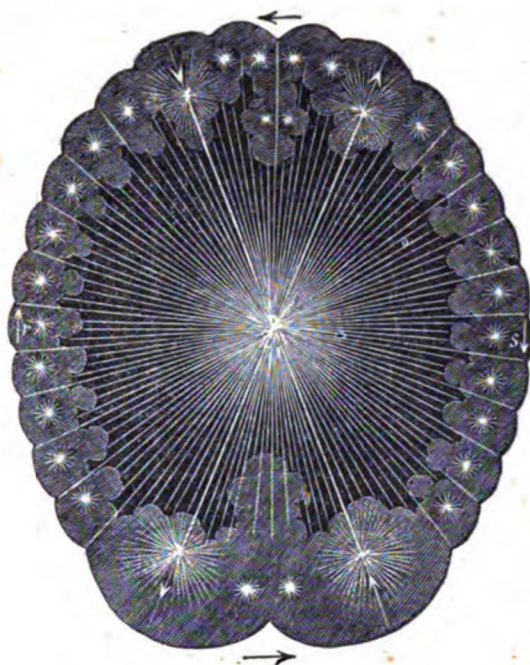


THE
MAGNET.



BY LA ROY SUNDERLAND.

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THE MAGNET.

DEVOTED to the investigation of HUMAN PHYSIOLOGY; PHRENOLOGY; PHRENOGONOMY; PATHOGONOMY; PSYCHOLOGY; and ASTRONOMICAL, and LIVING MAGNETISM.

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From a personal acquaintance with Mr. Sunderland, who is a most talented and worthy man, we have no fear but he will do the theory justice; and if he may not reduce it to a science, at least give us some important and interesting facts that will be worthy of the attention of all on mental phenomena. He has already published several valuable articles on the results of his investigations, and is, we think, as fully prepared as any other man to defend the position which he has taken. A fair opportunity is now given to all who feel any curiosity upon this subject to have that curiosity gratified, and we hope the publication will have an extensive circulation.—*People's Advocate*, March 31, 1842.

Mr. Sunderland possesses a strong and acute mind, and will doubtless make his magazine worthy the attention of all who are disposed to understand their own organization, and the phenomena which it presents.—*Broom's Republican*.

We have received the first number of an attractive looking Magazine, entitled *The Magnet*, just commenced in N. York, under the editorial management of Rev. La Roy Sunderland. The high standing of the Rev. editor for integrity of character and scientific attainments, will be a guarantee that the design of the Magnet is what it professes to be, to search after truth.

As the Magnet will be conducted with great ability—to judge from the number before us, and, as Human Magnetism is attracting a large share of public attention at present; those who have any desire to investigate, or to obtain correct views of the subject, will do well to become subscribers. The work will also be devoted to the investigation of terrestrial and Astro-Magnetism, the various phenomena, in Human Physiology, heretofore imperfectly understood, and to important philosophical subjects in general.—*Lancaster (Pa.) Examiner*, May 25 1842.

The number contains several plates, illustrative of the operation of the magnetic forces—the cause of variation in the declination of the needle, &c. The author is evidently a vigorous reasoner, and whether his theory be correct or not, we think his views well worth examination.—*Washington Banner*, May 21, 1842.

The character and talents of the editor—the novelty of the subject—the ability displayed in the contents of the first number—the neatness and beauty of the execution of the Magazine—give it strong claims upon the attention of the scientific and curious, as well as the general reader. A cursory perusal of the Magnet has afforded us much pleasure.—*Sackett's Harbor Journal*.

From the prospectus, and the well known character and distinguished ability of the editor, we anticipated a scientific work of great utility and importance, and the contents of this number have satisfied us that our anticipations will be realized.—*Freeman and Messenger*.

This is a very neat and beautiful pamphlet on the subject of magnetism. Mr. Sunderland has evidently studied his subject with great care and attention, and presents a pamphlet of no ordinary interest. He speaks with becoming modesty, is a man of truth, and therefore is entitled to be heard. The theory is very interesting, and has important practical bearings; our faith in it, as yet, we confess is rather feeble.—*Lib. Standard*.

THE MAGNET.—The first number of this work has been received. It bids fair to prove interesting and instructive to the scientific reader. We are much pleased with the number before us, though not capable of fully appreciating the subjects investigated.—*Rushville Whig*.

As far as we have been enabled to examine it, we find its contents very interesting and curious.—*Phil. Daily Chronicle*, May 25, 1842.

The articles are written by scientific men, and disclose many singular facts in relation to Magnetism.—*Lowell Courier*.

The publisher has issued the first number of a New Periodical, to be entitled the Magnet, devoted to the consideration of Physiology, Phrenology, Physiognomy, Pathology, Psychology, and Magnetism. This number contains much that is interesting and curious.—*N. Y. Herald*.

The first number of the Magnet has been issued. It is well executed typographically, and contains a good variety of articles upon the principles at which it aims.—*Oneida Journal*, May 19, 1842.

The first number of the Magnet has been issued; and, judging from it, we expect the work to be one of great and increasing interest.—*Oxford Republican*, May 20, 1842.

THE MAGNET.—This novel and interesting work, has made its appearance. It is got up with taste, and contains 24 super-royal 8 vo. pages, with numerous cuts illustrative of the subjects of which it treats.—*Tocsin of Lib.*

It is neatly executed, and appears to be conducted with ability.—*The Carthaginian*.

The editor, Rev. La Roy Sunderland, is every way qualified to render the work highly interesting and useful to those "who wish to understand the mysteries of human nature."—*Lowell Advertiser*.

THE MAGNET.—The first number of this work has been received. Its appearance is certainly attractive, and is, doubtless, a desirable work especially to such as are inquisitive on matters connected with Phrenology, Magnetism, &c., and by such many gems would probably be discovered in the Magnet.—*Dunkirk Beacon*.

Mr. Sunderland is a man of science; and we beg to recommend the Magnet to the notice of all who wish to learn greater wonders "than are dreamed of in our philosophy."—*Skaneateles Democrat*.

The contents of the present number are interesting and valuable, and exhibit evidence of powerful, discriminating, and original thinking. We earnestly recommend it to the patronage of all lovers of Phrenological and Mental science.—*State Banner*.

THE MAGNET.—Is the title of a new monthly periodical just commenced in New York, by the Rev. La Roy Sunderland, a gentleman of an inquiring philosophic mind, who has for some time past devoted himself to the investigation of a subject, the immense importance of which can as yet be but imperfectly estimated. The grand design of "The Magnet" is to call attention to such facts connected with Physiology, Phrenology, and Living Magnetism, as may lead to a knowledge of those laws which govern the human mind, and it will therefore form, as it were, a central point around which information of the most interesting character will be collected. The matter of "Phreno-Magnetism," as it is called, will of course be a leading theme in the columns of "The Magnet." To the examination of this, Mr. Sunderland has given great attention, and proposes now to furnish the details of his experiments. We recommend "The Magnet" to the liberal patronage of the public. It proposes to be, in fact, the bulletin of the philosophical exploration

THE MAGNET.

VOL. I.

NEW YORK, SEPTEMBER, 1842.

NO. 4.

For the Magnet.

SURGICAL OPERATION IN THE MAGNETIC SLEEP.

In November, 1841, I magnetized a young lady in Leicester, Mass., who was subject to fits; was successful in putting her into a sound sleep; its influence upon her disease, sufficient time has hardly elapsed to definitely exhibit. While lecturing upon Phrenology the same month, in Charlton, Mass., I was called to visit a family professionally, and found one member, (Miss B., aged 33,) very nervous, and apparently in a high state of mental excitement. I proposed magnetising her—she consented; I was unable, however, to produce a perfect sleep, the operation affecting her breathing to such an extent, bringing on convulsions, as to render a cessation necessary. Before retiring I was informed she was a subject of partial insanity. A few days afterwards I met her again and renewed my efforts to magnetise her, but was obliged to desist, from the same difficulty. I have made other attempts, but always with the same results; was called upon several times to quiet her when in her highest stages of excitement, and found myself uniformly successful in calming her. I now learned that she was hereditarily disposed to insanity—that two of her aunts had been insane from nervous excitement alone; and that her mother was placed in a very critical situation a few months before her birth, by the situation of the family, and also, having the entire care of a female lunatic upon her mind. These circumstances led me to conclude that hers was a very difficult case to cure. The immediate cause, developing the germ of insanity, which had been lying dormant in her system, was an excitement upon the subject of religion, which led her to read the bible attentively for several weeks, until her mind became completely exhausted, and her digestive powers, consequently, much impaired. When in her greatest distress she complained of a severe pressure on the stomach, and acute pain in the top of her head, embracing nearly all the moral organs, particularly Benevolence, Veneration and Marvellousness, and at such times she repeated scripture with great rapidity and correctness—had much to say about the influence of the Holy Spirit, and willingness of God to save all mankind through the atonement of Jesus Christ. (Her religion is that of the Restorationists, and she belongs to the Fraternal Community, established in Millford.) The more diseased this portion apparently became, the more extravagant was she in her ideas and language, until she called me the Saviour, and finally clothed me with the authority of the "Father of all;" besides a thousand other vagaries, that, taken with her diseased brain, constitute important Phrenological facts,

but which might appear foreign to the subject in hand; I will therefore pass over them. Such was her confidence in me, that finally she would do nothing or eat nothing without my sanction. I was sent for once, when in Worcester, to see her—spent two days with her, and was of much service in quieting her, and removing the inflammation from the brain by Magnetism. Her insanity, however, appeared so confirmed that I advised her friends to take her to the Insane Hospital at Worcester. They did so, and she remained there some nine or ten weeks, until Dr. Woodward and her friends thought her much better, if not entirely cured; in fact, she appeared better for two or three days after leaving the asylum. She says, however, that her good conduct was all feigned, for the purpose of escaping from the Hospital, she being excessively prejudiced against the place for what reason it is unnecessary to state; and such appears to have been the case, for she now grew worse and worse rapidly—the pains in her head increased, particularly in her temples, region of constructiveness, &c. While under the latter excitement she worked an immense number of needle books, &c., of fantastic shapes and singularly ornamented. She was also attacked by severe nervous pains in her jaws; she soon was seized with an insatiable desire for writing, and while under the influence of this morbid desire, wrote many letters. She next insisted that I had the power to relieve her at once, and so strenuously did she urge it, threatening self destruction unless her desire was complied with. I was requested earnestly by them to visit her, and given to understand they considered it the *last* resort. I left my business in Boston, and have been with her about three weeks. I found her without any appetite, without rest day or night, and in great, almost constant pain in her temples and teeth. I have magnetised her daily without producing sleep, but she found great relief from it; for the last ten days she has had a strong appetite and no pain in her head or teeth. Physically, she is every way better. I have repeatedly stopped severe pain in an instant, simply by an effort of the will. I found magnetised water of great service. Her whole history for the last six months, is very interesting, and probably will continue so as long as she lives. If any thing very important occurs hereafter in relation to her, illustrating Phrenology or Magnetism, I will inform you.

I have cured many simply by means of Mesmerism, of the head-ache, tooth-ache, burns, bruises, inflammation, &c., &c. But the best case I have ever met with, I found in Millford. I visited this place professionally, the first of March, 1842, and while engaged in making Phrenological examinations in the family of Mr. Dexter Walker, I was told that the young lady just examined, (a Miss Leland,) was

troubled at times with a very severe pain in her head, which singularly affected her vision, she being enabled to see things distinctly in the dark—that she was a natural sleep walker—had been known to start from her bed, walk the room, go all about the house, and had frequently walked miles in the street bare footed in a state of unconsciousness, until her arrival at the place started for. At another time she went to another town, distant nine or ten miles, in her night clothes, and only returned to consciousness upon reaching the door step of the house she intended visiting. I told Mrs. Walker that I should not be surprised if I was enabled to cure her. I magnetised her seven times; the third time she slept nineteen hours, and the same length of time upon the sixth. I found her a perfect Somnambulist, and the best clairvoyant I ever saw; she would state correctly what was going on in the neighbourhood, would tell with perfect accuracy whose hair was handed to her and what was the matter with them, when I was entirely ignorant of the individuals and of the nature of their complaints. With regard to the influence Magnetism has had upon this lady, I would state that her health has been better for several months, than it has been for several years previous. She has been visited by but one of her frequent turns of sleep-walking, and that was brought on by severe labor on a warm day, since her being magnetised.—Her blood was full of humors, and they have now been driven to the surface, and are leaving through three running sores upon her head. There is no doubt in my mind, but that she might be perfectly cured by means of Magnetism, but unfortunately, the physicians about her, most of them, know nothing and believe nothing in the science. One interesting fact in relation to her I will relate: She was much addicted to taking snuff, and wished to break herself of it but could not; when in the Magnetic sleep I put her mind against it; she has not taken a pinch since (three months) and cannot be urged to do it. I made some inquiries of her concerning the poles of the organs, and as far as I went the result verified the experiments we tried with “Blind Mary.” She is the best subject I have ever seen.

My last experiment, and decidedly the most important, was produced by Magnetising Mrs. A. Mann, the wife of George B. Mann, P. Master of this village. She is naturally extremely nervous, so much so as to amount to a disease, and very sensitive. The other day a letter was brought in; she received an impression that it contained unfavorable news, and went into violent spasms, and it was several hours before she recovered from its effects. Is very susceptible to the influence of Magnetism. Have put her to sleep by putting cotton in her ears, and any thing passed from my hands to her will be clenched so nervously as to defy all attempts at taking it away from her. She was much affected by severe head and tooth-ache, but since being magnetised, she has not been troubled with either, and as she informed me last week, was never previously so well in her life. She complained, however, of her appetite having always been very poor. I magnetised the organ of Alimentiveness, and she manifested excessive hunger, eating with violence at every meal, finally bringing on sickness.

Speaking of exciting the organs, I will give one of the most convincing facts that I have witnessed, demonstrating that particular and distinct portions of the brain are magnetised and capable of action without reference to the other portions. At one time I asked her if she would like to be put in communication with her husband? She answered yes!—if I would remain. I told her I thought she was selfish. Her husband soon went out, and I observed her cry-

ing, and manifesting much distress;—I asked her what was the matter? She replied, “my head, my head!” I asked her where? She replied, at the back part in the crown—I asked her the cause—she said I had told her she was selfish. I then put my finger on the organ of approbateness, and asked her if that was the part affected—she said yes—I then reversed the state of the organ, and excited self-esteem—she then said she did not care what I or any one else said about her. She informed me she had a tumour upon her shoulder, that she would like to have taken out. I told her it could be done, most probably without her knowing or feeling it; she consented to have it done, and Tuesday of last week was appointed for the operation. I came according to the appointment, and put her into the magnetic condition at half past 9 o'clock A. M. She was under the impression that she would be awake and put to sleep a second time before any attempt would be made at extracting the tumour. Dr. Fiske came at 10—commenced the operation at about 11, and closed at half past 12 P. M. There were present, Dr. Fiske, Mr. G. B. Mann, (her husband,) Miss M. B. Cleveland and myself. From the first incision until the operation was two-thirds completed, she experienced no pain whatever, but chatted and laughed as though she were perfectly at ease. At this time it became necessary for some one to assist the Dr., and quitting her I directed my attention towards aiding him—not being supported, she began to experience some pain, and wished the Dr. to stop. She became more and more distressed, and wished me to send him away, letting her rest awhile, and then it could be finished without hurting her—she grew more and more urgent, and said *she could not stand it*, and that the Dr. *must stop*. I asked her at this point if she were asleep; she said yes. He stopped several times a minute or two, which prolonged the operation; but he was afraid to let it remain unfinished, thus continued to operate contrary to her requests. At length it was completed and bandaged. I then put her into a more quiet sleep until half past four, at which time I aroused her. When she opened her eyes she was much amazed at the plight she found herself in—dress disarranged, arm uncovered, &c—for a minute she was laughing and crying at the same time. I asked what the matter was—she replied, her dress, how came it so disarranged, and her arm, how came that bare? I asked her if she did not know the cause? She said no; then hesitated, and asked the question if the tumour was removed; I asked her if she did not know whether it was removed or not. “*Is it?*” inquired she with great earnestness. I then informed her—“Oh!” exclaimed she, with joyful surprise, “how glad I am—why, I thought I was to be put to sleep a second time to have it taken out.” She then looked at the wound, and said, she knew nothing about it, had no knowledge of the operation or of any pain; she could hardly be made to believe it.—Her arm had been retained in the mesmeric condition when she was taken out, and she did not feel any soreness or pain in her arm. Put her to sleep at half-past 8, and awoke her at 2 in the morning; she has been in the magnetic sleep half the time since, and up to Friday last heard from her, being 4 days after the performance of the operation, she had not experienced the slightest pain. The Dr. describes the tumour as follows: “It is an adipose tumour, 4 inches and 5 1-6 in length, and 5 inches in breadth, at the lower half gradually becoming thinner at the edge, diffusing itself under the integuments and cellular substance over a large surface. The attachments to the skin and muscles being very strong, and the surface of the tumour being irregular and badly defined, rendered the operation protracted, and would

in ordinary cases be extremely painful." The Dr. adds, there is not in the whole circle of his acquaintance, another person that is so nervous and so bad a subject for an operation, and that under ordinary circumstances, he would not attempt any important operation upon her for \$1000.

I have certificates from the Dr., from Mr. Mann and Mrs. Mann, witnessing the truth of the above interesting fact. Very respectfully,

L. N. FOWLER.

NEW BEDFORD, (Mass.) Aug. 8, 1842.

"The above statement in relation to Mr. Fowler's magnetizing my wife, its effects and results, I am prepared to testify are perfectly correct.

GEORGE B. MANN.

