The most perfect or least oxidable metals.

The most oxidable metals.

Charcoal—especially from hard wood.

Plumbago, or blacklead.
The mineral acids.
Metalic salts and oars.
Water, and other liquids; and snow.
Living vegetables and animals.
Smoke, soot, and steam.
Rarified air and flame.
Dry earths and stones.
Pulverized glass.
Flowers of sulphur.

Dry metalic oxydes.
Oils.
Vegetable and animal ashes.
Ice; when cooled down to 13° Fah.
Phosphorus.
Lime, dry chalk, and marble.
Caoutchouc, camphor, and bitumen.
Silicious and argillaceous stones.
Porcelain.
Baked wood.
Dry atmospheric air and other gases.
White sugar and sugar candy.
Dry parchment and paper.
Cotton.
Feathers, hair, and silk.
Transparent gems.
Glass.
Fat.
Wax.
Sulphur.
Resins.
Amber and gum lac.

It will be seen from the above, that a particular substance may be an electric in one state and a conductor in another, thus glass and sulphur are both excellent electrics when in masses, but when pulverized become imperfect conductors. So green wood is a conductor; baked wood a non-conductor; baked still more into charcoal a conductor again; and when in the state of wood ashes a non-conductor once more. Many bodies also are conductors merely because they contain water; thus almost all highly-dried animal, vegetable, and mineral matters are non-conducting, as dried glue, parchment, bone, ivory, hair, feathers, horn, tortoise shell, wool, silk, gums, resins, wax, cotton, sugar, &c. &c. are electrics, yet as soon as either of them becomes damp, a conducting

property is communicated, hence the necessity of well drying electrical apparatus when in use ; and also the same fact shows the reason that machines of this kind act so imperfectly in damp weather, or in a room before a crowded audience, whose breath quickly settles in moisture upon the various electrics around. Too great heat also impairs the insulating effect of glass, &c., for although it will not, in ordinary temperatures suffer the fluid to pass along its surface, yet when heated to redness it becomes a good conductor ; and so also is baked wood made very hot, melted resin, hot air, &c.

To discover if a body be an electric or not, hold it against the conductor of a machine when charged, if a spark can now be taken by the knuckle from another part of the conductor, the substance under examination is an electric, if not it is a conductor. If a liquid, a gas, or a powder is to be tried, inclose it in a glass tube ; should the spark not now pass, it will be known to have been conveyed away by the liquid, &c., under trial.

[*To be Continued.*]

The following article is extracted from a London publication entitled "The Popular Record of Modern Science." The book from which the extracts are taken is written by Professor Gregory, of Edinburgh, a gentleman held in high estimation for his Scientific acquirements, and a son of the celebrated Dr. Gregory.

RESEARCHES ON MAGNETISM.

A contribution to science, of far more than ordinary interest, has this week been furnished by Professor Gregory, of the University of Edinburgh, in a comprehensive statement of the researches of Baron Von Reichenbach on "Magnetism and certain allied subjects."* It appears that, while traveling on the continent last summer, Dr. Gregory's attention was attracted to a detail of Baron Von Reichenbach's experiments, just published in the "Annalen der Chemie und Pharmacie," a periodical of the highest rank, conducted by Baron Liebig and Professor

* Abstract of "Researches on Magnetism and on certain allied subjects," including a supposed new imponderable. By Baron Von Reichenbach. Translated and abridged from the German, by William Gregory, M. D., F. R. S. E., M. R. I. A., Professor of Chemistry. Edinburgh, 1846.

Wohler. The conclusion to be derived from these experiments were of the most unexpected and startling character; but Dr. Gregory being aware of Reichenbach's character for minute accuracy and untiring perseverance, and of his reputation among chemists, in consequence of his laborious and successful researches on the tar of wood and of coal, which made us acquainted with creosote and many other new compounds, could not for one moment hesitate to receive the facts on which they rested. He felt anxious, therefore, on his return to Scotland in October last, that these experiments should be made known, and while preparing a translation of Reichenbach's statements, he took the opportunity of describing, in two lectures to a numerous audience, a considerable part of the results obtained. The fame of these lectures spread to London, and coming as it did at a time when discoveries by Faraday and Hunt had already excited the public mind upon the subject, the greatest interest was felt for further information. This information is now supplied, and it is of a character to awaken the liveliest gratification, as opening up a new and inexhaustible field for philosophical inquiry.

Baron Von Reichenbach's experiments originated in his having the opportunity of studying a patient, Madlle. Nowotny, aged 25, subject for eight years to increasing headaches, and latterly affected with cataleptic fits, accompanied with spasms. She possessed a remarkable acuteness of the senses, could not endure the daylight, and in a dark night perceived her room as well lighted as it appeared to others in the twilight, so that she could even distinguish colors.—She was also very sensitive in various ways to the influence of the Magnet. Struck with these things, and remembering that the aurora borealis appears to be a phenomenon connected with terrestrial Magnetism, or electro-magnetism it occurred to him that possibly a patient of such acuteness of vision might see some luminous phenomenon about the magnet, Dr. Von Eisenstein (the physician in attendance?) afforded every facility, and experiments were accordingly commenced.