I am fully prepared to attest the truth of the above statements of Mr. Fowler as far as I have been sensible of the circumstances. After I was magnetised last Spring, my health was for a long time, better almost than it ever was before, and in regard to the operation which has been performed, all I can say concerning it is, that I had a tumour in my arm, and I have none now, but how it disappeared I cannot say, as I have not the slightest recollection of its removal; and as to any trouble from my arm since, I think the fact of my writing this certificate the third day after the operation, without any difficulty, is sufficient proof that it is doing well, and thus far have not had the slightest pain, and if necessary would be perfectly willing to go through the operation again.

ANNE F. MANN.

We were present when Mr. Fowler waked up Mrs. Mann, and can testify that his statement is correct.

Miss M. B. CLEAVELAND,
ELIZABETH S. LOVELL,
HARRIET M. MANN.

I was present and assisted during the whole of the operation until she waked up in the afternoon, and know that what Mr. Fowler has said in relation to it, is correct.

M. B. CLEAVELAND.

I was present and performed the operation upon the right arm of Mrs. Mann on Tuesday last, Aug. 2, whilst as Mr. F. states, she was under the influence of magnetism, and believe, according to the best of my memory, that his statement is correct, although I am not as yet fully prepared to admit Magnetism to be a science, or believe in many of the details which its advocates ascribe to it.

JAMES FISKE, M.D.

THE NERVOUS INFLUENCE.

WE continue our quotations from the Parisian work, alluded to in our last. The reader will find some of the views here set forth, quite interesting.

MYSTERIOUS AGENT OF THE ANIMAL AND ORGANIC LIVES, PROBABLY THE SAME.

Hitherto I have only enquired into the possible connexion of the electric power with the functions of the *organic* life, and suggested the probability of its being separated from the vital air by the action of the lungs, conducted by the blood secreted in the ganglia, and employed in the production of chemical changes in the secreting organs, and in the evolution of heat in the whole organic system. So far it would only be concerned in the performance of the *vital* functions; but if it could be proved that the *organic* life is maintained by this agent, it would not, I think, be difficult to trace the functions of the *animal* life to

the same source also. When we consider the close connexion and the resemblance of many of the phenomena in the animal and organic nervous systems; that they are rather divisions of the same than distinct systems; that muscular motion, heat, and chemical changes are produced by the operation of both;* and that nature is never prodigal in her *means* of action, it will appear probable that the same agent operates in both. I think that the nervous fluid of the animal system may perhaps be secreted in the *brain*, which, among its other important functions, may serve as a gland for this purpose. Whether electricity, if such it be, undergoes any change or not, in this organ, is of no consequence to the points under present discussion—the object of enquiry is, whether the same agent, derived from the same source, viz. vital air, operates in both divisions of the nervous and muscular system. It must be allowed that the *causes* which excite muscular contraction in the two systems, are not the same; being material stimuli in the organic nervous system, and the operation of the will in the animal nervous system; but it does not follow that the *agent* which is called action must be different; and, indeed, though the brain obeys the impulse of the mind, its excitement by *material* causes can produce muscular motion also, as when pressure or irritation of the organ brings on convulsions.

SHARE TAKEN BY THE BRAIN IN THE ORGANIC FUNCTIONS.

Neither is the office of this organ limited to the functions of volition and sensation—it has some share in those of the organic as well as of the animal life. It is ascertained that the production of animal *heat* is very much influenced by the brain; when it ceases to exercise its functions, the animal loses the power of producing heat, even when the action of the heart and lungs are continued by artificial means. The brain also contributes to the production of chemical changes, for the operation of digestion cannot proceed when its communication with the stomach is intercepted. It is to be remarked that in this case the power of electricity can supply its place, and the requisite change in the aliment can be effected by *galvanism*.

OPERATION OF THE ELECTRIC FLUID IN THE ANIMAL LIFE.

If the electric fluid conducted by the blood causes contraction in the muscles, and sensibility in the nerves of the *organic* life, I should think it probable that it is the agent of the mind in the production of motion and sensation in the *animal* life, especially as the circulation of *red* blood to the extremities of the animal nerves is found indispensable to their sensibility. I should suppose that, in the operation of voluntary motion, the mind excites the electricity of the *brain*, which is from thence transmitted along the nerves to the voluntary muscle in which it excites contraction, and that in sensation, the contact of objects of sense excites the electric action of the *nerves of the senses*, from whence it is conducted to the brain.

SHARE TAKEN BY THE NERVOUS INFLUENCE IN THE EXCITATION OF IDEAS.

I also believe that it has a considerable share in the operation of forming ideas, in which the action of the brain is evidently indispensable. The muscular energy and mental powers are so intimately con-

* The nerves of the animal life have some influence in the production of animal heat, for the ligation of a nerve causes a general sense of coldness in the limb.

nected in the animal economy, that this, with other reasons, inclines me to believe that the same material agent is employed in the operation of each. "If the body has been fatigued, the mind cannot exert its powers of attention, memory, and judgement with alacrity; a student in mathematics would be unable to trace the steps of an intricate problem after having contended in an athletic game, and we cannot think so much and use strong exercise at the same time; these powers seem therefore to depend alike on the nervous energy, and the simultaneous diminution of both implies the diminished state of that energy,"* the nerves of the senses also require repose, as well as those of the voluntary muscles, and it seems as if the supply of the nervous fluid was exhausted in both after a certain degree of exertion.

SUCCESSION OF IDEAS.

Perhaps the regular secretion, and the continual excitation which the nervous fluid gives to the brain, are the reasons that the ideas succeed each other without intermission; and this constant succession probably never ceases while the brain is in a state of activity. The ideas may continue during sleep, though they do not always make a sufficient impression to recur to the memory when we are awake: when we do, we know we have *dreamed*.

THE VOICE.

A portion of the fluid must also be bestowed upon the vocal organs, probably a superabundant secretion of it produces loquacity. We may observe that a morbid increase of the nervous action frequently produces an extraordinary volubility of tongue; thus it sometimes precedes madness, fits of different kinds, etc., and accompanies anger—every one has experienced the relief that scolding gives in this case, probably by giving a vent to the superabundant nervous fluid.

RECAPITULATION.

To conclude.—I believe that the nervous fluid of the animal life carries on—1st, the functions of volition and sensation; 2nd, such of the mental operations as require the aid of a material agent, as the formation of ideas; and 3d, some of the organic functions, such as the productions of animal heat, and of chemical changes.

ELECTRICITY AND GALVANISM.

I cannot help fancying that the different effects produced by electricity, in carrying on life in the one system, and sensation and volition in the other, bear some analogy to the different actions of the voltaic battery and the electric machine; in the first, a copious and regular supply of electricity is obtained for chemical purposes; while the latter, whose action is only required occasionally, causes motion and sensation by the superior rapidity and intensity of the charge. However, I believe that the nervous fluid of the animal as well as the organic life to be *galvanic*; it is by galvanism that all the voluntary motions of the muscles may be imitated in the dead subject, and it is a stimulus which will cause contraction after all other stimuli have ceased to operate upon them. According to Bichat's experiments, it does not seem to have any effect upon the involuntary muscles; but in this department of the living economy, the action of which is very obscure, some peculiar mode of operation unknown to us may be required in the experiment, and the fluid ought perhaps to undergo some change in the organic system, of which we are ignorant. However, Dr. Fowler

and Mr. Humboldt deny that galvanism has no effect on the organic muscles.

EXHAUSTION AND RENOVATION OF THE NERVOUS FLUID.

The nature of the nervous phenomena shews, I think distinctly, the exhaustion and renovation of a material agent. The property of animal sensibility is exhausted by repeated excitement in experiments, and is renewed after some interval of rest: the power of moving the voluntary muscles is exhausted by exercise, and renewed by repose. Now, I cannot refer this exhaustion to the organ thus excited, because those which are under the influence of a perpetual stimulus are never fatigued, and the heart, which is incessantly stimulated by the blood, continues to contract during the longer or shorter period of our lives without requiring repose: I should rather suppose that it is the agent which *excites* the brain to sensation and the muscle to contraction, that is liable to exhaustion, not the power of *answering* to the excitation. Bichat observes, that when one of the organs of the organic life is in action, the others are usually in a state of repose, as if one part could not be excited unusually without a corresponding diminution in the rest, and that there was a determinate quantity of vital power for the whole.*

To this we may add that in nervous diseases, the irritation sometimes leaves one organ without any apparent cause, to fall suddenly upon another; in my opinion this has more the appearance of an increase and diminution of an exciting cause or nervous fluid, than of a vital power. If the stimulant of food, for example, produce a flow of nervous fluid into the stomach, and that its quantity in other parts is diminished in consequence, the fact seems simple and intelligible; but a diminution or increase of *vital power* in any part, is not easily accounted for, and I should think could only be the consequence of a diseased or healthy state of the organ. The digestive apparatus is so artfully contrived, that the presence of the aliments calls forth the fluids required for its digestion—thus the pressure of the full stomach produces a flow of bile from the liver just at the time that it is wanted—may not the excitation given to the nerves of the stomach by the contact of the food, with similar art, draw a flow of nervous fluid to that organ?

FATIGUE.

Every impression, whether moral or physical, which the nerves receive, may increase the flow of the nervous fluid at the time without causing that exhaustion, which produces the sensation of *fatigue*, so long as it is neither too frequent, nor too violent, nor too long continued; because in a proper state of health, it is constantly renewed in such proportion as to be adequate to the general purposes of life and mental action; and probably the hours devoted to sleep are sufficient for its renovation. Physical pain appears to me to *drain* the nervous system of the fluid which fulfils so many important purposes, and to diminish the general strength, by the exhaustion consequent upon its immoderate flow. As long as the increased secretion continues, the powers of life are still preserved, but as soon as the supply is exhausted, death, or at least syncope, must ensue. In most cases, as in fevers, convulsions, etc. a morbid increase of nervous action, followed by exhaustion, is sufficiently apparent. The mental action has a strong and evident influence in causing excitation and consequent diminution of the nervous power. This effect is very evident when

* The passages between inverted commas are quoted from Bichat's Physiological Works, translated by Lawrence.

* The digestive apparatus is adapted to this arrangement.

the brain has been too much excited by the exercise of the mental faculties and when the frame has been agitated by the passions of the mind. Both these causes will ultimately produce diseases in the organic system, which always bear a nervous character in the beginning.* I believe that in some cases, the exertion of a vigorous mind can diminish the violence of their attacks as far as the nervous action is concerned in them, by regulating the action of the brain to a certain degree, and I believe we are not aware of the full extent of the mental over the physical powers when opposed to the physical evil.

MODE IN WHICH THE NERVOUS FLUID IS PRODUCED.

With respect to the manner in which the electric action may be excited in the brain, I have formed the following conjecture. Electricity may be excited by contact, pressure, and friction—now may not the regular and constant *motion* of the brain, which is supposed to be essential to the performance of its functions, have some connection with the excitation of the nervous fluid?† It seems that the impulse which this organ receives from the arterial blood, is thought necessary to maintain it in a state of activity, to enable it to operate in sensation and volition, and that this mechanical motion is as indispensable to its functions as the peculiar chemical properties of the red blood. Perhaps it is this regular and incessant friction, which obliges the production of ideas to be constant and without intermission, for we can find that the will can only direct and select them, but cannot prevent their formation.

MOTION OF THE ARTERIES.

The continual action of the nervous fluid must be required in every part of the organic system: perhaps it is excited, not only in the brain but in the whole of the nervous system, by the same means: viz. constant percussion, which percussion is occasioned by the arterial pulsations. "The smaller divisions of the arteries run into the interior of our organs, without however entering into their internal structure; thus in the muscles they pass between the fibres; in the brain between the convolutions; in the glands between the lobes of which they consist, &c. "By these," says Bichat, "an intestine motion is communicated to the whole organ, which facilitates its functions, and keeps up the activity of its various parts. The sudden cessation of life, when the blood ceases to agitate the brain, proves the immediate connexion between this intestine motion and its active powers. Hence we observe that the vital energies are most decidedly marked in all parts where the arteries are very numerous, as in the muscles; while on the contrary, the vital phenomena are much more obscure in organs of less vascularity, as the tendons, cartilages, bones, and other white parts." Now the nerves generally follow the arteries; they frequently enclose them as in net work, and in some parts form an accessory covering to them—but the action of the nerves in the organic system is unknown, and the reason of this arrangement is not discovered: may they not have a reciprocal influence upon each other, the operation of the fluid derived from the nerves, exciting the action of the arteries, and the continual shock given by the arterial pulsations ex-

citing the action of the nervous fluid? This double arrangement would be very consistent with the other economical contrivances of nature.

DESULTORY FACTS.

I will in this place mention a few unconnected facts which appear favourable to my hypothesis, respecting the identity of the nervous and electric fluids, and may therefore be thrown into the balance, though I cannot regard them in the light of proofs.

A moistened surface exalts the electric energy—in all the organs of sense a moist membrane is interposed between the nerve and the body which is to act upon it.

An elevation of the temperature is required to exalt the electric energy, a certain degree of heat is indispensable to the contraction of the living muscle.

The power of galvanism as well as of pure oxygen, have been tried with success in cases of suffocation.

The organs of the electric eel have numerous and remarkably large nerves.

I can state, from personal experience, that the *start* produced by a sudden and violent noise, is frequently accompanied by a sensation similar to a smart shock of electricity in the part affected, which is the diaphragm.

In galvanic experiments, the application of metals to the organs of sense produces, in each organ, the peculiar sensation for which it is constructed, as taste in the tongue, light in the eye, etc.: so when nerves intended merely for muscular motion are subjected to the action of galvanism, the effect produced is motion in the muscles on which they are distributed.

Perhaps the flash of light which darts across the eyes upon receiving a smart blow either upon the skull or on the eye, may be an electric spark, and a blow or shock of any kind may excite it in any part of the frame, though it will be *unseen* and consequently unknown, unless it passes, as in this case, across the vi-organ.

FACTS EXPLAINED BY THE HYPOTHESIS.

The identity of the electric and nervous fluid might also account for other facts.—As for example the remarkable effect which different states of the atmosphere have upon the health and spirits and even on the clearness and rapidity of the ideas. I have already mentioned, that the atmosphere naturally contains the same proportion of *oxygen*, all over the globe (viz. 28 parts of oxygen out of 100 of atmospheric air), and though it is diminished and consumed, when confined and applied to particular purposes, it is not, in its free state, affected by climate, weather, etc.

EFFECTS OF THE ELECTRICITY OF THE ATMOSPHERE.

But it is not so with *electricity*, and the air contains much more of this principle at one time than at another. The languor, the drowsiness, the debility and relaxation, and the slowness of circulation which we often attribute to the quality of the air and the state of the weather, may therefore be more reasonably referred to a diminished portion of electricity than of oxygen in the atmosphere; while the general irritability of the system from which we sometimes suffer, without any apparent cause, may be attributable to an opposite state of the air, probably also the union of the two electricities in their proper proportions may have some effect upon the animal frame; many sensations seem to shew that the positive electricity which remains uncombined and ever varying in the atmosphere, has some peculiar effect upon the animal muscles. (The electricity that is natu-

* The organs affected in this case are the lungs, the stomach, and the liver; for which a reason will be found in my hypothesis of the Feelings of the Mind.

† Bichat supposes that this motion arises from the great arterial trunks being placed at the basis of the brain, between the latter organ and the bone. As their distension is resisted by the skull below, it elevates the brain at every pulsation.

rally combined with oxygen, and that is disengaged in the lungs, is *negative*.) Cavalho has observed: "1st, That there is in the atmosphere, at all times, a quantity of electricity; 2d, That the uncombined electricity of the atmosphere, or fogs, is always of the same kind, namely positive; 3d, That the strongest electricity is observed in thick fogs, and also in frosty weather, and the weakest when it is cloudy, warm, and very near raining—but it does not seem to be less by night than in the day time; 4th, That in a more elevated place the electricity is stronger, than in a lower one." Now I can state from my own experience, that in the warm cloudy weather above mentioned, and also in low situations (where by this account the air contains but little electricity) the state of languor and inaction is quite distressing, and that in frosty weather and in elevated situations, a new impulse seems to be given to the whole system.

EFFECTS OF CLIMATE ON THE HEALTH.

Perhaps the diminution of electricity in warm wet weather, might account for the sudden effect which the rains in Africa had upon Mungo Park's soldiers, who fell ill in a few minutes after they had begun. The wet season on the coast of Malabar, shews its effects on the *nerves*, which it even paralyzes to a certain degree, and the complaint is cured by changing the air, and crossing the Baleghaut mountains. The drowsiness induced by passing the Pontine marshes, may be attributable to the same cause, and also the malignant fevers produced by the *malaria* in some parts of Italy, which, it must be remarked, is peculiarly soft and mild. It is probably owing to the quantity of electricity which the air of France contains, that it owes its remarkable elasticity and consequent salubrity. At the same time, a superabundant portion may excite the system too strongly, and cause the feverishness and other distressing feelings experienced by Saussure, in the account of his Journey to the summit of Mount Blanc.

DIFFERENT EFFECTS OF THE TWO ELECTRICITIES.

I must here notice an apparent inconsistency, which admits of explanation. I have ascribed the *regular* and *equable* diffusion of animal heat to electricity, while I have at the same time attributed the *unequal* excitation of the nerves to the action of the same principle; it will, perhaps, be objected that the difference observable in the electrical state of the air, ought to affect one operation as well as the other; but it must be recollected, that the evolution of heat in the lungs, is supposed to take place in consequence of the chemical union of the cubic inch of oxygen contained in the atmospheric air we inspire, and the carbon present in the blood, by which their opposite electricities are set at liberty: this is a chemical operation, performed with regularity by a small and determinate portion of oxygen: the irregularities in the nervous action above enumerated, I attribute to the *free* and *uncombined* electricity of the atmosphere, which I believe to be also carried into the system, because the *whole* bulk of the air we inspire is to be deprived of its elastic principle in the lungs. This agent therefore differs from the others in its function, its mode of operation in the lungs, and also in its quantity and quality, for it is contained in about forty inches of atmospheric air which we take in at every inspiration, and it is sometimes positive and sometimes negative; whereas the electricity combined with the 11-4 cubic inch of oxygen charged in this organ, is always negative. The evolution of animal heat, however, though generally regular, is certainly liable to variation from different causes, and the state of the secretions is more or less influ-

enced by the quality of the air, particularly in nervous subjects. The functions which appear to be the most sensibly affected by the electric state of the air, are the *digestive*, and certain of the mental functions,—an association which will not excite so much surprise, when we recollect that the brain is concerned in both: besides, the personal experience of every dispeptic patient can testify that the morbid state of the stomach affects the performance of the mental operations. I therefore conclude that the organ directly affected by the free electricity of the atmosphere, is the brain; and that through this medium, every operation in which the nerves are concerned, and *as far* they are concerned, is subject to the influence of the climate, wind,* humidity, &c. this influence being most strongly felt in the organs, which receives cerebral nerves, in individuals of a weak or irritable nervous system and in those whose organs have been weakened by any chronic morbid affections. On this subject I shall have occasion to make some further observation in the next chapter.

DISEASE.

If, as I believe, the chemical, mechanical, and mental functions are in a certain degree carried on by means of a nervous fluid, it is not improbable that the greatest number of our diseases may proceed from an inordinate, deficient, or irregular secretion of this important fluid, and the discovery of its nature would consequently be a valuable acquisition to the medical department. We should perhaps find in this case, that most diseases have their origin in the over-excitement of the nervous system, either in the brain, producing that general affection of the nervous system called *fever*, or in the nerves producing local affection; and this over-excitement, would naturally be followed by loss of power, in consequence of the exhaustion of the nervous fluid. Loss of power must be the natural consequence of over-excitement, and even the operation of most narcotics must result from previous over-excitation. We must except the effect produced by the application of azotic gas to the nerves and muscles, which seems to strike them with sudden atony, and consequently causes *instant* death. The peculiar effect of this gas, confirms an opinion I had formed, that one of the purposes of azote is to dilute and moderate the activity of the vital air we inhale; in order to adopt it to this end, its properties must be of an opposite nature. The cause of the phenomena of fever is unknown, but their nature seems, I think, to indicate that they originate in the brain. In fever, the functions in which the brain is most concerned, seem to be chiefly affected. The action of the voluntary muscles, of the nerves of the senses, of the stomach, and particularly the production of animal heat are all deranged, and when the violence of the symptoms increases to a certain height, the association of the ideas is changed, and delirium ensues; this occurs when there is no inflammation or organic disease in the head. I should therefore suspect that the phenomena of fever are caused by an irregularity in the action of the brain, of temporary duration, proceeding from some derangement in the secretion of the nervous fluid—a derangement in the secretory action of any large gland, as the liver for example, produces a general affection of the system. If the brain performs an office of this nature and secretes the fluid which is the most important and uni-

* The east wind has a peculiar effect upon the nerves, which appears to be of an irritating nature. I have invariably observed, that the sensations it occasions are distressing in proportion to the irritability of the system. In coughs, particularly of the spasmodic kind, it frequently causes a relapse. A damp, easterly wind, is sufficient to give the croup to children who are exposed to the pernicious blast.

versal in its operation in the whole animal economy, how much more violent and general must be the consequence of any irregularity in the functions of this organ!

INSANITY.

With respect to insanity, delirium, and the temporary madness produced by the abuse of spirituous liquors, and the violence of passion, I would attribute all such effects to the same cause—namely, an immoderate secretion of the nervous fluid in the brain. If these phenomena could be traced to a physical cause, without having recourse to a morbid action of the *spiritual* part of our nature by way of explanation, the solution of this difficulty would be more satisfactory, for a disease of the immaterial principle appears more mysterious and improbable, than a derangement of the cerebral action. It must be allowed that the judgment is affected, but this may, perhaps, be accounted for without supposing any alteration in the state of the immaterial principle, as I will endeavor to shew in the chapter on the mental operations.

CONNEXION OF THE MAGNETISM OF THE EARTH WITH NERVOUS DISEASES.

As some connexion exists (the nature of which has not yet been precisely ascertained) between electricity and magnetism, I shall mention a few observations upon the latter that have led me to suspect some relation between the magnetism of the earth, and the nervous action of the animal body; a relation much more apparent in its morbid, than in its healthy state. I am inclined to think that the various nervous states of the body at different periods of the 24 hours, are connected with the variations in the magnetic force of the earth at such times. It has been ascertained by Professor Hanstein that the magnetic intensity of the earth is subject to a diurnal variation, decreasing from daybreak till 10 or 11 o'clock A. M. when it reaches its *minimum*, and from thence it increases until it reaches its *maximum* about 3 o'clock A. M.

Now I have observed that morbid affections which arise from *too great* an irritability in the system, as catarrh, fever, etc., increases in violence towards the time that this magnetism is rising to its maximum, and this period being passed, viz. 5 o'clock A. M., sleep and perspiration will succeed to the heat and restlessness of the first part of the night. I have also observed that in some complaints arising from langour and a *deficiency* of nervous action, the distressing feelings produced by it have been most apparent when the magnetism was at its minimum, and that the strength and the spirits have risen when it was advancing to its maximum, after which the inclination to drowsiness has returned. These facts I have noticed in some very marked cases for months together. The increased rapidity of the circulation and development of heat towards evening, cannot I should think be attributable to the state of the digestive organs after a full or late meal, for it takes place independently of this circumstance, both in the healthy and feverish state, and in the latter, the little nourishment which is taken is frequently not greater in quantity at one period of the day than the other.*

* The influence of magnetism seemed to me to derive confirmation from the course taken by the cholera in 1831, which took a north-west direction from the shores of the Indian Ocean to the North Magnetic Pole (the exact situation of which has been discovered by Captain Parry), and which had the appearance of being carried in currents, owing to some mysterious cause, either in the air or in the earth. May not this cause have been electric or magnetic?

CONCLUSIONS DRAWN FROM THE ABOVE.

The last mentioned observations afford in my opinion, an additional proof that animal heat is not produced by the evolution of *atmospheric* heat in the lungs, during the act of respiration, for the temperature of the atmosphere is lower during the night than in the day; and yet we find that animal heat increases instead of diminishing, towards that time: it is therefore probable that its formation depends upon a less variable cause.

Such are the observations which have decided my opinion respecting the nature and existence of a nervous fluid and its identity with galvanism: they would probably have been more numerous, if my information with respect to facts, had not been drawn from authors decidedly hostile to any hypothesis of the kind. In the course of my research, I found that when galvanism was first discovered, its connexion with the nervous action was suspected, and that the notion had been afterwards rejected.—But the nature and powers of the electric fluid were not at that time so well known, and though they are not yet fully ascertained, the progress of knowledge in this respect affords more rational grounds for the adoption of the opinion I have stated. I shall await its confirmation or confutation, and now, I shall endeavour (without referring to the particular nature of the nervous action) to trace its connexion and dependence upon the *mental* action. For this purpose I have diligently perused my own mind without the assistance of any other metaphysical book, both in order to develop my hypothesis unbiassed by the opinion of others, and to exercise my own faculties, by the habit of abstraction and intense thought which such a plan required.

TERRESTRIAL MAGNETISM.

ELECTRIC TELEGRAPH.

We were highly gratified yesterday, by witnessing the practical operation of the Electric Telegraph invented by our countryman, Prof. S. F. B. MORSE—of which all our readers have heard, but with the principle and beautiful operation of which, we apprehend, but few are acquainted. We regard it as among the most wonderful, and, prospectively, the most useful applications of science to the great purposes of life, which the present age has seen. It proposes, and for aught we can see, with good ground of success, to announce in every part of the country to which it may be extended, any information with unerring certainty and at the same instant of time.—This stupendous result is to be accomplished by the power of galvanism; and the instrument by which it is to be done, though perhaps difficult of description, is yet simple, and its operation easily understood. In the first place, by an alphabet, in which the twenty-six letters are represented by different combinations of the *dot* and the *dash*, the communication is written upon paper at the remote extremity of the Telegraph. The machine by which this is directly done is small and simple, moved by a weight like clock work, the slip of paper being wound about a cylinder and carried under the style by the operation of the machinery. To the style or pen which makes the mark is attached, in a convenient method, a piece of iron which rests just above a mass of soft iron, which is instantly rendered a magnet by the transmission of the electric current. The operation of the Telegraph is therefore easily seen. Suppose one extremity be in Washington and the other in New York—the communication being formed by

protected wires traversing the intermediate distance. A person at Washington wishes to convey news to this city. He has before him the two extremities of the wires and the means of sending along them a current of electric fluid. The instant he brings them together, the soft iron mass in New York becomes a magnet—the iron above it is drawn towards it, and the style to which it is attached is pressed upon the paper, and this being carried forward by the machinery which is at the same instant, by another magnet, set in motion, receives the impression. As soon as the two wires are separated, the soft iron is no longer a magnet—the iron above is no longer attracted, and the pen no longer rests upon the paper. By bringing the wires in contact and instantly separating them, a *dot* is made; by keeping them in contact for a little time, a *dash*; and by the combination of these two all the words in the language may be written and read.

By the most accurate experiments that have been made, it is found that the electric fluid moves at the rate of 288,000 miles in a second; and as this is the only limit to the speed with which news may be transmitted by Prof. Morse's Telegraph, it is evident that for all terrestrial purposes it promises all that the most *enterprising newspapers* could desire. fifty letters can easily be made by it in a minute—so that the President's Message or any other document could easily be sent to any part of the continent faster than a compositor could set it up. The modifications to which it may be subjected are almost endless. Prof. Morse has already invented a method to make his Telegraph *speak* as well as write; another to enable the locomotive upon a railroad track to 'report progress' at every mile or furlong of its career, at the most distant extremity, without the aid of any man; and a third whereby the same thing may be announced in all the cities of the Union at the same instant.

The advantages of this Telegraph over that of WHEATSTON, of which so much has been said, are evident and marked. It will be recollected from our description of that invention, that the letters or words are indicated by the direction given to a magnetic needle by the electric current. In this case, then, unless some one were watching at the instant, the needle would change its position and the message be lost. By Prof. Morse's Telegraph the words are *written down*, letter for letter, and may be read as well a year as a minute afterward. It is found too, that the passage of a cloud charged with electricity over the instrument completely deranges the operation of the needles in Mr. Wheatston's instrument, and that in a certain state of the atmosphere it is therefore entirely worthless. Nothing of this kind has the slightest influence on the Telegraph of Prof. Morse. Its operation is always instantaneous, certain and complete. It has already been fully tried for a distance of nearly forty miles, and is just as effective as at a distance of so many feet.

The immense importance of this invention must be seen at a glance;—it will be a powerful engine, for good or for evil, as those into whose hands it may fall may be disposed to use it. We understand that Prof. Morse intends immediately to submit his experiments to Congress with a view of asking an appropriation to enable him to perfect his arrangements, if the Government shall not see fit to purchase it for its own purposes. We trust that it will receive the attention it deserves, and that out of a regard to their own interests as well as in justice to the distinguished inventor, the authorities at Washington will secure its control. If it should pass into the hands of private companies it might prove a formidable rival to the Post Office Department in some of its most im-

portant functions, and in subserving the purposes of stock-jobbers and gamblers, might be productive of infinite mischief and injustice. Professor Morse has already spent upon his invention years of ardent labor and thousands of dollars from his private purse; and though a Committee in the House has once reported unanimously in favor of an appropriation of \$30,000 to establish a line of Electric Telegraphs, nothing decisive has ever been done by Congress.—We trust the invention will, as soon as possible, receive the attention its high importance and utility so justly merits.—*Tribune*.

The following account of this truly wonderful invention occurs in Dr. Lardner's lectures, and for the reader's gratification we give the remarks entire:

"Such are some of the gifts which science has conferred upon art. I will now mention one or two others; and one of the most recent is that of the electric telegraph, invented by Wheatston and now employed in London. He had devoted to the subject of electricity much time, and its first fruits was this discovery. Its object is, by the agency of electricity to communicate between two distant places in a very short space of time. In England it has already been applied along a rail-way for some hundred or more miles. All that is necessary is for a person to go to the office at one end and ask his question; in about three minutes he receives an answer. I chanced myself, while engaged in railway operations, to witness an operation of this kind, and I shall not soon forget my astonishment at the result. I was standing near the office of the Great Western rail-road when a passenger got out from the train of cars which had just arrived, over forty miles from London, went into the office and told the clerk that he wished to send by the returning train a note to his hotel in London concerning his cloak and umbrella he had left there. 'Yes sir,' said the clerk, 'wait a moment and I will give you the answer to your note.' He turned to a small apparatus in a corner of the room, and in about three minutes told the man that his cloak and umbrella had been taken care of and would be sent by the next train.

"The method of the operation of this invention is extremely simple, and is easily rendered intelligible. I have already explained the nature of the galvanic current which is produced when zinc and copper or other metals are brought into contact. The electricity evolved at the surface of contact is decomposed—the positive taking one direction and the negative the other; hence, if two wires be provided and put in contact, the one with the positive and the other with the negative fluid, these two currents will flow along them for any distance—even around the globe. Now suppose a wire be enclosed in glass tubes or surrounded by some other non-conducting substance and passed the whole distance from New York to New Orleans, a needle placed above the wire at New Orleans will instantly turn at right angles to it upon sending along it the electric current. This would be the case with any number of wires. Thus we have a method of communicating instantly between distant places. The next thing is to devise some means of rendering the communication intelligible. A variety of signals have been employed for this purpose. In Wheatston's telegraph the letters of the alphabet were employed, and the mode of conducting the communication was this: At each end of the route was provided a lozenge marked off into parallelograms, at the angles of which were placed the different letters of the alphabet. Magnetic needles were placed above the wires in such a position with respect to the figures that any two of the needles may

be made to point to each of the letters by the action of the fluid, which on being passed along the wires causes them to turn at right angles to the wires.—Now in communicating from end to end, the persons who make the first advances passes a current along a wire which lets go a bell at the other extremity; thus a wire touched at New Orleans would let go a bell here, and its language is, “I am going to send you a message—so look about you.” The person receiving this warning sends back a current which lets go a bell at the other end, saying in reply, ‘Go on, sir, I am listening to you.’ Then they begin to spell out the words—if that is the method adopted. If E be the first letter, then two wires are touched, which will cause two needles at the other end to point to that letter on the lozenge, and so for all other letters. In general practice fewer letters are required than those of the alphabet.

“The manner in which these telegraphs are constructed in England is this: the wires, of which there are five or six, are placed in glass tubes and buried several inches in the ground, beside the rails. One is now nearly finished from London to Liverpool, and by it messages are transmitted with astonishing rapidity. For commercial purposes these telegraphs are of especial importance.”

THE MAGNET.

NEW YORK, SEPTEMBER, 1842.

THE MAGNETIC NATURE.

HAVING assumed, that animal life is nothing more nor less than Magnetism in an organised form, our readers will doubtless expect to find in our columns some of the reasons on which this conclusion has been founded. And it certainly would afford us great pleasure to gratify this expectation to the fullest extent; but it must be remembered, that the limits of our work will not admit of a treatise on this, or any other subject. Our main object is to give such facts as may enable each one to judge for himself with regard to the correctness of our conclusions.

The facts adduced in the two preceding numbers of the Magnet, under the head of “Sleep-Waking,” should be examined thoroughly; and, in addition to that class of facts, we have numerous others, which we shall continue to offer for the consideration of the curious. The articles in the present and preceding numbers, under the head of “Nervous Influence,” though we do not endorse every thing said in them, yet they will be found, we think, to contain many important facts, which tend to the corroboration of our position, with regard to the Magnetic nature of human life.

We are aware, that some of our readers will feel quite unwilling to allow us to *assume* any thing, in matters of this kind. But are they not unreasonable in this? How do you ever attempt proof, in any case, until *you first assume* something? If you would convince us that Phrenology is false, you, of course, assume in the outset, that it is not true; and you assume, also, that we are familiar with the terms you use for accomplishing your purpose. We beg, therefore, for no extraordinary indulgence, in asking consent, for the time being, to the following:

1. That the Electrical forces constitute the *all-pervading* AGENT, by which the Great First Cause accomplishes

his purposes with matter. By them, “worlds on worlds” are kept in motion, and made to perform their appropriate revolutions with unerring regularity. By these *attracting* and *repelling* FORCES, all the works of Nature, animate and inanimate, go forward, in obedience to his Will. They are the cause of motion, throughout the universe of God.

2. That, to a limited extent, the Deity has subjugated these forces to the MIND of *man*; and in the exercise of this power, the nervous system is affected, the muscles contracted or extended, and the organs of the body made to perform their various functions. Indeed, all the motions of the human system depend on these forces; but we now refer particularly to the *exercises of the mind*.

The idea of the beginning of motion, (says Locke on the Human Understanding,) we have *only from reflection, or what passes in ourselves*; when we find, by experience, that barely *by willing it*, barely by a *thought* of the mind, we can move the parts of our bodies which were before at rest. But this power of the human mind, in the movement of matter, is in constant exhibition before our eyes, and hence it excites no astonishment, though, indeed, we can no more explain how it is, than we can explain the laws which govern the electrical forces.

3. The brain is the organ of the mind; and the substance of which it is composed extends throughout the entire system. The elements of sensation seem to be produced by a modification of the magnetic forces in the ganglions of phrenic life. They are *repelled* from the convolutions of the brain to the skin and serous surfaces of the body by one set of nerves, while the sensations produced in the skin and serous surfaces of the body, are *attracted* to the convolutions of the brain by another.