“The first trial was made by the patient's father. In profound darkness, a horse-shoe magnet of nine elements, capable of carrying eighty pounds, was presented to the patient, the armature being removed; she saw a distinct and continued luminous appearance, which uniformly disappeared when the armature was applied.

“The second experiment was made as follows, on her recovery from a cataleptic attack, when the excitability of her senses was greatest. The room being artificially darkened, and the candles extinguished be-

fore the fit was ended, the magnet was placed on a table, ten feet from the patient, with the pulse upwards, and the armature removed. None of the bystanders could see any thing whatever, but the patient saw two luminous objects, one at each pole, which disappeared on joining the poles, and re-appeared on removing the armature. At the moment of breaking contact, the light was somewhat stronger. The appearance was the same at both poles, without any apparent tendency to unite. Next to the metal she described a luminous vapor, surrounded by rays, which rays were in constant shooting motion, lengthening and shortening themselves incessantly, and presenting, as she said, a singularly beautiful appearance. There was no resemblance to an ordinary fire; the color of the light was nearly pure white, sometimes mixed with tridescent colors, the whole more like the light of the sun than that of a fire. The light was denser and brighter towards the middle of the edges of the ends of the magnet, than towards the corners, where the rays formed bundles, longer than the rest. I showed the patient a small electric spark; this, she said, was more blue, and left on the eye a painful and lasting sensation, like that caused by looking at the sun, when the image of the sun is afterwards seen on every object."

These experiments were repeated, sometimes with a weaker magnet, nothing being said to the patient, who then saw only two luminous threads; the first appearances, however, always returning when the original magnet was substituted. As she regained strength, her impressibility diminished. After some time, she saw nothing more than a kind of flash when the armature was removed, and eventually her recovery put an end to further experiments.

Dr. Leibig, clinical professor, now obtained for the Baron the means of experimenting with Madlle. Sturmann, a patient aged 19, suffering from consumption, and subject to the lower stages of somnambulism with attacks of spasms and catalepsy, and she proved still more sensitive than Madlle. Nowotny.

"When the magnet (capable of supporting eighty pounds) was placed six paces from the feet of the patient, (then in bed,) in the darkened ward and the armature removed; the patient then quite conscious, gave no answer, having instantly fallen into a state of spasm and unconsciousness. After an interval, she came to herself, and declared that the moment when the armature was withdrawn, she had seen fire rise from the magnet, which fire was the height of a small hand, white, but mixed with red and blue. She wished to examine it more closely, but the

action of the magnet (the circuit being then not closed) instantly deprived her of consciousness. On account of her health, the experiment was not repeated."

A lad subject to frequent convulsions, was the person next experimented upon, and with somewhat similar results. The next was Madlle. Mair, aged 25, suffering from paralysis of the lower extremities, with occasional spasms, but exhibiting no other derangement of the nervous functions. As often as the armature was removed from a large magnet in the dark, she instantly saw the luminous appearance above the poles, about a hand breadth in height. Her sensitiveness increased when she was affected with spasms, and she then not only saw the light at the poles much larger than before, but she also perceived currents of lights proceeding from the whole external surface of the magnet, weaker than at the poles, but leaving in her eyes a dazzling impression which did not for a long time disappear.—This was the fourth confirmation of the existence of the magnetic light. The sensibility of the next patient was still more remarkable and distinct.

"This was Madlle. Barbara Reichel, aged twenty-nine, of stout build. At the age of seven, she had fallen out of a window two stories high, and since that time she had suffered nervous attacks, passing partly into lunacy, partly into somnambulism, and speaking in her sleep. Her disease was intermitting, often with very long intervals of health. At this time she had just passed through severe spasmodic attacks, and retained the entire sensitiveness of her vision, the acuteness of which was singularly exalted during her attacks. She was at the same time in full vigor, perfectly conscious, looked well externally, and went alone through the crowded streets of Vienna to visit her relations in their houses. The author invited her to his house, and she came as often as he wished it, so that he was enabled to employ her extraordinary sensitiveness to the magnetic influence, in researches with such apparatus as could not conveniently be brought into other houses.

"This person, although strong and healthy, saw the magnetic light as strong as any sick individual; she could move about freely, and was very intelligent, and in addition to these rare advantages, although highly sensitive, she could bear the approach of magnets, and experimenting with them, far better than sensitive persons generally do.

"This patient saw the magnetic light, not only in the dark, but also in such a twilight as permitted the author to distinguish objects, and to arrange and alter the experiments. The more intense the darkness,

the brighter and larger she saw the flaming emanations, the more sharp and defined was their outline, and the more distinct the play of colors.