Though the nerves have been supposed to be the *conductors* which convey impulses to and from the brain, yet it should be remembered, that they are not always in the same conducting condition; and the magnetic forces are not conveyed always by the nerves, nor, in certain cases, are they dependent upon them at all, as far as we know. It is certain, that the nerves do not always possess the same sensibility or susceptibility for receiving and conveying impulses. Thus, in sleep, in a reverie, or when relaxed by fatigue, we know that their power is not the same. At other times, the power of the nerves seems greatly augmented; as when under the excitement of *fear* or *hope*, or when the *mind* is highly excited, a corresponding effect is produced. Persons labouring under peculiar derangements of the system, have been known to manifest most astonishing nervous sensibilities.

There is precisely as much *mystery* in the act by which you raise your hand, as there is in the laws of galvanism. For who can tell *how* it is, that matter is made to obey the volitions of the human mind? And the only reason why every motion of the body, which is made in obedience to the human WILL, does not excite our wonder, is, because the thing is so common. But, that the mind is affected by the nervous system, and vice versa, is too well known to be doubted or disputed.

However, the degree to which this power may be, and has been exerted, is not so generally understood. We refer, now, both to the influence one’s mind may have over his own nervous system, and, also, to the influence

which it may have over the nervous system, and, consequently, *over the mind of another person.*

But first let us notice a few facts, which show the influence of the imagination over one's own system.

The case of the criminal who was condemned to die, is well known. The physicians obtained leave to experiment upon him in the following manner: He was blindfolded, and made to *believe* that he was to be bled to death. A vessel of water was placed near him, and when his arm had been operated upon, precisely as if a vein had been opened, the water was set to running, so that the noise of the small stream sounded like the blood issuing from the arm. In a few minutes the patient began to grow pale: he then complained of faintness. His pulse grew more and more feeble, till in a short time he actually expired, and this, too, when not one drop of blood had been drawn from his veins.

A skilful physician recently related to us the following:—

A man called on him for medical advice, complaining that all the medicines he had taken for some time previous, had the effects of an aperient. He seemed to think he had been imposed upon by the doctors, and begged to know of our friend Dr. W. if he could not give him something which would benefit him without producing this effect. The Doctor assured him that he had no doubt at all, but that he could gratify him in this respect. Accordingly, he retired to another room, and prepared a few pills, entirely of *wheat bread*, and handed them to the patient, with suitable directions. In the course of a few days, the Doctor fell in with the patient, and received from him a severe castigation. "Why, Doctor," said he, "those *pills* you gave me physicked me almost to death. I never took any thing before, so powerful!"

We reminded the Doctor that he had made a mistake in giving the patient *pills* of any kind. Had the same substance been given in the form of powders, probably it would have produced no effect at all.

We had the following from a scientific gentleman of this city. A little daughter of his was indisposed, and he gave her, for an aperient, a little pure water slightly coloured with wine. She thought it was tincture of rhubarb, and it affected her accordingly.

We have a patient at the present time, a very intelligent lady, who is so susceptible, that she will drink from a tumbler of clear water, and believe what she drinks to be lemonade coffee, brandy, or any other liquid which we tell her it is; and this she does, in the waking state. We once gave her a tumbler of water slightly coloured with molasses, telling her it was senna; and she declared it to be senna, on drinking it, and it produced the desired effect.

Burton (*Anat. of Mel.* vol. 1, p. 221,) says, a person who has often taken nauseating medicine, will be nauseated by the *thought* of receiving it again; and a *thought* has often proved a powerful emetic. And not only has a thought proved an emetic, but the sight of a distasteful cathartic has for some time operated the same, as when that medicine is actually received into the stomach, as testified by many experienced physicians, especially as related by Cornelius Agrippa (out of Gulielmus Parisiensis). In another place he says:

"Men, if they see but another man tremble, giddy, or sick of some fearful disease, their apprehension and fear are so strong in this kind, that they will have the same disease. Or if by some soothsayer, wise man, fortune teller, or physician, they be told they shall have such a disease, they will so seriously apprehend it, that they will instantly labour of it—a thing familiar in China (saith Riccius the Jesuit). If it be told them that they shall be sick on such a day, when that day comes they will surely be sick, and will be so terribly afflicted, that sometimes they die upon it."

A fact is stated in Lockhart's *Life of Sir Walter Scott*, which shews the power of the mind over the nervous system, to prevent, at will, the usual effects of medicine.—It is related by Scott himself, of a common farmer, whose father had given him a quantity of laudanum, instead of some other medicine. The mistake was instantly discovered; but the young man had sufficient energy and force of mind to resist the operation of the drug. While all around him were stupid with fear, he started up, saddled his horse, and rode to Selkirk, a distance of six or seven miles, thus saving the time that the doctor must have taken in coming to him. His agony of mind prevented the operation of the opiate until he had alighted, when it instantly began to operate. He was, however, perfectly recovered.

Some ten years ago, while labouring under a severe inflammation of the throat and lungs, a friend prepared for us a mixture of molasses and camphor. Soon after taking it we began to feel strangely, and, on inquiry, found that we had actually eaten a piece of the gum, larger than a nutmeg. We felt, of course, a little alarmed, but immediately *resolved* that it should not overcome the nervous system, inasmuch as we had an appointment to appear before a public meeting that evening. We walked, during an hour or so, over the Washington parade ground, resisting all the while the action of the camphor by a determined resolution not to be overcome by it; and we, without any difficulty, succeeded, to the no small surprise of the friends who had become cognizant of what we had done.

We have before stated it as our opinion, that all disease of the body arises from a derangement of the magnetic forces. Admitting this to be correct, it will readily explain how it is that diseases are often cured, as they seem to be, by the exercises of the *mind*. That diseases have been cured by the action of the mind on the nervous system, has long been admitted by the highest scientific authorities. Without attempting to quote from numerous medical works, we have space merely for a few extracts, which we take, promiscuously, from such sources as are now at hand.

Rev. John Wesley, in his *Journal* for May 12, 1759, makes the following remarks:

"Reflecting, to-day, on the case of a poor woman who had continued pain in her stomach, I could not but remark the inexcusable negligence of most physicians, in cases of this nature. They prescribed drug upon drug, without knowing a jot of the matter concerning the root of the disorder. And, without knowing this, they cannot cure, though they can murder the patient. Whence came this woman's pain? (which she never would have told, had she never been questioned about it)—from fretting for the death of her son. And what availed medicines, while that feeling continued? Why, then, do not all physicians consider how far *bodily disorders are caused or influenced by the MIND*; and in those cases where they are

utterly out of their sphere, call in the assistance of a minister; as ministers, when they find the mind disordered by the body, call in the assistance of a physician? But why are these cases out of their sphere? Because they know not God. It follows, no man can be a thorough physician without being an experienced Christian."

And here is another testimony from Wesley, which very much corroborates the views given above, and in our preceding articles:

"The nerves are the conductors of this ethereal fire, vulgarly called animal spirits. If this is duly diffused through the whole body, we are lively and vigorous; if it is not (which, without exercise, it cannot be,) we soon grow faint and languid. And if other disorders do not ensue, those termed nervous surely will, with that whole train of symptoms which are usually comprised in what is termed *lowness of spirits*."

"Something may be allowed to irregular passions; for as long as the soul and body are united, these undoubtedly affect the body, the nerves in particular. Even violent joy, though it raise the spirits for a time, does afterwards sink them greatly. And every one knows what an influence *fear* has upon our whole power; nay, even 'hope deferred makes the heart sick,' puts the mind all out of tune."—*Wesley's Works*, vol. vi. pp. 567--579.

The late Dr. James Gregory had ordered an opiate to a young man, to relieve sleepless nights, under which he had suffered in convalescence from fever. He informed the patient that he had prescribed an *anodyne*, to be taken at bedtime; but the invalid being somewhat deaf, understood him to say an *aperient*. Next morning, on the doctor's inquiring whether he had slept after the anodyne, he replied, "Anodyne! I thought it was an aperient, and it has indeed operated briskly."

A female lunatic was admitted into the county asylum at Hanwell, under Sir William Ellis. She imagined that she was labouring under a complaint that required the use of mercury; but Sir William, finding that the idea of that disease was an insane delusion, yet considering that flattering the opinion of the lunatic to a certain degree, would be favourable to the recovery of her reason, ordered *bread pills* for her, and called them mercurial pills. After a few days she was salivated, and the pills were discontinued. On again ordering them after the salivation had subsided, she was a second time affected in the same manner; and this again happened on the recurrence to the use of the pills a third time.

A physician states, that a lady under his care assured him that opium, in any form, always caused headache, and restlessness, and vomiting on the following morning; and on prescribing laudanum for her, under its usual name, "*tinctura opii*," he found that her account of its effects were correct; but on prescribing it under the term "*tinctura thebaica*," which she did not understand, (she read every prescription,) it produced its usual salutary effect, and was continued for some time without inducing the smallest inordinate action.

And why should not the emotions of the mind produce disease, when we know that death has been produced by the same cause?

It is recorded of a Roman mother, that she instantly died of joy, on meeting her son as he returned from the battle of Cannæ, where she supposed he had been slain by the veterans of Hannibal.

A lady in Kentucky, the wife of David Prentiss, Esq. some time since fell dead in an instant, while reading a

letter which brought her news of her husband's death.

The *Areekee* are a sect among the heathen in New Zealand, described by Mr. White, a Wesleyan Missionary, we believe, who says: "They pretend to have intercourse with departed spirits, by which they are able to kill, by incantation, any person on whom their anger may fall; and it is a fact," adds Mr. White, "that numbers fall a prey to their confidence in the efficacy of the curses of these men, and pine under the influence of despair, and die."—*Miss. Her.* vol. 23, p. 314.

Burton, before quoted, speaks of a Jew in France, who walked by chance, in the dark, over a dangerous passage or plank, that lay over a brook, without harm; the next day, perceiving what danger he had been in, he dropped down dead. He further records, that at Basil, a child died through fright, occasioned by seeing a malefactor hung in gibbets; and that in the same town, beyond the Rhine, another child died on seeing a carcass taken from the grave.

These effects were unquestionably produced by the power of the mind over the magnetic forces of the human system; and, as far as they prove anything, they prove that the derangement of these forces results in disease and death.

MAGNETIC EXAMINATIONS.

We are asked to state what we mean by Magnetic and Phreno-Magnetic Examinations. Our correspondents must have patience. It is not possible for us to give all the light which is to shine on the subject of Magnetism, in two or three numbers of the *Magnet*: volumes would hardly suffice to do justice to all which we might feel disposed to communicate, tending to illustrate the mysteries of human life. But as fast as time will allow, we shall fill the columns of this work with a detail of such facts as we may reasonably judge will be most acceptable and profitable to our numerous readers. We have a vast amount of facts yet to communicate, demonstrating the existence of the sympathetic points of the different portions of the body, and the new mental organs, not known heretofore. These facts go far towards proving, as we think, the positions laid down in our last with regard to the nature of disease, and the curative efficiency of Magnetism, or, as Dr. Caldwell calls it, "the Cerebral Medicine."

But to the subject of this article. We have long been fully satisfied, that the most appropriate, and perhaps the only proper application of what we call Human Magnetism, is to the description and cure of disease, and to the delineation of MIND; and the best methods for its development, the power of *clairvoyance*, as it has been called, is nothing more nor less than the exercise of that *sense* by which we become *cognizant* of *mind* and things. It is that sense by which we obtain knowledge of every thing which is knowable, and which seems to be peculiarly adapted to the investigation of every thing which relates to the human system. That certain persons have sometimes been able to describe their own anatomy, and the organs diseased, without the use of the eye, and who had no previous knowledge of human physiology, is a matter of fact which no intelligent physician will deny. The cases detailed under the head of "Sleep-Waking," in

previous numbers of our work, are as really wonderful as any instance of *clairvoyance* on record. There are two considerations which have produced the conviction above stated, as to the appropriate use of this peculiar sense. The first is, that all persons in a state of *somniphathy*, as well as those called natural sleep-wakers, have always been known to describe diseases, and the physiology of the human system, better than they could describe anything else. Every person who is familiar with the induced sleep, will agree in this statement. We have had the testimony of some of the best and most experienced magnetizers, to this fact. They all agree, that their subjects describe, with the greatest ease and accuracy, when their attention is directed to the human body for benevolent purposes. It is true, some allowance should be made for the manner in which patients have been educated, if we may so speak; that is, somniphathists may be trained into habits of doing various things; but we are certain, that when this sleep follows an effort for their own or another's good, they will be more accurate in describing disease, or the mental powers, of themselves or others, than in their descriptions of anything besides. If we are right in this supposition, it follows, that it is a perversion of this faculty when it is made to attempt descriptions of various articles, merely to gratify an idle curiosity. And it may account for the numerous failures which always occur in the attempts to produce what is called *clairvoyance*. As we know but few of what are called *clairvoyants*, have ever been able to give descriptions of *things* which neither they nor the operator ever saw, which were strictly true. Two-thirds of these may be set down as failures, and half of the other third will be found to be wholly or partially untrue, while the remainder is given in such terms as often forbid our setting the description down as plain, *unmixed*, matter of fact.

The other consideration to which we have alluded, is the fact that most somniphathists are not only averse to any attempts at clairvoyance of things, but these attempts not unfrequently are followed with injury to the patient. An operator called on us a short time since, to relieve a patient from a fit of *insanity*, brought on by his attempt to make her clairvoyant; but no such mischiefs follow the legitimate application of this agency. Where you find a natural sleep-waker, or one in a state of somniphathy, their descriptions of disease, and of the mental character of others, will be spontaneous, or follow the wish of the operator, provided the patient be properly managed. One of the first phenomena noticed by Puyseger, (the first who produced a state of somniphathy of whom we have any account), was the knowledge which his patient seemed to have of his own disease; and from that time to the present it has been found, that all persons in this state more readily describe their own or another's disease, or the mental dispositions of others, than any thing which is not connected with the health or character of any one. We have two subjects at the present time, who describe diseases with an accuracy truly astonishing. And what is still more remarkable, they describe the diseases of persons whom they never saw. One lady in this city has described accurately the cases of some fifteen persons, whom she never saw, and of whom she knows

nothing in her waking state; and of a part of this number, we knew nothing at the time!

Sometimes we have the persons present who are to be examined. In these cases, the somniphathist puts his hands on the head, and traces from different portions of the brain to the parts affected; and in no case have we ever known them to fail in finding and describing the difficulty which constituted the disease; and this they have often done, when physicians had failed altogether in their attempts to tell what the malady was, and also in their attempts to remove it. They tell us, also, in many cases, what means will prove the most successful in effecting a cure; and we could produce the testimony of scores whom we have examined in this way, who would testify that these descriptions of their cases by a person in the somniphathic state, were more correct and satisfactory than any they ever had from physicians or others.

In the same way we have obtained the most remarkable and accurate delineations of character and the mental powers of different persons. This may seem to be mere fancy to some, we are aware; but we speak the words of truth and soberness, and we could refer to hundreds who have been correctly described in this way, in this city. The first thing of this kind that attracted our attention, was the fact, that one of our subjects never failed to tell us the *feelings* and *peculiar dispositions* of every one who was put in communication with her; and some time after we had commenced the course of cerebral experiments heretofore described in this work, we found one of our patients excessively fond of putting his hands on the head of different persons, and when he did so he instantly *sympathised* with them in the feelings of the different organs, and would tell the *very thoughts* which were at the time, or had been, passing in their minds!!

The following is a specimen: it is from the minutes of our experiments commenced in December, 1841, in connexion with Dr. Sherwood and Mr. Fowler. It is a description of the head of Mr. J. G. Foreman, a lecturer on phrenology, who was present, and who had for the first time the day before, witnessed the excitement of the phrenological organs by magnetism. After having given a correct description of his head, she gave the following as a specimen of the controversy which had been going on during the day between his mental organs, on the truth of what he had seen:—

Causality. "I don't know about it—I must examine it further."

Faith. "Yes, it is true."

Conscience. "But, is it right?"

Human Nature. "I don't know, there may be deception in all this."

Acquisitiveness. "Can I make anything by magnetism? How will it affect my purse? can I make money by it?"

Faith. "Yes, I must believe it."

Causality. "Hold! I must inquire more about it."

Comparison. "Wait till I can compare it with other things I know, and then I can tell better."

Mirth. "Ha, ha, ha! Faith has the majority."

"The organs have been in such a conflict, that his brain is much heated and excited."

Language of Ideas. "Says nothing, but like the girl's beau, looks glorious thoughts."

Mr. Foreman will bear us witness, that he was both amused and not a little surprised, on hearing the thoughts

of his mind, which he himself had never uttered, so correctly described by another.

Nor is this power confined to persons in a state of somniphathy, or natural somnambulism. Persons have been known, in different ages, who have possessed a remarkable faculty for arriving at a knowledge of the diseases and characters of others. In some this faculty seems to be natural, and in others to have been acquired. Mr. L. N. Fowler, one of the best practical phrenologists we have ever known, when examining the heads of different persons, informed us, that he frequently had an *intuitive* sense, not of their general character merely, but of the present and particular exercises of different organs; and he often told his subjects the thoughts which were at the time passing in their minds. That this is not mere fancy, we know as well as we do any other matter of fact which is an object of *consciousness*.

We do not mean to be understood as saying, that this knowledge is general, by any means; but only that it is peculiar to numbers whom we have found. One, for instance, has his organs excited by our placing our finger upon the same organ in our own head; and others we have found, who became excited, and partook of our own emotions, on placing their fingers on any of the organs in our head; and we have another subject, a few of whose organs we have excited in the waking state by merely willing it, while looking him in the eye. How far this could be done in others, we have not had the opportunity of determining by actual experiment.

CAUTION REPEATED.

We feel compelled to repeat the caution we have before given, to persons disposed to experiment in the use of Human Magnetism. We know it is quite common for those but partially familiar with this subject, to recommend and urge their friends and others to attempt the production of the magnetic phenomena, merely to gratify their curiosity, or to satisfy themselves of its truth.