"When a magnet was laid before her in the dark, she saw it giving out light, not only when open, but also when the poles were joined by the armatures; but the luminous appearance was different in the two cases. With the closed magnets, there were no points where the light appeared concentrated, as was the case when the magnet was open; but all the edges, joinings, and corners of the magnet gave out short flame-like lights, uniform in size, and in a constant undulatory motion. In the case of the magnet of nine elements, capable of carrying eighty pounds, these were about as long as the thickness of a little finger.

"When the armature was removed, it presented a most beautiful appearance. Each arm of the magnet was about eight and a half inches long, and the light rose almost to an equal height above the magnet, being rather broader than the bar. At each depression, where two plates of the magnet are laid together, there appeared smaller flames ending in points like sparks, on the edges and corners. These small flames appeared blue; the chief light was white below, yellow higher up, then red, and green at the top. It was not motionless, but flickered, undulated, or contracted by starts, continually, with an appearance as of rays shooting forth. But here, as in the case of Madlle. Nowotny, there was no appearance of mutual attention, or mutual tendency towards each other of the flames, or from one pole to the other; and, as in that case, both poles presented the same appearance.

Experiments performed on a sixth patient, Madlle. Maria Atzmansdorfer, aged twenty, who had headache and spasms, and walked in her sleep, led to results confirmatory of the preceding. The light dazzled her eyes by its brilliancy.*

"From the above facts it appears that the foregoing six sensitive individuals, each according to the degree of sensitiveness or to the diseased state of the body, saw, more or less vividly, a luminous appearance, like a moving flame, at the poles of powerful magnets. These individuals were highly sensitive, although of unequal sensitiveness; and, although unacquainted with each other, and with each other's observations, their accounts agree in all essential points, and were, in each case, uniformly consistent, not only with themselves, but with the known laws

Dr. Gregory's pamphlet contains well executed lithographic representations of the appearances of the various flames and streams of light, from drawings made by the patients.

of electricity and magnetism. The author, having no reason to doubt the perfect honesty of those persons, and feeling, at all events, confident of his own caution, accuracy, and *bona fides*, has no hesitation in admitting the reality of the phenomenon, although invisible to ordinary men; and he considers the fact of the existence of such luminous appearances at the poles of powerful magnets as fully established as the researches of one man can establish a fact. He confidently anticipates confirmation from other observers, since sensitive persons, although not numerous, or readily found in small towns, are quite easily obtained in large cities.

But in order to prove that the impressions upon these persons were the result of actual light, Baron Von Reichenbach instituted the following experiment:—

“A very sensitive Daguerreotype plate, being prepared, was placed opposite to a magnet, the armature of which was removed, in a closed box, surrounded with thick bed-clothes, so that no ordinary light could enter. After sixty-four hours’ exposure, the plate when held over mercurial vapor, was found fully affected, as by light, on the whole surface. In a parallel experiment, made without a magnet, the plate was found entirely unaffected. This proves that, unless other imponderables, such as magnetism, act on the prepared plates as light does, the emanation from the magnet is of the nature of light, however feeble and slow in its action on the Daguerreotype.”

This beautiful and satisfactory experiment was followed by another equally remarkable. By means of a lens, the magnet was made to produce a focal image on the wall, and wherever the experimenter moved the lens, Madlle. Reichel was able to point to the situation of the light.

Thus much with regard to the luminous appearances. We now come to the mechanical force exerted by the magnet on the human frame. Dr. Patelin, of Lyons, and other observers, having formerly stated instances of the attraction of the human hand by a magnet, and of the power of some patients to distinguish water, along which a magnet had been drawn, resolved to institute experiments in this direction.

The adhesion of a living hand to a magnet is a fact unknown in physiology as in physics, and a few have seen it; it therefore requires explanation. Madlle. N. being in catalepsy, insensible and motionless, but free from spasms, a horse-shoe magnet of twenty pounds power was brought near to her hand, when the hand attached itself so to the magnet, that which ever way the magnet was moved, the hand followed it as if it had been a bit of iron adhering to it. She remained insensible; but the

attraction was so powerful, that when the magnet was removed, in the direction of the feet, further than the arm could reach, she, still insensible, raised herself in bed, and with the hand followed the magnet as far as she possibly could, so that it looked as if she had been seized by the hand, and that member dragged towards the feet. If the magnet was still further removed, she let it go unwillingly, but remained fixed in her actual position. This was daily seen by the author between six and eight P. M., when her attacks come on, in the presence of eight or ten persons, medical and scientific men.

"At other periods of the day, when she was quite conscious, the phenomena were the same. She described the sensation as an irresistible attraction, which she felt compelled, against her will, to obey. The sensation was agreeable, accompanied with a gentle cooling aura, streaming or flowing down from the magnet to the hand, which felt as if tied and drawn with a thousand fine threads to the magnet. She was not acquainted with any similar sensation in ordinary life; it was indescribable, and included an infinitely refreshing and pleasurable sensation, when the magnet was not too strong."