This is, certainly, wrong; and we have seen so many mischievous results from these attempts, that we feel it incumbent on us to call attention to the caution published in our first number.

When any injury follows the use of medicine which has been administered by an intelligent physician, people do not set it down to the discredit of science, but we infer from such cases, the necessity of care and extensive information, by which such injuries may be avoided. Or, if the mischief be done by the ignorance of the practitioner, he is blamed, of course—and punished, it may be, by the tribunals of justice.

But it is still worse when mischiefs follow from mismanagement in the use of Human Magnetism. From the deep-rooted prejudice which every where prevails against the use of this agency in the cure of diseases, all the mischiefs which may result from its misuse, are attributed to the agency itself; and thus greater injury seems to be done to truth, than in the cases above stated.

We were recently called to the following case. An operator had succeeded in putting a person to sleep. The attempt had been made a number of times, and from curiosity merely. But, finally, he found it impossible to re-

move the sleep, and convulsions and insanity followed. We have known a number of cases of this kind. The physicians and friends, of course, lay all this mischief to magnetism. It should be attributed to the *ignorance*, and in some cases to the imprudence, of the operators.

We know that the most intelligent and skilful may sometimes fail; and if these are not always successful, it should caution others never to attempt to produce a state of feeling in another, which they *may* find themselves unable to control. If you have health, and a heart for this work, and have made yourself familiar with the rules laid down in our second number, *commence with the sick*: that is, let your efforts be made, not to produce the magnetic sleep, nor any of its phenomena, but to relieve the suffering. Evil could scarcely be anticipated from such attempts, provided the motive were what it should be, and the process were agreeable to the patient.

We have stated, that the effort to magnetize should never be made in promiscuous company; and we may add, that it should not be attempted, *without some other person being present* with the operator and the patient.—The person who submits to be magnetized by another, of whose *health* and other *necessary qualifications* he is not well assured, runs a hazard far more dangerous than the patient who merely swallows the nostrum of the quack, of whom he knows nothing.

Persons magnetised should know, that just so far as this operation is successful, just so far he receives the *impress*, as it were, of the operator's *heart*. The *mental* disposition of the magnetiser has every thing to do with the *impression* made on the person who is put into the magnetic state. Of this fact we have had numerous *demonstrations*, which leave no room for the shadow of a doubt. All, therefore, should understand what results *may* follow, and those which *do always* follow, the influence which is exerted upon them by Human Magnetism. That influence may, and should be, good, and nothing but good; but this will depend, of course, upon the health, skill, and *motives* of the operator.

MAGNETISM IN EVERY THING.

IF our assumptions with regard to the extent of the magnetic forces be correct, and if these forces constitute, as we believe they do, all animal life, we shall find an easy solution of some of the most interesting phenomena involved in human existence. All action is by these forces. The power of speech and thought, all the influences we exert, whether for good or evil, all the feelings of our own minds, and all those we produce in others, are attributable to no other agency than these same magnetic forces.

And yet persons often marvel, and ask, with the greatest astonishment, what magnetism can be, and whether it be possible for *any* one to influence another by magnetism? We shall yet find, that we neither feel nor exert any other influence than what is conveyed by magnetism. It is the *life* of our physical and mental organs, and the medium by which ideas are communicated from one brain to another. It is the agency by which one mental organ speaks to another, and by which *mind* acts upon *mind*. It speaks through the eyes, the features, and through the

human voice. We have heard of a father, who, when his children became engaged in a dispute, would at once require them to unite in a song. The blending of their voices in harmony was soon found to subdue their angry and contentious feelings. There is a native, spontaneous, unsought music: it consists in the tones which issue from the voice which overflows with melting love. It has been well observed, that a blow may be inflicted on a child, accompanied by words so uttered as to counteract entirely its intended effect. Or, the parent may use language in the correction of the child, not objectionable in itself, yet spoken in a tone which more than defeats its influence.

We are by no means, says the same writer, aware of the power of the voice in swaying the feelings of the soul. The anecdote of a good lady in regard to her minister's sermon, is to the point. She heard a discourse from him which pleased her exceedingly. She expressed to a friend the hope that he would preach it again. "Perhaps," said her friend in reply, "he may print it." "Ah!" said she, "he could not print it in that *holy tone*." There is a tone in the pulpit, which, false as is the taste from which it proceeds, does indeed work wonders.

Let any one endeavour to recal the image of a fond mother, long since at rest in heaven. Her sweet smile and ever clear countenance, are brought vividly to recollection. So, also, is her voice; and blessed is that parent who is endowed with a pleasing utterance. What is it which lulls the infant to repose? It is no array of mere words. There is no charm to the untaught one in letters, syllables, and sentences. It is the sound which strikes its little ear, that soothes and composes it to sleep. A few notes, however unskillfully arranged, if uttered in a soft tone, are found to possess a magic influence. Think we that this influence is confined to the cradle? No: it is diffused over every age, and ceases not while the child remains under the parental roof. Is the boy growing rude in manner, and boisterous in speech? We know no instrument so sure to control these tendencies, as the gentle tones of a mother. She who speaks to her son harshly, does but give to his conduct the sanction of her own example: she pours oil on the already raging flame.

In the pressure of duty, we are liable to utter ourselves hastily to our children. Perhaps a threat is expressed in a loud and irritating tone. Instead of allaying the passions of the child, it serves directly to increase them:—every fretful expression awakens in him the same spirit which produced it. So does a pleasant voice call up agreeable feelings. Whatever disposition, therefore, we would encourage in a child, the same we should manifest in the tone with which we address him.

There is nothing more desirable in a daughter, than intelligence joined to a gentle spirit. The mind is fashioned and furnished, in the main, at school; but the character of the affections is derived chiefly at home. How inestimable is the confidence of that mother in producing kind feelings in the bosoms of her children, who never permits herself to speak to them with a loud voice, or in harsh, unkind tones.

And who needs to be told, that there is magnetism in a *kind* look, or that sympathy and tenderness always reach the heart, when these feelings are expressed in the tones of the voice?

Indeed, the truth of the statement at the head of this article, could be verified in ten thousand forms. Often, says another writer, events long since forgotten, are revived in a manner we cannot explain. But our experiments, we think, will shed some light on phenomena like these, for instance:—

In the act of drowning, persons have had all the transactions and feelings of life portrayed before them, as if they had every one been written out with the nicest exactness on the tablet of memory. And a certain writer tells us, that when under the influence of stimulants, he felt as though he were living over the whole of his past life in the course of a few moments. The extended train of thought, and thoughts too of the most subtle and evanescent kind, which had long been blotted from the page of remembrance, were brought back to his view in all the freshness and vividness of original conception. The minutest circumstance, the finest thread of mental association, stood forth in distinct and visible clearness. A remarkable instance of the same description occurred not long since in Germany. We give an abridged statement of it, from a celebrated writer, recently deceased:

A young woman of four or five and twenty, who could neither read nor write, was seized with a nervous fever, during which she continued incessantly talking Latin, Greek, and Hebrew, in very pompous tones, and with most distinct enunciation. The case had attracted the particular attention of a young physician, and by his statements, many eminent physiologists and psychologists visited the town, and cross-examined the case on the very spot. Sheets full of her ravings were taken down from her own mouth, and were found to consist of sentences coherent and intelligible, each for itself, but with little or no connection with each other. After considerable search on the part of the young practitioner, he discovered that his patient had, at the age of nine, been charitably taken by an old Protestant pastor, and that she had remained with him some years, even to the old man's death. With great difficulty the physician discovered a niece of the pastor's, who had lived with him as his housekeeper, and inherited his effects. She remembered the girl, and related that her venerable uncle had been too indulgent to her. Anxious inquiries were then made concerning the pastor's habits, and a solution of the phenomenon was soon obtained; for it appeared that it had been the old man's custom for years to walk up and down a passage of his house, and read to himself with a loud voice out of his favourite books. A considerable number of these were still in the niece's possession. She added, that he was a very learned man, and a great Hebraist. Among the books were found a collection of Rabbinical writings, together with several of the Greek and Latin fathers; and the physician succeeded in identifying so many passages with those taken down at the young woman's bedside, that no doubt could remain, in any rational mind, concerning the true origin of the impressions made on her nervous system.

SUSCEPTIBILITY.

We use this term to signify that quality in the temperament, which renders a person more or less easily influenced by what are called the magnetic passes.

Though every one has the magnetic nature, yet we find some whom, as far as we know, it is not possible to influence at all; at any rate, they can be influenced only in a very small degree.

We have been quite solicitous to ascertain, how far we could be influenced by this agency, and a number have attempted, accordingly, to magnetize us. And, what may seem a little remarkable, we have known two persons to sink into the magnetic sleep themselves, while operating upon us. One very large and healthy gentleman attempted, but soon complained that it gave him a severe pain in his side, and so he gave it up in despair.

It is possible that one of the right temperament, by repeated trials, might be able to succeed; however, we have never known a person of a very strong bilious, or bilious-nervous temperament, to be put into the magnetic sleep by another, of whatever temperament the operator might be.

Some temperaments, we know, are naturally susceptible; and it will be found, we think, that all those called somnambulists, or natural sleep-wakers, are quite easily affected. And so of those persons who "lose their strength," as it is so called, and sink into a state resembling catalepsy, under religious excitement.

We have two patients, who are far more susceptible, even in their natural and waking state, than many, or most others, in the magnetic sleep. One of them is so much affected by the mere touch of one of our fingers, that she is utterly unable to move; and if we place her hand or body in any position, she finds it impossible to change it without our consent.

The most intelligent *somnopathist* we ever saw, is a patient of Dr. Gates, of Albany. We have seen others more clear, we think, in their descriptions of a certain class of subjects; but for an intelligent perception of the anatomy of the human system, and the organs of the brain, she is certainly very remarkable.

We have one patient, who excels in her descriptions of characters whom she has never seen. She fell into the somnipathic state under an operation for the cure of cholera morbus, and immediately commenced describing our own character, and that of various other persons. She described other persons, and warned us against those she considered our enemies, and whom she thought were watching our movements from unworthy motives.

We have other patients, who have made most remarkable and accurate descriptions of persons who were sick, and whom they never saw. One of them, when asleep, remembers nothing she has ever seen or heard before, either asleep or awake, not even her own name, or the names of her family, unless her attention is specially called to them. We have patients who go to sleep and wake up instantly, on our merely directing them to do so; and there seems to be as much difference in their powers, when asleep, as there is in their physical or mental powers and temperaments, when awake.

MEDICINAL.

CASES.

We have had it in contemplation for some time, to give our views of Insanity, and what has commonly been call-

ed "nervous complaints;" but we find it impossible to give to this subject that time which its importance demands. We are not without hopes, however, that we shall be able to give our views upon it somewhat at length, in the course of our succeeding numbers.

That we have made an important discovery with regard to the real nature of insanity, and also, of (perhaps the only safe) method for its cure, we entertain no doubt at all. More than a year since, we were able to produce this state, and also to remove it without injury to the patient, and we did this often in the presence of members of the Medical Faculty of this city.

11. MADNESS.

Previous to issuing our last number we had treated a case of real madness, with decided and immediate relief. It was of a lady about 30 years of age. Some years ago, she had been confined six months with *mania*. Since then she had been for most of the time, in a state of melancholy, till just before we were called to see her. The fit in this case was brought on by a fright. Her ravings were most terrific. We relieved her in about two hours. The cure has been permanent thus far.

12. INSANITY.

Since our last, we have been called to a case of simple Insanity, of about one year's standing. The lady had contemplated suicide, and attempted it in one or two cases. The relief was almost immediate, but she was not cured, as we were with her only some twenty-four hours.

13. HYPOCHONDRIA.

Some six weeks since, we were called to see a lady about forty years of age. She had been confined to her bed some two years. It was one of the worst cases of Hypochondria, though neither her friends or physician seemed to have any idea, as to her real difficulty. With three sittings, she declared herself much better. Her living at a distance from the city, prevented any further trial.

For the Magnet.

INTERESTING PHENOMENA.

In the year 1816, west of Lake Champlain, N. Y., I saw a large man lying stretched out on the floor, and surrounded by four small boys, who performed a ceremony around him, and then by their fore fingers they would raise him as high as they could reach, without apparently lifting a pound.

A few years after, the Springfield (Mass.) Gazette, published an account of this phenomena, and was circulated all over the country, as far as my knowledge extended. And in Brookfield, Mass., 1768, one Miss Wicks, then said to be possessed of the devil, performed wonderful feats; she would stand on the window stool, leaning at an angle of from 22 to 30 degrees inward, without any visible support—and in this town, in or about 1805, Zinia Spear, an aunt of mine, was deranged, and was capable of many extraordinary acts. She would stand or walk on the back of the chairs all about the room without their being even moved or jarred, and would pass back and forth through the room by putting her hands on one of the under corners of a beam of the chamber, or one on which the floor rested, without any aid from the feet, they hanging down toward the floor below; and then she would take another turn and come back on it in the same manner, so crossing from

one to the other without visible inconvenience.

About the year 1818 or 19, Mahitable Bass, the wife of Moses Bass, then about 40 years old, was violently deranged several months. During a part of this period, she would go round the room on the chair railing, with her hands on the ceiling, would cross the doors without any thing to rest on at all, going several times in a minute.

In Hartland, (Vt.) a few years past, a crazy young man got a Methodist minister's watch, which he had been seeking for a long time. Having obtained it, he said, "I have said that I would not hurt it, and I won't hurt it." He then ran up a maple tree near by, with the rapidity of a squirrel, to its top; and he then went out on a small limb, a number of feet, to its entire end, suspended the watch thereto, and then came down. The limb was not of sufficient strength where he went to support a common turkey, and it required a part of two day's labor of several persons to safely get it again. This fact can be supported by good testimony.

Mr. Hewes of Chelsea, Vt., informed me, that a few years ago, in Pennsylvania he and others were in a mail stage, and they drove to a store door to change the mail, and before the forward horses there was a bank wall about four feet high, but filled up on the inside to the top, so that it was level from the door step to the top of the wall, where the stage and horses stood; and while the mail was changing, a crazy girl jumped from the door on the top of the stage, and she was in the driver's seat in an instant, with the lines and the whip in her hand; she cracked the whip, and the horses, stage and all went over the wall without injury; she reined the horses and brought them to the same spot again. Mr. Hewes said he expected to be dashed to pieces, and all were alarmed, but none of them were hurt, but it seemed as if a glass bridge assisted them down the four foot fall. Mr. Hewes has been the editor of the Thursday News, Chelsea, Vt., and is of good standing.

Now, if these statements are true, some way must be devised to account for it. Can it be that there is an organ in the head which diseased or excited beyond its ordinary tone, would produce this buoyant state? If so, if the organ of tune or any other organ can be magnetised, this may be sought for in a similar way. In this way Jesus could electrify Peter to walk on the water. By this power he could cross the sea of Galilee.

E. J. Johnson, P. M. of Derby, Vermont, informed me that there was a lady there that had been in a poor state of health and required watching. She in general was sound in mind; she could tell the exact time at any period of the day or night, and she could farther tell the time of any watch in the room, put it where they would, nor could they hide one in the room out of her sight. As she recovered she lost this faculty.

In Glover, Vt., there is a Miss Stone that seems to have the power of distant sight. She pretends to do these things by a glass put in a dark place, and the light shut from her eyes; at the same time her visitants in Feb. would be 25 per day. I did not see her, but I saw several directly from there, and conversed with them freely, who informed me that she had told past and present facts correctly.

A Mr. Holden, of Barre, Vt., has a stone by which he pretends to see in a strange manner; he says that this is a power that exists in a stone, and Aaron had one in his breast plate called the urim and thummim stone—were several others in this State. In 1809, a Quaker lived in Jerico, Vt., whose fame was great in curing diseases by faith; hundreds resorted to him, and many experienced relief from him. One Miss Kidder of this town, wrote her case to him, being the

asthma, from about 20 years of age, to 70. From the very hour the Quaker read her letter, she had entire relief, and was ever after free, until her death, about 10 or 12 years after.

There was a Mr. Willis, of Woodstock, Vt., who was famous in his way. He pretended to foretell events and circumstances by mathematics, and there was several others of this character in this country. Sores or maladies have been so mysteriously removed that the patients could not tell, when they disappeared. One thing is very evident, that a great part of the cases of tooth ache are cured at the sight of the doctor's instruments. I once saw a young man who had bruised his thumb so severely that he was in constant misery. Sleep had entirely departed from him, and he was walking the house in exquisite pain. At this time, a person who had heard of a charm, tried it on the sore thumb, and so instantly was the pain removed, that it required much exertion to get off his clothes and get him in bed before he fell asleep. This was done in the afternoon near night.

The Mrs. Bass before referred to, lived in Stonestead, Lower Canada. For a full report of that case see the Boston Medical and Surgical Journal, vol. 11, No. 13; also No. 19, 1834 for another report. The first was from a student of Dr. Balby; the 2nd was from Dr. Balby himself, and much more full than the first. She died about 2 years after, and he made a post-mortem examination. The most I need to say in addition to that report, is, that Mrs. Bass was a lady of high moral character, and was a member of the Methodist church for years. Scores of other similar facts could be furnished, equally astonishing. I have seen a case, that of two girls, one being able to tell the other's thoughts when apart; you can find it in Zion's Herald, printed at Boston, in 1837 or 8.—I am informed that there is a report in some of the old medical works, that two bats were in a house, and one of them was caught and his eyes wholly removed; he was not impeded by it at all, but could follow directly after the other in all its sudden turns. They then placed the other in another room leaving the blind one above; he then performed all the movements with perfect regularity. It has often astonished the hunter to see how straight the hound would come to him after burrowing a fox, or killing a deer, each having had such a promiscuous ramble in a dense forest, sometimes hours, without the least knowledge where the other was. I recollect, when a small boy, of hearing a relative who had resided in your city, about 40 years since, give an account of a mechanic there who was born without eyes, or even a place for them. According to the account, he was quite skillful, and could see to work as well as any person. If the history given of him was true, he must have been a natural somnambulist. To get the true facts, it must be from some person who was a resident of New York in 1800.