Similar results were obtained with Mademoiselle Reichel, and Madlle. Sturmann, and the statement of the various modes in which the veracity of the patients, and the accuracy of the experiments were tested, is such as to inspire the most unreserved confidence in the experimenter. Mr. Baumgartner, the distinguished natural philosopher, was one of those who, amongst others, tested in a very ingenious way the above phenomena.

With regard to magnetised water, Baron Von Reichenbach, although strongly prejudiced against this "mesmeric idea," was compelled to admit that a palpable effect was produced.

"He saw daily, that his patient could easily distinguish a glass of water, along which a magnet, unknown to her, had been drawn, from any others; and this without failure or hesitation. He found it impossible to oppose a fact like this by arguments: but when he saw the same result in many other patients, he ceased to struggle against that which, whether he understood it or not, was obviously the fact. He then perceived that it was more rational to admit the fact, and to wait with patience for the explanation."

The experimenter then determined to see, whether other bodies besides water could be magnetized, so as to produce similar effects. He passed the magnet not only over all sorts of minerals and drugs, but over

indiscriminate objects, and they all effected the patient more or less powerfully. But although all were equally magnetised, the results were different, some substances producing a strong, and others only a slight impression. It was therefore clear, that the different results must have been caused by an inherent difference of power in the various kinds of matter, and he resolved to test, if this difference would manifest itself, when the substances were applied in their natural condition. To his astonishment they still acted on the patient, and with a power often little inferior to that which they had when magnetised.

Amongst the various substances tried, (of which a well arranged list is given) distinct solitary crystals were found to act in the strongest manner.

"In trying the effect of drawing the point of a rock crystal, 7 inches long and 1 3-4 thick, from the wrist to the points of the fingers, and back, in magnetising, the author found that the sensation experienced by the patient was the same as when a magnetic needle or bar, nearly five inches long, one sixth inch broad, and one-thirtieth inch thick, weighing nearly 180 grains, and supporting about 3-4 oz. The patient felt an agreeable cool aura in both cases, when the crystal or magnet was drawn from the wrist, to the point of the middle finger; if drawn in the opposite direction the sensation was disagreeable and appeared warm. A crystal, thrice the size of the first, produced, when drawn downwards, the same effect as a magnet, supporting two pounds of iron; and when drawn the opposite way, a spasmodic condition of the whole arm, lasting several minutes, and so violent that the experiment could not well be repeated."

It was found that this peculiar force residing in crystals was analogous to electricity and magnetism, inasmuch as it was capable of acting through opaque bodies, and admitted also of being transferred to other substances. A large rock crystal, placed so that its point rested on a glass of water, produced water as strongly magnetised as a horse-shoe magnet. It was further ascertained that the power thus transferred, was capable of being retained for a short time, (in no case, however, longer than for ten minutes.)

In Madlle. Nowotny, the hand was attracted by a large crystal, exactly as by a magnet of middling size. Crystals also gave forth the same luminous appearance as the magnet, only more singularly beautiful in color and form.

Still proceeding steadily in his researches, and calling to mind the

many effects analogous to those of the magnet alleged to have been produced on sick persons by the human hand, Reichenbach, while he avoided all study of the literature of animal magnetism, in order to retain an unfettered judgement, resolved to ascertain "whether animal magnetism, like the crystalline force, might not be subject to physical laws? the crystallisation seems to mark the transition from organic to inorganic nature, he ventured to hope, that by experiment he might discover a point of connection between animal magnetism and physics, or perhaps even obtain, for animal magnetism, that firm foundation in physics, which had so long been sought for in vain."

And here the philosophical caution of the practised observer is strikingly displayed. In order that his experiments might be free from every disturbing cause, he felt it essential, previously, to ascertain the part which terrestrial magnetism plays in relation to human sensations. If a magnet or crystal produces marked effects, it is certain that the magnetism of the earth must exert a powerful action, and, therefore, it became necessary for him to ascertain the conditions of this action, to enable him to estimate the degree in which the results of the new experiments might be modified by its influence. The inquiries instituted with this view, led to the discovery of a singular fact, namely, that persons sensitive to the magnetic influence, (at least, in the northern hemisphere,) find, when in a recumbant state, every other position except that from north to south highly disagreeable, that from west to east being, in particular, almost intolerable.