Braintree, Vt., Aug. 8, 1842.

A. SPEAR.

ELECTRO-MAGNETISM.

ATTRACTION AND REPULSION.

In the first number of the Magnet we alluded to an English work, by P. Cunningham, R.N., published in 1834, "On the Motions of the Earth and Heavenly Bodies, as explained by Electro-Magnetic Attraction and Repulsion; and on the Conception, Growth, and Decay of Man, and Cause and Treatment of his Diseases, as Referable to Galvanic Action."

This work contains some valuable matter, though some

of the author's views seem to be rather crude. Indeed, we have not found it easy to tell what he means in some places; but he approaches so near to the truth on many points, and withal, the work has so much that is admitted to be true, as well as new and curious, that we have concluded to give our readers a few extracts. We are not willing to confine the Magnet merely to the propagation of our own views: it is our design to give every intelligent author an opportunity of being heard through our columns on this subject, that our readers may compare different theories, and judge for themselves as to their merits. And in this way, we shall but enhance the value of the Magnet, and increase the obligation of our readers; for this matter, it will be remembered, has never been published in this country, and of course we are giving them information which they could not very well obtain from any other source, except at quadruple the expense at which they receive this work.

Heat and electricity are so analagous in their properties, as to have made it long suspected that the one is but a modification of the other. Good conductors of electricity are good conductors of heat, while bad conductors of electricity are bad conductors of heat. Wood, when dry, is a bad conductor of both, being made a good conductor of both when wet. Heat and electricity also are more readily attracted and conducted off by pointed bodies than by those not so; this being exemplified, as regards electricity, in the lightning conductors and the pointed attractors of the electrifying machine; and, as regards heat, in the more rapid heating and cooling of bodies in proportion to points on their surface. Water and air are bad conductors, but good carriers of both, evinced, as relates to electricity, in the rapid motion of the electric clouds and winds, the elevation of sap in plants, and the overflowings of the sea, and of springs, during earthquakes.

Positive electric bodies repel each other; heated bodies do the same; both excite the sensation called heat; both are attracted by substances containing less, from substances containing more: both assist in furthering as well as in dissolving affinities, in promoting combustion, fermentation, and putrefaction, and both are capable of exciting muscular contraction in the animal body when newly dead, as well as when in life; every cook seeing the latter frequently exemplified, as regards heat, in the contortions of eels, as well as in newly killed beef and mutton, when thrown into the hot frying-pan.

There are also such strong points of coincidence between negative electricity, magnetism, and the sun's deoxidising rays, as must strike the most common observer. Negatively electrified bodies repel each other; magnetized bodies do the same; while negative electricity, magnets, and the deoxidising rays, have all a strong affinity for oxygen and its compounds the acids, reducing thereby metallic oxides to the state of pure metal, destroying vegetable colours, and separating various of the salts into their elementary constituents of acid and base.

The experiments of Morichini and Mrs. Somerville tend strongly to confirm the conclusion I have endeavoured to draw relative to the above identities, by finding that the sun's most refrangible beams, (in which the deoxidising rays are most intense,) conferred a magnetic property on bodies exposed to them fitted for receiving such an impression. The attractions, repulsions, and refrangibilities of positive electricity and of negative electricity, are in fact so directly the reverse of each other, as to clearly point them out to be two distinct substances.

Positive electricity has a strong attraction for inflammable bodies, and thereby *promotes* combustion and the oxidation of metals; negative electricity has a strong affinity for oxygen, and thereby counteracts combustion and the oxidation of metals; they take opposite directions to each other in the galvanic trough, as well as in the electrifying machine having a negative wire, and when at the repulsive distance in the atomic state, as rays of heat and deoxidising rays, show *opposite* refrangibilities when a sun-beam is exposed to the influence of the glass prism.

The difference between the sun's heating rays and positive electricity, and between the sun's deoxidising rays and negative electricity or magnetism, can be readily explained by a reference to the attractions and repulsions of these bodies when forming *mass*. Positive electricity streaming in *mass* through the air in shape of lightning, being found in *mass* in the electric jar, in the galvanic trough, and in (what are called) positively electrified bodies, distinctly proves that at near or *invisible* distances its atoms *attract* each other; while again the *visible* repulsion of positively electrified bodies, and of the southern poles of magnets for each other, as clearly proves that at more remote or *visible* distances, the atoms of positive electricity *repel* each other; for the attractions and repulsions of the *mass* must equally apply to the minutest atom thereof.

Negative electricity or magnetism exhibits similar results, its existence in *mass* showing an attraction of its atoms for each other at near or *invisible* distances; and the *visible* repulsion of negatively electrified or magnetised bodies for each other equally showing that its atoms at more remote or *visible* distances must *repel* each other. When the positive electric atoms, therefore, are at *invisible* distances, they *attract* each other, and form *mass* positive electricity, and when at *visible* distances, they *repel* each other and form what is called sensible heat; while in the same way, when the atoms of negative electricity are at *invisible* distances, they *attract* each other and form *mass* negative electricity or magnetism; and when at *visible* distances, they *repel* each other and form what are called deoxidising rays.

When the atoms of either, therefore, are at the repulsive distance, they will naturally fly off in all directions from each other, according as influenced by surrounding bodies, having an attraction for them; and being brought *gradually* in contact with these bodies by the diffusion of their atoms, their action upon them will be gradual also, and consequently mild, while the action of their *mass* will be sudden and consequently violent, by reason of both the suddenness and intensity of the application. It is only, therefore, by a forcing of these atoms at the repulsive distance into the attractive distance that a union of them, constituting *mass*, can be effected. The mere velocity of their motion in a state of radiation may accomplish this, by causing them to mingle with the *mass*-electro-magnetism of the various bodies throughout the universe when coming in collision therewith; or it may be produced by natural or artificial condensation, the former being first effected by Sir James Hall through the medium of the air-condensing syringe; while to the latter seems attributable the aurora borealis at the poles, in consequence of the sudden solidification of the oceans of water there. The attraction of electric atoms for each other, or of magnetic atoms for each other, seems, however, but weak in comparison to the attraction of the electric atoms for magnetic atoms, as evinced by the rapid diminution in the cohesion of bodies, by the application of either intense heat or intense cold.

When the atoms of positive electricity are united together in mass, I will call this mass electricity; and when at the repulsive state with each other, (constituting heat,) atomo electricity; while deeming negative electricity, magnetism, and the deoxidising rays, the same body, I will call this mass-magnetism, when the atoms are united in mass, and atomo-magnetism when disunited or at the repulsive distance in shape of deoxidising rays.

Electricity and magnetism, however, follow reverse laws with regard to each other to what they do with their own individual atoms. Positively electric atoms, and negatively electric or magnetic atoms *attract* each other at *visible* distances, and repel each other at *invisible*; the former being exemplified in the visible attraction of positively and negatively electrified bodies for each other, and the latter in the opposite routes which the above atoms take in the galvanic trough, in their disreverting of chemical affinities, and in their diverse refrangibilities by the prism. There must be a point, however, between the attractive and repulsive forces, where the power of both being equally balanced, a body placed there will remain quiescent from being neither attracted or repelled; this point I will call the neutral line, from the opposing forces neutralising each other there.

It was predicted by Sir Humphrey Davy that the attraction and repulsion of bodies might hereafter be found referable to electric influence; and this we can readily conceive by simply applying the laws of electricity and magnetism in mass to the atoms thereof in chemical union with atoms of other matter. An electric atom combined with an atom of other matter will naturally attract a magnetic atom so combined, and by an accumulation of such a compound mass of matter will thus be formed either solid, fluid, or gaseous, according to the amount of electro-magnetic atoms in its composition. The electric and magnetic atoms will in fact approximate only to the neutral line, allowing thus always a degree of compressibility, elasticity, or mobility to exist in the compound bodies which they form, without the possibility of their atoms ever coming into actual contact on account of repulsion commencing between them when the neutral line is passed.

Electricity and magnetism thus appear in four different states. 1st, with the atoms united in *near* attraction forming mass-electricity and mass-magnetism. 2ndly. With the atoms at distant repulsion forming atomo-electricity or sensible heat, and atomo-magnetism or deoxidising rays. 3dly, With the atoms quiescent in the neutral line with each other; and, 4thly, With the atoms chemically uniting atoms of other bodies to each other, in the latent or insensible state; for as a compound body retains few or none of the primitive properties of its constituency so electricity and magnetism, when thus chemically united, must be less capable of exciting the actions and sensations produced by them when in a state of freedom. I may even add a fifth state, that is, their existence in mass in various bodies, which seems but a slighter species of chemical union, and in which state they can be expelled from these bodies by pressure, or extracted by other bodies having a strong affinity for them.

ELECTRIC MACHINE.

Here the electricity is seemingly evolved by pressure from the cushion; the mass electricity of the earth ascending by the connecting chain on each temporary removal of pressure, to supply the place of that evolved from the cushion; the electricity so evolved being carried round in an insulated state between the glass cylinder and the silk covering (both

non-conductors) until attracted by the iron points of the conductors into the insulating jar. This filling of the jar with electricity seems in fact a similar process to that of filling a receiver with condensed air by means of the forcing pump: the escape of electricity during its progress to the jar being as effectually prevented by the non-conductors it passes between, as the escape of the air is prevented by means of the pump valve.

GALVANISM.

Here the electro-magnetism arising from the chemical decomposition of the plates, is evolved, I conceive, principally from that existing in *mass* therein; for their atoms chemically united with the plates would be naturally required in the formation of the oxide, or other compound, generated during the change of state in the metal. On the electricity and magnetism thus evolved, two opposite forces would be acting, viz. the attraction of the strongly combustible bodies, sulphur or hydrogen, for the electricity, and that of the least combustible or oxidisable metal for the magnetism. The electric and magnetic fluids set free, being thus directed in opposite currents toward their respective wires, eventually come in contact with the substances submitted for decomposition; when the electricity attracting the combustible base, and the magnetism the oxygen or its compounds the acids (according to the nature of the article) force the respective constituents asunder by the divellent force of their contrary moving currents, and carry them along in the neutral line toward the opposite wires. The cause of the negative metal not being oxidated during galvanic operations, seems assignable to the quantity of magnetism passing through it, which, having a stronger attraction than the metal for oxygen, consequently prevents the oxygen from acting on the metal.

COMBUSTION AND GUNPOWDER EXPLOSION.

Here the heat evolved and expansion produced may be accounted for by the sudden conversion of the mass-electro-magnetism of the bodies decomposed into atomo-electro-magnetism. The heat evolved by percussion, or friction in air, or in vacuo, is explainable by the alternate condensations and expansions of the substances acted on; mass-electricity being forced out therefrom during each temporary condensation, and an equal quantity attracted from the other substances in contact, to supply the deficiency on the compressed substances again re-expanding.

The theory of a neutral line at an *invisible* distance between electric and magnetic atoms, seems fully borne out, by the discovery of a similar line at a *visible* distance between masses of such matter in cannon-balls, by Professor Barlow, which he designates "the line of no attraction," from the needle being neither attracted nor repelled in this line. The breadth of the neutral line, and distance at which *near* repulsion commences between electricity and magnetism naturally increasing with the increase of the mass, furnish a sensible and natural key to the motions of all the heavenly bodies, while at the same time demonstrating the intimate union of the minutiae of chemistry with the grander demonstrations of astronomical science, the line at which *near* repulsion commences between small masses of electric and magnetic matter being *invisible*, while between large masses of the same, as for example, between the earth and the sun, it is extended upwards of *ninety* millions of miles.

MOTION OF THE EARTH.

If we place a bar of steel upon its end, or its side,

in the northern hemisphere, we invariably find that magnetism occupies the *lower*, and electricity the *upper*. By reference to the attractions and repulsions of electricity and magnetism, (previously stated) it will therefore be evident from this demonstration of hemispheric attraction and repulsion, that while a zone of mass-electricity envelopes the northern hemisphere, a similar zone of mass-magnetism envelopes the southern, regulating thus the electric and magnetic attractions and repulsions of bodies in these two hemispheres. Seeing that atomo-electricity and atomo-magnetism are radiated from the sun, we may conclude, that they exist there also in mass, and, by analogy with the earth, that the mass of each envelopes opposite hemispheres. The axes of the earth and sun being however on an average, nearly parallel with each other, it is evident that if their electric hemispheres were opposed on the one hand, and their magnetic hemispheres on the other, the earth would rebound from the sun, on account of the opposing hemispheres *repelling* each other;—the sun's northern hemisphere therefore must be the magnetic, and his southern the electric, by which the opposing hemispheres of the earth will be *attracted*; and the earth consequently made to move round him in the neutral line. On her primarily approaching him, rotating upon her axis, her motion would be naturally unsteady; and supposing her southern hemisphere to be thereby more inclined to him than her northern hemisphere, the former from thus coming sooner into repulsion with him than the latter, would consequently gradually be canted outwards, which canting would turn her round in her course, in the same way that a carriage wheel is turned by a similar canting. Proceeding however still towards the sun, in consequence of her momentum of motion being as yet greater than the resistance opposed by his repulsion, she would finally arrive at the nearest point to which she could approach him, and be now repelled outwards from him as rapidly as she had previously been attracted. The southern hemisphere, however, from having a greater momentum given it, by reason of coming into repulsion with him before the northern, would consequently be made to come first in attraction with him also; through which this would be gradually canted toward him again, thereby turning her round afresh in her orbit, to pursue her former track.

To these alternate inclinations of the earth's hemispheres towards the sun, by the alternate canting outwards and inwards of her southern pole, we owe that charming variety in the year constituting the seasons, exhibiting to us a constantly-varying panorama of all that is delightful, mournful, or terrible in nature—the vibrations of her poles measuring out the march of the seasons with as beautiful a nicety as the vibrations of the pendulum measure out the march of time.

But each continued impulse thus given by the sun to the south pole of the earth in axillary rotation will naturally keep up the latter, and by impelling her onwards at the same time, thereby whirl her round the sun in the area of her neutral line, in the same way as a carriage wheel is whirled round the area of a bowling-green. The earth approximating 2,754,000 miles nearer the sun during December, when her distance from him is least, than during the opposite month of June, when her distance from him is greatest, this space therefore marks the breadth of the path she is capable of moving in during her annual circuit.

In her course to and from the sun, she will, (as I have before stated) in consequence of the impulse of motion previously given her, naturally proceed some distance into the repulsive and attractive spheres,

before the counteracting powers of these spheres are enabled to check her onward motion and turn her round in the opposite direction. A retardation, therefore, of her onward motion from the above causes will take place between the autumnal equinox, and winter solstice, when she is proceeding into the repulsive sphere, and between the vernal equinox and summer solstice, when she is proceeding into the attractive sphere; while the above onward motion will, on the contrary, be accelerated between the winter solstice and vernal equinox, and between the summer solstice and autumnal equinox, from no counteracting causes then impeding her onward course.

During the periods, however, when her onward motion is retarded, her axillary motion will be naturally accelerated from her coming in oblique contact with the retarding power while in onward motion, in the same way as the rotation of a cannon ball would be naturally accelerated by striking obliquely against a substance when in onward motion, though the latter motion would be necessarily retarded thereby. That the accelerations and retardations of the above motions should continue uniform through the *whole* of their respective quarters is a circumstance rendered impossible by the natural laws of motion; the causes above alluded to naturally producing the above effects during a portion only of the said quarters. The moon and various planets will necessarily also influence the earth's motion by their respective attractions and repulsions.

THE MOON.

As the moon moves round the earth, her hemispheres, in order to vibrate with the latter, must correspond with those of the sun, and be consequently *repulsed* by them. This solar repulsion, therefore, will naturally cause the moon to approximate nearer the earth than she otherwise would have done, when she passes between the latter and the sun, and to recede farther from the earth when the latter intervenes between. It will also tend to shorten the moon's angular vibrations, to quicken her motion when receding from, and retard it when advancing toward the sun, as well as to make her orbit more circular; and as she will be naturally propelled by the sun alternately toward the north and south poles of the earth, according as each of these in their season form the greatest angle with him, so this alternate change in her position will tend to produce warmer summers in these more polar regions than they otherwise would have experienced, had no moon revolved round the earth, by her attractions and repulsions causing the pole of the earth farthest from the sun to face still farther outwards from him, and consequently to cause the pole nearest to him to face still farther inwards, by which a fuller solar exposure, and thereby a greater summer heat, will necessarily be attained by these polar regions.

This solar propulsion of the moon alternately toward each of the earth's poles will conduce also to extend the moon's influence over a greater portion of the earth's hemispheres, than she could otherwise have embraced, had her circle of motion been confined strictly to the circle of the earth's equator, admitting thus the electro-magnetic zones, the atmospheric vapours, and the ocean involving the earth, to be all influenced to a greater extent by her. As the vibrations of the sun with the earth are between their south poles, it is probable from this that the vibrations of the moon with the earth are principally between their north poles, vibrations, that may in fact have occasioned those now existing, between the south poles of the earth and the sun, either from the moon accompanying the earth in vibration with

the latter's north pole, (on the earth first approximating the sun) or from her approximating the earth after the latter had commenced her revolutions, and by sudden attraction with the earth's north pole, changing the vibrations of the sun and earth from their north to their south poles, had such a vibration as the former existed.

THE SUN.

The luminous aspect of the sun as well as the heat radiated from his surface may as likely be produced by the influence of his electro-magnetic zone, as by combustion; the luminous aspect greatly resembling the deception called mirage, and probably ascribable to a similar cause; while the electro-magnetic particles would be readily attracted by, as well as repelled from, his electro-magnetic zone: according as their poles were situated with respect to his hemispheres. If, for instance, an electro-magnetic particle had its electric pole facing the sun, it would be attracted by the latter's magnetic hemisphere and repelled by his electric, and *vice versa* if the particle's magnetic pole faced the sun. If, however, the poles of the particle were placed parallel to the poles of the sun, it would be attracted by both the sun's hemispheres, and thus be moved toward his equator to mingle with the electro-magnetic matter there.

As the poles of the electro-magnetic particles would be liable to be reversed by the attraction and repulsion of other passing particles, so by this frequent polar reversion of particles at the sun's surface, as well as through every portion of the heavens, a constant radiation of atomo-electro-magnetism to and from the sun would be kept up, the particle just attracted by him being liable the next moment, by a change of its poles, to be repelled from him, and to be attracted back again on another polar reversion taking place.

As the sun's rays always excite the sensation of heat, and never that of cold, it may consequently be inferred that electric atoms preponderate over magnetic atoms in his rays, by which it might be inferred also that, provided the preceding theory be correct, the electro-magnetic particles would be attracted solely by his magnetic hemisphere, and repelled solely by his electric. That the electro-magnetic particles may be attracted by and repelled from the sun, in the ways previously stated, is sufficiently illustrated on a good scale (as I shall afterwards show) by the motions of comets,—bodies similarly constituted of electro-magnetism, which are attracted to the sun by one hemisphere and repelled from him by the other, on their passing from the first into the latter.

That the sun should be the only body within the heavenly hemisphere capable of giving out heat may be readily accounted for, by his attractive power being so much greater than that of any of the others, as evinced in the comets passing all of them, to proceed to him, while his greater propulsive power is similarly exemplified in his giving such a rapidity of motion to the electro-magnetic particles repelled from him, as well as to the masses thereof forming comets, as to neutralise in a great measure the attractions of all the planets they do not pass toward in a direct line; only yielding to the planetary attractions when their motion is greatly retarded by their distance from the sun, or when moving as above toward them in a direct, or at least, nearly direct line.

As we naturally conclude, however, that the solar rays contain electricity in excess, from their always exciting the sensation called heat, how is it that the northern or electric hemisphere of the earth, which repulses electric matter, should be as warm as the

southern or magnetic hemisphere, which attracts it? Can this be owing to the electro-magnetic particles propelled from the sun overcoming, by the velocity of their motion, the resistance opposed by the electric hemisphere, or to a magnetic atom being insufficient to neutralise the influence of an electric atom, as far at least as the sensation called heat is concerned? This sensation may indeed be only a feeling produced by electric particles in *motion*, which they are incapable of producing when at *rest*, by reason of the similar motion they will naturally excite among the particles of the matter which they come in contact with. Electricity or heat, producing expansion, and magnetism or cold, contraction, these two opposite actions among the particles may, therefore, excite the opposite sensations which they produce.

Judging, however, by the appearances which the earth now presents, of her having been formerly in a state of combustion, we may infer that the sun has at least formerly been in a similar state; and as many portions of the earth are at the present day in combustion, we may also infer that many portions of the sun are still in a similar state also, his greater bulk not only affording more combustible food, but requiring an infinitely longer period to cool in.

In the event of the continuity of either the electric or magnetic zones of the sun being partially destroyed by any volcanic or other violent eruption, the breaches so made would no longer attract the electro-magnetic particles, and consequently would appear of a dark hue; and this may probably be the explanation of the dark spots frequently visible on the sun's surface.

This view seems corroborated by these spots becoming more angular toward the south, when the earth is in attraction with the sun's southern hemisphere, and more arched again in the same place in repulsion, the earth's attraction naturally drawing the sides of the points toward a point in the line of the greatest attraction, and the repulsion forcing them out asunder again. Calculating by the period of 3 hours, required by the moon to raise a tide upon the earth, then the earth, according to her greater comparative distance from the sun, ought to produce her greatest effect upon the solar spots in forty-nine days after the solstices, whereas she does not do so until about seventy days after the solstices. As spring tides, however, do not take place until twenty-seven hours after the sun and moon have been in opposition or conjunction with each other, I am consequently inclined to think that the impulse of the moon's attraction or repulsion requires twenty-seven hours at least to manifest itself upon the earth, which by comparison of distance, would give the earth one year and seventy days after each solstice to manifest her greatest influence upon the solar spots, making this therefore take place about the 1st of March and the 1st of April in each year, the identical time that observations have ascertained it to happen. This would tend to show that attraction and repulsion are not instantaneous, but progressive, while corresponding in *uniformity* to the motion of the heavenly bodies, describing equal spaces in equal times, at the rate of about 147 miles a minute.

Can the effects of attraction and repulsion be ascribable to a power inherent in a body which it can exert upon another body at a distance, or to a substance in motion exerting an effect by actual contact? If the latter be the power, atomo-electro-magnetism seems the most probable substance causing the before mentioned effects. But the immense known rapidity of motion of the atomo-electro-magnetism radiated from the sun does not correspond with the slow motion of the influence producing

the changes in the solar spots and the tides, though they both agree in the comparative tardiness of their effects; for if the earth does not produce her greatest effects upon the solar spots until seventy days after each solstice, it is just about the same period that the sun produces his greatest heat and greatest cold upon the reverse hemispheres of the earth, after having emitted it intensely to the one turned toward him, and extracted it intensely from the one turned from him. As the mass electro-magnetism of the sun's zones must have, however, a westerly motion given to it by the revolving planets, the solar spots must consequently partake of this motion, seeing, by their frequent disappearances and re-appearances, that they are but temporary breaches therein; so that the actual period of the sun's rotation will necessarily be greater than that ascribed to it, through observations upon the period of the spots' rotation.

The rotation of the various planets round the sun will naturally turn him upon his axis, while their hemispheric attractions and repulsions will excite also angular vibration in his poles, conferring thus a similar variety of days and of seasons upon him that he confers upon them.

MISCELLANEOUS.

From the Washington Banner.

MAGNETISM.

Less than two months ago, we regarded this science as among the tallest and most impudent of the great family of humbugs. Our belief was not only thorough, but it was intolerant; and we could not hear the subject mentioned, without feeling strong disgust, somewhat mingled with contempt, for those who were so weak as to be deluded with extravagant pretensions. But we freely confess that a change has come over the spirit of our dream. We are no longer an intolerant unbeliever. Demonstration so absolutely overwhelming has accumulated upon us, that we are compelled to believe. Some will smile contemptuously—some will shrug their shoulders expressively—and others still will rejoice in their own superior sagacity, and marvel greatly how one possessing the least particle of common sense could be so singularly deluded—when we avow unhesitatingly our firm conviction of the truth of Living Magnetism. Call it by what name you please it is a great TRUTH, and as such, we predict, will be generally acknowledged by the intelligent men of our country before the lapse of ten, perhaps we should say five, years. Its claims to be regarded as a science will be vindicated—and unless we greatly err in our conceptions of its nature and its influences, its more perfect development will confer inestimable blessings upon man. Notwithstanding the ridicule which is poured unsparingly upon the subject, and the profound contempt with which it is treated by many of the Solomons of our land, we are content that our opinions upon the matter should be placed on record, and we leave it to time to decide who exhibits the greatest folly, ourself in admitting, or our wise men in denying, the truth of Magnetism.

Our attention was first called to the subject several years ago—but, hastily prejudging the matter as an impudent imposture, whose apparent marvels can be readily solved upon the supposition of collusion, we dismissed the matter from our mind, and if ever after we alluded to it, it was only to sneer at its pretensions and to deride its votaries. The recent visit of Mr. Johnson to our sister city, and his experiments at Concert Hall, again called our attention to the subject. It was with difficulty, however,

that we could obtain the consent of our own mind to attend his exhibitions. Finally, we went. Notwithstanding the failure of many of his experiments, we satisfied ourself by repeated scrutiny of the reality of the magnetic sleep. We witnessed phenomena which could not be explained upon the supposition of collusion, and in the face of all our prejudices and convictions, we came to the conclusion that "there is something in Animal Magnetism." Our investigations, however, did not rest here. We had seen enough to excite a spirit of enquiry, and we eagerly availed ourself of every facility in our reach to pry into the philosophy of the pretended science. Happily, several numbers of the New York Watchman were thrown into our hands, containing a series of articles upon "Mental Phenomena," which gave us a clearer insight into the mysteries of Mesmerism than we had ever obtained. Subsequently, we obtained from an intelligent friend the loan of "Facts in Mesmerism"—a book of some three hundred pages, by the Rev. C. H. Townshend,—one of the most profoundly philosophical works we ever read, evidently the production of a thoughtful and studious man. From these sources, we obtained a great amount of interesting and useful information. The result of our reflection and reading upon the subject was, that the magnetic power is possessed in common by all men—that it is not a peculiar gift to a favoured few, but that at least every adult, of sound body and mind, possesses the magnetic influence in kind, differing only in degree. If this conviction were founded in truth, we could see no good reason why we might not ourself exert the magnetic influence as well as Mr. Johnson or any other travelling experimenter. We are of sound body, possessing considerable force of will, and having at least some powers of concentration—the very things requisite to constitute a successful magnetizer. To conceive and to execute are nearly synonymous terms with us. We immediately tried the experiment. The subject was a child of our own—a girl of nearly six years—of a nervous-bilious temperament, full of animal spirits, and characterized by great but rather eccentric activity of mind. Placing her before us, we went through the usual manipulating process, and in five minutes threw her into the mesmeric sleep—a condition which may be properly characterized as a sleep-waking state, distinct from either waking or sleeping, but exhibiting certain phenomena of both condition. The result of this experiment satisfied us of the truth of magnetism, so far as we went, for at that time we tried no experiment in sympathy. Of course, we did not conclude our investigations with this single case. We chose other subjects, generally adults, both men and women—people whose standing in society precludes the idea of their colluding with us—and our experiments thus far have been most successful, carrying conviction to the minds of most if not all those who have witnessed our performances. Some of these experiments we propose to relate in a subsequent number of our paper—and there are a few at least, who know us, who will readily believe that in this matter we could not easily be deceived, and that we would not upon any consideration deliberately attempt to deceive others. We have some most striking phenomena to communicate, which will fill the uninitiated with wonder, and probably prove a severe tax upon their credulity—but all we ask is a patient hearing and an intelligent judgment. The facts we have to communicate not only prove the reality of Animal Magnetism, but in our apprehension furnish the most triumphant demonstration of the truth of Phrenology that the world ever saw. Scientific men, and all who are curious to investigate

mental, moral, and physical phenomena, will do well to give earnest heed to the facts which we shall from time to time communicate. Startling as they may seem, they are susceptible of the most ample demonstration.

ANECDOTE OF A SLEEP WALKER.

During the revolutionary war, there was a gentleman of large property residing in Brooklyn, who was addicted to the habit of walking in his sleep;—panic-struck at the invasion of the enemy, he daily expected that his dwelling would be ransacked and pillaged. Under the influence of these fears, he rose one night, and taking a strong box, which, awake, he never attempted to lift without assistance, he proceeded down stairs, furnished himself with a lantern and spade, and in a deep wooden glen, about a quarter of a mile from his house, he buried his treasure, carefully replacing the sods, so as to create no suspicion of their having been removed. This done, he returned, undressed, and went to bed. Next morning he was the first to discover the absence of the "strong box," without having the slightest remembrance of what had passed. Enraged at its loss, he immediately accused his domestic of the robbery, as no traces of violence were perceptible either on the locks or doors of his house, that could induce him to suspect strangers. Month after month elapsed, and still the mystery was not solved, and his family began to want the necessaries of life without having the means of procuring them. At that period of public calamity, no money could be raised on real estate, and it was at that season of the year when agricultural labors had ceased, which left him no means of earning a support for his family. To augment his misery, his only son lay confined by a violent fever, without any one of those comforts which his situation demanded. The despairing father was strongly affected by this melancholy view of the future; his rest became more frequently broken, and he would often wander from room to room all night, with hurried and unequal steps, as if pursued by an enemy. His wife and daughter, who were accustomed to these nightly wanderings, never attempted to disturb him, unless they were fearful some accident might befall him; in this case it was necessary to employ the most violent means to awaken him, upon which he would exhibit so much fear and distress, that they usually suffered him to recover from the trance, which was succeeded by drowsiness, after which he would sink into light and natural sleep, which generally continued for several hours.

One night, as his daughter was watching at the couch of her sick brother, she heard her father descend the stairs with a quick step, and immediately followed him; she perceived he had dressed himself, and was lighting a lantern at the hearth, after which he unbolted the door and looked out; he then returned to the kitchen, and taking the lantern and spade, left the house. Alarmed at the circumstance, which was not usual—though it sometimes occurred, as above related, without the knowledge of his family—she hastily threw on a cloak and followed him to the wood, trembling with apprehension of she knew not what, both for herself and her father.

Having gained the place where he had three months since buried the box, he set down the lantern, so as to reflect strongly upon the spot; he then removed the sods, and striking the spade against its iron cover, he laughed wildly, and exclaimed—"My treasure is safe, and we shall be happy." And shouldering his heavy burden with the strength of a Hercules, he stopped not as before to replace the sods of the earth, but snatching up his lantern, pursued his

way directly home, to the joy of his daughter, who could scarcely support herself from the fears she had experienced, which were that he was about to dig his own grave, and either commit suicide, or murder some of his defenceless family. Inexpressible, therefore, was her joy on seeing him ascend the stairs, and place the box in its former recess; after which, as usual, he retired to rest. His wife and daughter, however, were too anxious to sleep themselves—the one sat impatiently watching the dawn of the day, and the other returned to the apartment of her suffering brother, to relieve his mind by the joyful event, and her consequent hope of his immediate recovery.

When the gentleman arose in the morning, his wife observed the gloom upon his countenance, as he anxiously inquired about the health of his son, and expressed his sorrow at not being able to procure those comforts for his family which were so much needed. Finding him perfectly unconscious of all that had passed the preceding night, she watched the effect which the restoration of the box would have upon his mind; and as she expected, with an astonishment almost amounting to frenzy, he exclaimed—"Who has done this? whence came the box?" Not until he had listened to the evidence of his daughter, could he be convinced of the possibility of his performing such an act while asleep.—Suffice it to say, that now health, peace and competence were once more restored to his dwelling, and the result of this blessing had a salutary effect upon his mind; and although he still continued his midnight excursions, yet his friends were gratified to find them less frequent than formerly, and his future dreams also, to judge by appearances, seemed to partake of the mild, serene character of his waking thoughts.

MECHANICAL SKILL OF THE ANCIENTS.

If we admire the ancients in those monuments which remain to us of the greatness of their undertakings, we shall have no less reason for wonder in contemplating the dexterity and skill of their artists in works of quite a different kind. Their works in miniature are well deserving of notice. Archytas who was cotemporary with Plato, is famous in antiquity for the artful structure of his wooden pigeon, which imitated the flight and motions of a living one. Cicero, according to Pliny's report, saw the whole *Iliad* of Homer written in so fine a character, that it could be contained in a nut-shell. And Elian speaks of one Myrmesides, a Milesian, and of Callicrates, a Lacedemonian;—the first of whom made an ivory chariot, so small and so delicately framed, that a fly with its wing could cover it; and a little ivory ship of the same dimensions: the second formed ants and other little animals out of ivory, which were so extremely small, that their component parts were scarcely to be distinguished. He says also in the same place, that one of those artists wrote a distich in golden letters, which he enclosed in the rind of a grain of corn.

It is natural here to inquire, whether in such undertakings as our best artists cannot accomplish, without the assistance of microscopes, the ancients had not any such aid; and the result of this research will be, that they had several ways of helping the sight, of strengthening it, and of magnifying small objects. Jamblichus says of Pythagoras, that he applied himself to find out instruments as efficacious to aid the hearing as a rule, or square, or even optic glasses, were to the sight. Plutarch speaks of mathematical instruments, which Archimedes made use of, to manifest to the eye the largeness of the sun; which may be meant of telescopes. Aulus Gellius,

having spoken of mirrors, that multiplied objects, makes mention of those which inverted them; and those of course must be concave or convex glasses.—Pliny says, that in his time artists made use of emeralds to assist their sight, in works that required a nice eye; and, to prevent us from thinking that it was on account of its green colour only that they had recourse to it, he adds, that they were made concave, the better to collect the visual rays; and that Nero made use of them in viewing the combats of the gladiators. In short, Seneca is very full and clear upon this head, when he says, that the smallest characters in writing, even such as almost entirely escape the naked eye, may easily be brought to view, by means of a little glass ball filled with water, which had all the effect of a microscope in rendering them large and clear: and indeed this was the very sort of microscope that Mr. Gray made use of in his observations. To all this add the burning-glasses made mention of before, which were in reality magnifying glasses: nor could this property of them remain unobserved.

It would be a needless task to undertake to show, that the ancients have pre-eminence over the moderns in architecture, engraving, sculpture, medicine, poetry, eloquence, and history. The moderns themselves will not contest this with them: on the contrary, the height of their ambition is, to imitate them in those branches of science. And indeed what poets have we to produce, fit to be compared with Homer, Horace, and Virgil; what orators equal to Demosthenes and Cicero; what historians to match Thucydides, Xenophon, Tacitus, and Titus Livius; what physicians, such as Hippocrates and Galen; what sculptors like Phidias, Polycletus, and Praxiteles; what architects to rear edifices similar to those, whose very ruins are still the object of our admiration? Till we have those, whom we can place in competition with the ancients in these respects, it will become our modesty to yield to them the superiority.