"On examining the position of Madlle. Nowotny, she was found lying almost exactly on the magnetic meridian, her head towards the north. She had instinctively chosen this direction; and it had been necessary to take down a stove, to allow her bed to be placed as she desired it to be. She was requested, as an experiment, to lie down with her head to the south. It took several days to persuade her to do so, and she only consented in consideration of the weight which the author attached to the experiment. At last, one morning, he found her in the desired position, which she had assumed very shortly before. She very soon began to complain of discomfort, she became restless, flushed, her pulse became more frequent and fuller, a rush of blood to the head increased the headache, and the sensation of nausea soon attacked the stomach. The bed with the patient was now turned, but was stopped half way when she lay in a magnetic parallel, with the head to the west. This position was far more disagreeable than the former, indeed, absolutely intolerable. This was at half past eleven, A. M. She felt as if she would

soon faint, and begged to be removed out of this position. This was done, and as soon as she was restored to the original position, with the head to the north, all disagreeable sensations diminished, and in a few minutes were so completely gone, that she was again cheerful."

Further singular corroborations are quoted in confirmation of this view; and Reichenbach thinks it sufficient to account for many of the errors and contradictions which have occurred in animal magnetism from the time of Theophrastus and Mesmer to our own day. "For if the same disease were treated magnetically, in Vienna, in the position north to south; in Berlin, in that of east to west; and in Stuttgart, in that of south to north; totally different results would be obtained in the three cases, and no agreement in the experience of the different physicians could be obtained."

"Nay, if the same physician, at different times, or even at the same time in different places, were to treat the same disease with the same magnetic means, while accidentally the beds of his patients were placed indifferent positions, he must necessarily see quite different results, so as to be entirely puzzled with magnetism and with himself. He must conclude it to be full of caprice and change; and finding it impossible to foresee and regulate its action, reject magnetism altogether as an unmanageable instrument. Such has been, in fact, the sad history of magnetism. From the earliest times, often taken up, and as often cast aside, it now lies almost unemployed, and yet is so distinguished, so penetrating, nay, we may say, so incomparable a means of relief in cases where man has hitherto been unable to afford any benefit. Nervous diseases are still the *scandala medicorum*.—It may be confidently expected, that ere long an improvement will be effected. The all-powerful influence of terrestrial magnetism will be measured and calculated, and the whole subject of magnetism will now admit of being regularly studied in reference to medicine. Progress will be made, experimenters will mutually understand each other; and the world may at length hope to derive some actual benefit from those extraordinary things which have so long excited expectation without satisfying it. Having thus established the existence of a powerful influence exerted by the earth's magnetism on the magnetic phenomena in sensitive persons, all subsequent magnetic experiments were made with the patients in the position from north to south, which is considered by the author as the normal position for the living body, sensitive or affected with nervous maladies."

The experiments then instituted resulted in convincing Reichenbach

that a similar force that which he had detected in the magnet, and other bodies, resides in the human hand.

The most singular experiment is that with a glass of water.

"If it be grasped from below by the fingers of one hand, and from above by those of the other, during a few minutes it has now acquired to the sensitive, the taste, smell, and all other singular and surprising properties of the so-called magnetised water. 'Against this statement,' says the author, 'all those may cry out who have never investigated the matter, and to the number of whom I formerly belonged: but to the fact all those who have submitted to the labor of investigation, and have seen the effects I allude to, can only speak with amazement.' This water which is quite identical with that treated with the magnet or with the crystal, in all its essential properties, has, therefore, received from the fingers and hand an abundant charge of the peculiar force residing in them, and retains this charge for some time, and with some force. It was found that all substances whatever were capable of receiving this charge, which the sensitive patients invariably detected. The inevitable conclusion is, that the influence residing in the human hand may be collected in other bodies, in the same way, and the same extent, as the influence residing in crystals."

But in ascertaining thus much we have not arrived at all the sources of this force. Some of Reichenbach's most interesting and striking researches go to establish in the most unquestionable manner, that it resides also in the rays of the sun, and the moon, and the stars; that it developed likewise the chemical action (especially in the processes of digestion and respiration,) and again by electricity. These are its ascertained and peculiar sources; but it seems from the experiments subsequently detailed by Reichenbach, that there is scarcely an object in the collective material world through which it may not be manifested in relation to peculiar idiosyncracies.

Towards his concluding remarks, the author gives some very interesting statements of the relative development of the magnetic force in individuals, at special periods of the four and twenty hours, and he suggests many applications of these facts of great practical value in the preservation of health. He promises, also, within two months, to publish the results of the extended inquiries.

On the whole, it is scarcely too much to assert, that a more interesting series of observations in relation to physical science has rarely been presented to the world. Those who will take the trouble to enter into the statements, of which little more than an outline has been presented,

will meet with suggestions sufficient to give direction to a whole life-time of thought and observation. The phenomena observed and narrated bear with equal force upon every branch of inquiry—chrysallography, mineralogy, geology, botany, anatomy, physiology, medicine, astronomy; in short, the whole circle of the sciences. It opens up a field of inquiry to which every student of Nature must direct his steps, and to which all, no matter how varied their pursuits, may bring their labor with a certainty of reward.

In conclusion, it is proper to mention that one very gratifying circumstance, in connexion with the publication of these researches, consists in there having drawn forth the admirable remarks of Professor Gregory, by which the publication of them is accompanied. It is also matter of congratulation that, in a letter, dated from Vienna the 7th of the present month, published in the appendix, and addressed by Baron Ven Reichenbach to Professor Gregory, the following paragraph is to be found:

“Berzelius has expressed himself in the same way as you have done; and carries on with me a friendly and brisk correspondence on the subject of my researches, on which we may shortly expect a report from him, to be laid before the Swedish Academy of sciences.”

(This sustains the philosophy which we set forth in our views on the philosophy of Clairvoyance, page 78 of the first volume of the *St. Louis Magnet*.)

[From the Cincinnati Daily Times.]

LETTER OF DR. BUCHANAN.

LOUISVILLE, KY., March 25, 1846.

Gents :—The statement of your official action and personal wishes which has been communicated to me by your Secretary, has been duly received and considered.

Having become somewhat acquainted with the character and principles of the Eclectic Medical Institute during the past winter, and having learned that it is, as its name indicates, designed to embody the spirit of Eclecticism, instead of that of Ultraism—and the spirit of Progress instead of Conservatism. I accept, without hesitation, the honorable appointment, which you have tendered.

Such an institution is demanded by the general spirit of the times, which requires that medical science should partake far more than it has heretofore of the progressive tendencies of the age. *The juste milieu*

of steady progress without exclusive and partial systematizing—and of thorough reformation without anarchy or destruction, constitutes, as I understand, the characteristic feature of the Eclectic Medical Institute.

To the Eclectic School belong many of the active and untrammelled minds of the profession. Those who feel the ardent impulse of original thought, and whose minds are invigorated by the careful observation of Nature, cannot easily be confined within the pale of any exclusive and necessarily imperfect system. But men of this temperament of mind are often carried away by the force of their own conceptions, and become unable to divert their minds from some one important idea with which they have been deeply impressed. Thus neglecting to regard with equal care ideas and principles no less important than the one by which they have been dazzled, they become exclusive, partial or ultra in their views, and originate those plausible systems, the popularity of which is maintained for a time by the valuable truth which has been embodied and made, perhaps, too prominent.

Against these partial systems, the votaries of conservatism display an overbearing opposition. Regarding nothing as true which has not been sanctioned by numbers and by time, they persecute in one generation the doctrines which, in the next, they honor. Yet there are minds which are equally free from the errors of ultraism, and from the stubborn blindness of conservatism. Those who carefully think and observe for themselves, yet who are not unduly fascinated by any particular truth which their own observations may have developed, or by any demonstrable theory which their own reason may have framed—who readily accede to a new truth when brought within their reach, yet who do not set aside all previous researches and opinions to make room for any additional facts or principles, pursue the most philosophical course. Enabled by the expansive liberality of their minds to appreciate the harmonious relations of all species of truth, they learn with equal facility and pleasure from every accessible source—whether it be ancient, modern or recent—whether it demand observation, reason or experimental inquiry. Thus guided in the pursuit of knowledge by no partisan feeling or passion, and retaining the clear-sightedness which distinguishes a portion of truth, even when mingled with error—such individuals are ever in possession of a greater amount of valuable truth, and a smaller amount of error, than their contemporaries. These are the true Eclectics of science, and I feel assured that the spirit of rational Eclecticism which now animates the minds of many is destined ultimately to take possession of the entire scientific world, and eradicate the

partial, contracted views of ultraism and conservatism which belong to an earlier stage of progress—to a lower grade of development of the human mind.

The spirit of Eclecticism has at present an ample field of usefulness in medical science. Those who shall succeed in extracting the truth from its various discordant systems which now exist, adding thereto such new facts and principles as will give to the science a philosophical completeness, will be regarded hereafter as among the greatest benefactors of humanity. To accomplish this it would be necessary—first, to take a critical survey of our existing knowledge—and, secondly, to supply the great deficiencies, which at present are acknowledged to exist.

The greatest deficiencies are : first, as to the vital laws and moving powers of the human frame : secondly, as to the relations of the constitution and its diseases to external agents, and to medicines in particular.

We must obtain a thorough knowledge of the vital powers of the nervous matter, and especially of that commanding organ, the brain, before we can be said to have a philosophical knowledge of man. The existing ignorance of the functions of the brain is one of the chief causes of the present empirical features of medical science ; it certainly leaves a great blank in our physiology, and until it is supplied, that science cannot be considered either philosophical or satisfactory. For the last ten years my labors have been directed to overcome this great obstacle to medical improvement, and the success of my neurological researches in developing the functions of the brain and the general philosophy of the human constitution, has roused in the minds of many an ardent hope of witnessing the commencement of a new era in medical science.