'Tis worth notice, that the merit of the ancients is generally most controverted by those, who are least acquainted with them. There are very few of those who rail at antiquity qualified to relish the original beauties of the *Iliad*, *Æneid*, and other immortal performances of the authors just enumerated. There are fewer still, who are capable at one view to take in all that variety of science, which hath been laid before the reader, and which comprehends in it almost the whole circle of our knowledge. Of the remaining admirable monuments, which show to what perfection the ancients carried the arts of sculpture and design, how few have taken any due notice; and of those, how very few have been able to judge of their real value? True it is, that time and the hands of barbarians have destroyed the better parts of them; yet still enough is left to prove the excellence of what hath perished, and to justify encomiums bestowed on them by historians. The group of figures in the Niobe of Praxiteles, and the famous statue of Laocoon, still to be seen at Rome, are, and ever will be models of beauty and truth sublime in sculpture, where much more is to be admired, than comes within the comprehension of the eye. The Venus de Medicis, the Hercules stifling Antacus, the other Hercules who rests upon his club, the dying gladiator, and that other in the vineyard of Borghese, the Apollo of the Belvidere, the maimed Hercules of the same place and the Equerry in the action of breaking a horse on mount Quirinal, are all of them monuments, which loudly proclaim the just pretensions of the ancients to a superiority in these arts. These pretensions are still further supported by their remaining medals, the precious stones of their engraving, and their ca-

meos. There is still to be seen a silver medal of Alexander the Great, on the reverse of which there is Jupiter sitting on his throne, finished with the finest strokes of art; not a feature, even the smallest, but seems to declare his divinity. The stones engraved by Pyrgoteles, who had an exclusive privilege of engraving Alexander's head, as Lysippus had of making his statue, and Apelles of painting him; those of Dioscorides, who engraved the heads of the seals of Augustus; the celebrate Medusa, Diomedes; Cupid, and other performances of Solon; in short, all the other eminent pieces of sculpture and engraving, so carefully sought after by the curious, and with so much reason admired by connoisseurs, render it needless for me to enlarge on the praise of artists sufficiently renowned by being the authors of works so lasting and so precious.—*John Wesley.*

SPONTANEOUS COMBUSTION OF THE BODY:

BY DR. JACOBS, OF EUPEN.

From twenty-eight cases of spontaneous combustion collected by the author, he concludes—

1. That spontaneous combustion always occurs in living human beings, never after death, nor in the lower animals;
2. The subjects were generally very old, the two youngest being fifty and twenty-nine years of age;
3. Women are more frequently the subjects, it having only occurred in two men;
4. It was once preceded by jaundice, once by a malignant ulcer on the head;
5. All the persons were alone at the time of the occurrence;
6. They led an idle life;
7. All were very fat, except three very lean females;
8. Almost all were very intemperate;
9. Most frequently a light, or some ignited substance, was near at the time of the accident;
10. The combustion proceeds very rapidly, and finishes, in seven, three, and two hours, and even one hour;
11. The flame, difficult to be extinguished by water, was very mobile, only destroying the objects placed very near, or in immediate contact with the burning body;
12. The room in which the combustion took place was usually filled with vapour, and the wall covered by a black carbonaceous substance; the floor, ashes, and bones, imbued with a fat and fœtid moisture;
13. The trunk was most frequently completely destroyed, some parts of the head and extremities usually remaining.
- 14 This combustion has occurred, with only two exceptions, during a cold temperature in winter, and in the northern regions.

THE TRUE PRINCIPLE OF STOVES.—In order to produce the greatest quantity of heat, in proportion to the quantity of fuel consumed, a stove should present a large quantity of vertical surface to the surrounding air, and that surface should be smooth, for the purpose of facilitating the ascent of a current of rarified air. If any projection impedes this current, the heat accumulates and remains comparatively stationary, and thus prevents the free radiation of heat from within; but when there is a brisk circulation of air outside, the heat as it passes through the iron surface, is instantly carried off, and is circulated in the room: thus allowing the free radiation of more. Every stove for heating, should be made at least six feet high; but if not, the smoke and hot air should be conducted upwards six or more feet, and again brought down within three feet of the floor, before passing off to the chimney. Atmospheric air should always be excluded from the interior of a stove, except so much as is requisite to produce the required quantity of heat; by admitting too much air a rapid current is produced within, and the emanating heat is driven into the chimney before it has time to

radiate through the iron plate; and in most of the stoves now in use, more than two thirds of the heat, which might otherwise be useful, is totally lost.

VEGETABLE PHENOMENON.

We have lately witnessed a most singular act, having the greatest interest in vegetable physiology. In the garden of John Radford, Esq. of Winchmore Hill, near London, there stands a bay tree, which appeared to be killed by the frost of last winter, and the whole of whose leaves became brown and apparently dead. Of the latter, many fell off as Spring advanced, and the branches gradually acquired new leaves. In this there was nothing at all remarkable; but the singular fact is, that the leaves—hard, brown, dry, and to all appearance dead—have gradually recovered their green color, and are in some cases completely restored to life! The green color makes its appearance at the base of the leaf in the first instance, and spreads upwards, along, and right and left of, the mid rib. There can be no mistake about this circumstance, for so very strange a phenomenon naturally attracted attention; and we learn from Mr. Radford, that he has distinguished the dead looking leaves with notches and other marks, in order to be quite sure that it is they which are restored to life. A leaf now before us, marked as dead a week ago, has now the green colour spreading along it, in the manner we have described, to the length of rather more than an inch. That the sweet bay tree should never be cut down after it appears to be killed with frost, is well known; but that its perfectly dead leaves should be capable of reviving in this extraordinary manner, is to us an event without a parallel, in either the animal or vegetable kingdom.—*Gardener's Chronicle*.

DUTY OF INVESTIGATION.—There are certain leading principles in the Magnetic theory which are founded in truth, and will yet be established by facts to the satisfaction of all unbiassed intelligent minds. Those principles are not now understood; their effects are seen to some extent, but are so mixed up with superstition and obscured by empiricism, that it is difficult to discriminate between truth and falsehood, and fact and imagination. Besides, there are but few who are sufficiently acquainted with the system to practice it with success, or to educe its inherent phenomena; hence the obstructions in its way are numerous and serious, and must necessarily greatly impede its progress. As is often the case in matters of science as well as of benevolence, Magnetism has suffered much, more from the extravagance and ignorance of its friends than from the opposition and wisdom of its enemies. The great duty of men of science now is, to investigate candidly and thoroughly; to take the subject out of the hands of the unskillful and superstitious, and give it a full, fair, and unbiassed examination; to separate the truth from error, and to set before the world the real phenomena of the theory, and then endeavor to account for them upon philosophical principles, and to apply them to the useful purposes of life. How far they may be rendered practically useful, it would be presumption at this early stage of its history to undertake to decide. We must know more about it; its principles must be better understood, its powers more satisfactorily evolved, and experiments be greatly multiplied before its practical utility can be properly defined.—*Luth. Observer*.

NEW THEORY OF THE WEATHER.—We have received from the author, Mr. David Abdill, of Wheeling, Va., a new work "on the theory of the Weather and practical views on Astronomy." The work is

comprised in 324 duodecimo pages, illustrated by engravings, and is well adapted to the end in view; to furnish students with a vast amount of astronomical knowledge, condensed in the smallest compass; expand their mind in contemplating the order, beauty, and arrangement of the celestial bodies, and the heart by aspirations of the good and true, in the selection of choice poetry.

The Theory of the Author, on the weather, and the sure means of prognosticating what it will be for days, months, or years to come, possesses claims to the attention of meteorologists, farmers, sailors, &c., and, in fine, of every man whose life or occupation exposes him to summer heats and rains, or the cold blasts of winter.

We bespeak for this work the candid expression of literary men and the press, for the theory here divulged, if adequate to account for the facts, and how to prognosticate the future, is well worthy the reward that should be bestowed on one who has devoted years to this vexed question. Mr. A. has, through the Wheeling papers, published tables of the weather for weeks ahead, and his data have been mostly corroborated by events.

HORTICULTURAL PHENOMENA.—A Baltimore paper speaks of a gentleman in that city who has a rose-bush that bears twin roses side by side, one pure white, the other deep red. This is not so remarkable as a rose-bush in the vicinity of Boston. A large and very healthy barberry bush stood in the midst of a piece of ground, which a gentleman had appropriated to a flower-garden. The gardener, unwilling to lose such a vigorous growth, and being minded to try an experiment, cut it off, not far above the root, and grafted a slip of white rose into it. It grew rapidly, and became a thriving bush; and what was very singular, though leaves and flowers remained in shape like a rose, the color changed from white to that delicate straw-color, which characterizes the barberry-blossom. The arrangement of the bush, too, changed its character; the branches, instead of shooting out straight, like a rose, assumed the drooping, curving line of the barberry.

This is the only instance we ever heard of, where the graft took its character from the stock. Those acquainted with agriculture will consider it a very remarkable phenomenon.—*National A. S. Standard*.

A CANDID OPINION.—We regard the ridicule and contempt thrown upon Magnetism as not the smallest disparagement to its claims. The Christian religion would long ago have been wiped from the face of the earth, were ridicule indeed, as it has been most falsely called, the test of truth. And it is a remarkable fact, that those who have treated magnetism with the most bitter and ungrateful contempt have been just the persons who know the least about it—who have never given it a moment's investigation, and who have established their presumption and ignorance upon an equal footing, in the vain hope of acquiring a reputation for superior and enlightened wisdom. Thus in their own conceits, they denounce without a particle of acquaintance with it, a subject which has engaged the profoundest study and attention of the best informed and most scientific men in the country.

In the present condition of Magnetism, we should grieve to see any female whom we respect, descend so far from the proprieties of her sex, as to submit to experiments merely for the gratification of the evil and curious. Still we have seen, too much of its efficacy in certain cases to doubt that under the hands of a skillful and trustworthy practitioner, the patient may sometimes derive the most important benefit.—*Spirit of the Times*.

THE MAGNET.

now going on both in Europe and in this country, and therefore should obtain a circulation commensurate with the importance of the topic to which it is devoted. —*The Pennsylvaniaian*, May 20, 1842.

No apprehension need be entertained that any deception will be used by the author of the *Magnet*; he is a man of excellent character. If he deceives it is because he is deceived. The science at any rate deserves some notice, and if false should be exposed—if true, embraced.—*Village Register*.

Its contents are full of interest, and it is well worthy the attention of the scientifically curious.—*Tiffin Gazette*.

THE MAGNET.—From our hasty examination we are led to believe it a work of merit. The editor, without doubt, fully understands the manner of treating these subjects in a popular and attractive way. For the sake of these sciences becoming better known among all classes, we heartily recommend the work.—*Lehigh Bulletin*.

THE MAGNET.—The first number of this strange and very interesting periodical is on our table, and we have perused it with wonderful satisfaction. We look upon the "*Magnet*" as one of the rarest and cheapest periodicals afloat.—*Phil. Spirit of the Times*, May 24, 1842.

Mr. Sunderland has given much attention to the subject of Phreno-Magnetism, and the results of his experiments, where it seemed impossible there could be any collision, have astonished all who witnessed them. The *Magnet* will be devoted to the elucidation of the new discoveries in Psychology Physiology, and Mr. S. is one on whose integrity and scientific ability full reliance may be placed.—*Albany Morning Atlas*.

Of the importance of its subject, Magnetism, and its connection with Phrenology and Physiology, there cannot be a

doubt; and the same is true of the ability of its editor to conduct it.—*American Phrenological Journal*.

It has received the highest commendations from scientific men, and from the public press. We know of no scientific work that we could recommend to our readers with more pleasure and confidence.—*Lyceum Reporter*.

Of the science of Magnetism we know very little—barely sufficient to excite a desire to know more. We are glad Mr. Sunderland has undertaken the investigation of this subject. His well established character for rectitude is a guaranty against collusion and imposition; while his powerful intellect, nice discrimination, and long experience, eminently qualify him for the task. We have full and entire confidence in its editor, and believe that although he may prove at fault in many respect, he will nevertheless impart a vast amount of genuine knowledge.—*Broome (N. Y.) Republican*.

Mr. Sunderland is a man of science, and is every way qualified to make a popular work.—*Boston Transcript*, June 24, 1842.

Its editor seems to be every way qualified for his task, as appears both from the high testimonials to that effect, and the style of the publication. We have risen from a perusal of the first number with highly gratified feelings, and would say without hesitation, that to our view, the work promises to be well worthy of the patronage of the reading community, and well calculated to meet the wants of those who are desirous to become thoroughly acquainted with the truths of Magnetism. It will be found to contain valuable information upon other sciences, although, as the editor informs us, "*Magnetism is the all-pervading soul of the whole.*" The work is written with evident ability and skill, and we doubt not will be by the public favorably received.—*New England Weekly Review*.

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INFORMATION WANTED!

We frequently receive letters from a distance, asking for advice and information. We have before given notice, that we cannot devote our time to writing letters of advice, for the benefit of others, without compensation. Time is exceedingly precious; and while we devote our skill and spend this gift for the good of others, we expect a reasonable remuneration. Letters, therefore, reaching this office unpaid, and without a fee, will not be attended to.

NOTICE.

The *MAGNET* has now reached its fourth number, with flattering prospects. It will hereafter be published punctually on the first of each month. Labor and attention shall not be spared in making each successive number an improvement on the last; and we hope our friends will continue to second our efforts.

THE MAGNET.

PHRENO-MAGNETIC OFFICE.

AT the urgent solicitation of a number of scientific gentlemen in this city, the Editor of the Magnet has finally consented to give

Phrenological & Magnetic Examinations,

At his Office, 138 Fulton Street.

Mr. SUNDERLAND may be consulted in all cases of NERVOUS or MENTAL difficulty. His treatment of Diseases peculiar to the *Nervous System*, has resulted in some remarkable cures; and it is believed, that his numerous PSYCHOLOGICAL EXPERIMENTS, and highly interesting PHRENO-MAGNETIC DISCOVERIES, enable him to give the most satisfactory delineations of the mental dispositions of different persons, accompanied with such demonstrations of the true SCIENCE OF MIND, as can but be every way profitable to all who wish to understand the mysteries of their own natures; and, also, how they may use their talents to the best possible advantage.

INSANITY!

MR. SUNDERLAND believes he has made a Discovery, which will enable him to Relieve, or Cure, any case of *Monomania*, *Insanity*, or recent *Madness*, where there is no malformation, or destruction of the mental organs.

Having made Mental Derangement, in all its varied forms, a matter of the most patient study for some years, it is believed he has arrived at an important discovery as to its nature, and the best (perhaps the only safe) method for its cure. The success which has attended his treatment, encourages him to offer his services for the relief of one of the worst maladies which it is possible for suffering humanity to bear.

TESTIMONIES.

The subscribers have been present and witnessed numerous cerebral experiments performed by the Rev. La Roy Sunderland, by which various phenomena were produced in the mental exercises of the patient, such as Sleepwalking, Laughing, Singing; and the states of mind resembling Madness, Monomania, Insanity, &c., were brought on and removed in a few seconds of time. In our opinion, there was no collusion in the production of these phenomena; but, as far as we can judge, they seem to have been brought about by the application of laws to the human system which have not been well understood heretofore, and which have not received that attention which the importance of the subject would seem to demand.

New York, March 2, 1842.

H. H. SHERWOOD, M. D.
Rev. ISAAC COVERT,
Prof. E. WRIGHT.
O. S. FOWLER.
Rev. J. H. MARTIN.

The subscribers hereby certify, that we have witnessed numerous magnetic experiments made by the Rev. La Roy Sunderland, in some of which the mental faculties were excited to action by placing the fingers over the location of the phrenological organs corresponding to these faculties; in others the power of a steel magnet over the human body in a very remarkable degree, was shown;—that we have carefully examined these experiments, and firmly believe, both from the mode in which they were conducted, and from the candid manner in which they were shown by Mr. Sunderland, that in many of them there could be no collusion; and that the result in some was evidently as unexpected by the operator as by any person present.

REV. THOS. M. STRONG,
JAMES E. DUBOIS, M. D.
T. F. KING, M. D.
REV. WM. BARLOW,
JOHN B. ZABRISKIE, M. D.

Flatbush, N. Y., May 14, 1842.

The new discoveries in Human Physiology and Psychology which Mr. Sunderland proposes to unfold, are indeed of the most astonishing character, and, substantiated, will place Phrenology and Magnetism among the most important of the positive sciences. Our acquaintance with the subject is very slight, but we know Rev. La Roy Sunderland, and we can say with the utmost confidence, that neither his integrity nor sagacity will be questioned by any who enjoy his acquaintance.—*N. Y. Tribune*, Feb. 23, 1842.

Mr. Sunderland's character for sagacity and integrity is such as to demand confidence in the correctness of his statements. His discoveries, as there enumerated, leave all former writers on Phrenology far in the back ground.—*Signal of Liberty*.

The ability of Rev. La Roy Sunderland, to do justice to the science he proposes to elucidate, is vouched for by men eminent for ability and moral worth.—*Windham Co. Democrat*, May 19, 1842.

Whether these new and startling discoveries are real or fictitious our readers will judge for themselves, when we remind them that the Rev. La Roy Sunderland is known to the public as a man of distinguished abilities and unblemished character.—*State Banner*.

The enduring reputation of Mr. Sunderland, as a man of a powerful mind, deep research, and stern integrity, is fully established, and it is not to be doubted that whatever he states as matter of fact may be relied on.—*Christian Herald*.

Mr. Sunderland is a gentleman of moral worth, and has made some discoveries in magnetism, which are likely to interest the curious.—*Boston Atlas*.

Mr. Sunderland's character for sagacity and integrity is such as to demand confidence in his statements.—*Watchman of the Valley*.

Mr. Sunderland has given much attention to the science of Phreno-Magnetism, and the results of his experiments, where it seemed impossible there could be any collusion, have astonished all who witnessed them.—*Albany Morning Atlas*.

The reader may rest assured that whatever Mr. Sunderland states as fact, and occurring under his own observation, may be credited.—*Newburgh Journal*, May 21, 1842.