As to the relations of the human constitution to external objects, and especially to medicines, the experimental enquiries which I have already made, have satisfied me that a vast deal is yet to be learned in this department, and I fully agree with some of the best medical writers, in believing that the greatest improvements in the *practice of medicine* must come from a careful investigation of the relations of medicines to the human constitution, and from the discovery of important remedies for disease which have not yet been used. I have the pleasure of believing that a peculiar systematic experimental investigation of the *materia medica* (by a novel method) which I have commenced, bids fair, if carried out, to accomplish as much for the enlargement and correction of our *materia medica* and therapeutics, as the knowledge of the cerebral functions will accomplish for the improvement of physiology.

In this department of medical knowledge, I believe that the Eclectic Medical Institute has made decided progress, and has adopted principles, which my own experimental inquiries sustain. In assuming a connexion with that institution, I shall be urged to carry on these experimental inquiries to the attainment of important practical results.

The urgent necessity for experimental research has not yet been removed by the vast accumulations of medical learning. No philosophic mind can look upon medical science as it is—upon the blank and profitless department of the science which constitutes its present Neurology, or upon its confused and extremely defective materia medica, without feeling that a partial acquiescence in such defects would be a gross neglect of duty in the medical profession. Such, if I mistake not, are the views of the Faculty of the Eclectic Medical Institute, and to co-operate in carrying out these principles of medical reform and progress, I shall cheerfully lend my assistance in occupying the chair which you have assigned me, and endeavoring to render the Institutes of Medicine an exact and valuable department of the Science.

With great respect, I remain Your humble servant,

JOS. R. BUCHANAN.

To the Hon. Board of Trustees of the Eclectic Medical Institute.

We are highly gratified at this judicious choice of the Eclectic School. It is a decided triumph in reform—of truth over long established error. Dr. Buchanan is a gentleman of dignity and great force of character, and probably none have pried deeper into Anthropological science. We have listened to him on this subject with the most profound interest. He is pleasing, interesting, and highly instructive in his lectures. All who wish to keep pace with the march of the science of man—physically and mentally—will most certainly avail themselves of his ticket.

DE OBFUSCATIONIBUS.

[Continued.]

Let it be borne in mind that no accounts of misunderstood phenomena ever come to us without a mixture of fable, more particularly where these accounts come through popular report, and especially when they pass through minds disposed to regard them with mysterious awe and fear. Stories of witchcraft, it must be expected therefore, will be dressed up with all sorts of popular exaggerations and misapprehensions, so that in adjusting them into any kind of consistency great allowances

must be made. In the present case, the simple argument is this : That, if in any authenticated account of witchcraft, facts are detailed exactly corresponding with the phenomena of Mesmerism, as now known and practiced at will, the inference is direct in favor of the Mesmeric theory as explanatory of these facts, even though other facts should be embraced not to be explained by any theory whatever. I shall give you one entire case, as reported by Glanville, who says he had it from Mr. Hunt, one of the two justices who sat in judgment upon the case, and whose certificate is annexed to it. But before doing so, I will just state some of the facts in Mesmerism as I have seen them myself : A doctor (W. for instance) seats himself before a young man, F. and after some five minutes, or thereabouts, of passes by the hands of Dr. W. over the head and arms of F. the latter falls, or seems to fall, into a sound sleep. F. has not only fallen asleep, but has become perfectly rigid, so that no one can bend "either of his arms or legs;" (this latter phenomenon is not, I believe, always an attendant of the Mesmeric sleep, but is sometimes exhibited independently of the sleep; F. was rigid and asleep, when I saw him, during more than two hours.) *The doctor having mesmerised his subject, rises and is then the only person in communication with him. F. answers all his questions, but is as if deaf to all other persons, and utterly insensible to efforts to inflict pain upon him, while he is sensible to everything which affects the doctor either physically or mentally.* Now the witchcraft story reads thus :

"On Sunday, 15th of November, 1657, about three of the clock in the afternoon, Richard Jones, then a sprightly youth about twelve years old, son of Henry Jones of Shepton Mallet, in the county of Somerset, being in his father's house alone, and perceiving some one looking in at the windows, went to the door, where one Jane Brooks of the same town (but then by name unknown to this boy) came to him. She desired him to give her a piece of close bread, and gave him an apple. After which *she also stroked him down on the right side, shook him by the hand, and so bid him good night.*" [I must here remark that I have italicised the last passage, because it is just here that a mesmeriser might say, from the facts that follow, that the boy was brought under the influence of Jane Brooks. The account proceeds as follows : "The youth returned into the house, where he had been left well, when his father and one Gibson went from him; but at their return, which was within an hour or thereabout, they found him ill and complaining of his right side, in which the pain continued the most part of that night. And on Monday following, in the evening, the boy roasted the apple he had of

Jane Brooks, and having eaten about half of it, was extremely ill, and sometimes *speechless*, but being recovered, he told his father that a woman of the town on the Sunday before had given him that apple, and that she stroked him on the side. He said he knew not her name, but should her person, if he saw her. Upon this Jones was advised to invite the women of Shepton to come to his house upon the occasion of his son's illness, and the child told him, that in case the woman should come in when he was in his *Fit*, if he were not able to *speak*, he would give him an intimation by a jogg, and desired that his father would then lead him through the room, for he said he would put his hand upon her if she were there." [I remark here that the expression *Fit* as used above, is, at page 169 in another case, used synonymously with *Trance*; so the boy was subject to *trances*. A mesmeriser might see that the boy was in a state of what is called sleep-waking.] "After this, he continuing very ill, many women came daily to see him. And Jane Brooks the Sunday after came in with two of her sisters, when several other women of the neighborhood were there."

"Upon her coming in, the boy was taken so ill that for some time *he could not see nor speak*; but having recovered his sight, he gave his father the *Item*, and he led him about the room. The boy drew towards Jane Brooks, who was behind her two sisters among the other women, and put his hand upon her, which his father perceiving, immediately scratched her face and drew blood from her. The youth then presently cried out that he was well, and so continued seven or eight days; but then meeting with Alice Coward, sister to Jane Brooks, who passing by said to him, (How do you, my Honey?) he presently fell ill again. And after that the said Coward and Brooks often *appeared* to him: *The boy would describe the clothes and habit they were in at the time exactly, as the constable and others have found upon repairing to them, though Brooks' house was at a good distance from Jones'.* This they often tried and always found the boy right in his descriptions." [In the latter part of the above passage the mesmerizers might *clearly* see that the boy was a *clairvoyant*, and also in the following passage.]

"On a certain Sunday about noon, the child being in a room with his father and one Gibson, and in his *fit*, he on the sudden called out that he saw Jane Brooks on the wall, and pointed to the place, where immediately Gibson struck with a knife; upon which the boy cried out (O, Father, Coz. Gibson hath cut Jane Brooks' hand, and 'tis bloody.) The father and Gibson immediately repaired to the constable, a discreet person, and acquainting him with what had passed, desired him to go with

them to Jane Brooks' house, which he did. They found her sitting in her room on a stool, with one hand over the other. The constable asked her how she did? She answered, *not well*. He asked again why she sat with one hand over the other? She replied, *she was wont to do so*. He enquired if anything were amiss with her hand? Her answer was, *it was well enough*. The constable desired that he might see the hand that was under; which, she being unwilling to show him, he drew out and found it bloody, according to what the boy had said. Being asked how it came so? she said, I was scratched with a great pin." [It is very important to note here that thus far the account is but the report of the magistrates upon the testimony of others. The next portion is a report from personal knowledge, and this is the important part of the relation. What precedes is but a kind of prelude. I will italicise the passages which make more directly for the mesmeriser, though they will be sufficiently plain to those at all acquainted with the modern mysteries of animal magnetism.

"On the 8th of December, 1657, the Boy, Jane Brooks, and Alice Coward, appeared at Castle Cary, before the Justices, *M. Hunt and M. Cary*. The Boy having begun to give his testimony, *upon the coming in of the two women, and their looking on him, was instantly taken speechless*, and so remained until the women were removed out of the room, and then in a short time, upon examination, he gave a full relation of the mentioned particulars.

[Continued.]

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**Surgical Operation.**—On Friday last, Dr. Bostwick removed a tumor, weighing ten ounces, from under the left shoulder of a colored girl, named Emeline Brown, aged 33. while she was in a mesmeric state. The girl was totally unconscious upon her waking up that the operation had been performed. Several medical gentlemen and persons belonging to the press were present.—[*N. Y. Atlas*.]

For the St. Louis Magnet.

*"These are thy Glorious Works, Parent of Good."*—Milton.

My fancy stood the centre of a Sphere,  
That Sphere, the Universe beheld as one.  
A thousand planets, as they first appeared,  
Have swelled to millions, each a central sun,  
Forming the chain of systems that compose  
A kingdom which, from Deity arose.

These are thy heavens, God, boundless—sublime—  
Its rolling systems subject to thy laws,  
Perfect their order—thou hast fixed the climes;  
The change of seasons—years—the night and day—  
The laws of order, beautiful and just,  
Thyself revealing and inspiring trust.

Each shining planet perfect and supreme,  
Within the limit though assign'dst its play,  
Vies with its neighbor, which shall brighter shine,  
While all revolving, each in its own train  
Reveal to scienced minds one glorious whole—  
An empire, infinite, and God the soul.

I asked the varied worlds around on high,  
Then asked the comet, hastening in its cause,  
Who formed your systems? who controls the whole?  
What power invisible? what latent force,  
Retains all matter in its order just;  
Warms into life, and action, nature's rest?

It is the soul of Nature thus arrayed,  
The animating spark which warms the whole,  
Replenishing the new from the decayed,  
Causing the earth to bloom, and oceans roll;  
Who breathing on thine ashes, life began—  
Yet 'ere thyself desirest will pass away.

M.

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We have received two valuable articles—one from Mr. E. R. MERCALF; the other from JAMES MAGEHAN. These will appear in the next number.