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MAGNETISM.

SLEEP-WAKING.

The term sleep-waking, or somno-vigilium, has been used to signify a partial sleep, of a peculiar kind, in which persons have a sense of hearing and seeing, without the use of the common organs of these exercises. The term somnambulism is sometimes applied to such cases, though, indeed, the patient does not walk at all.

In these cases, some of the intellectual organs appear to be highly excited, and it is certain, that many have been known to do things of which they were wholly incapable in the waking state. It is not unlikely but that the medical profession will, ultimately, agree to call this a state of insanity; for it is plain that, in many respects, it resembles that state, both in the nature of some of the mental exercises, and, also, in the muscular strength put forth.

The books contain many facts under this head—enough, certainly, to satisfy the most sceptical, as to the existence of what, perhaps, may be denominated the *magnetic sense*—a sense which sometimes enables certain persons to see, hear, &c., without the use of the organs of seeing and hearing. We have taken the following from Dr. Elliotson's able work on Human Physiology, and shall probably continue our extracts in a future number:—

“One evening towards the end of October, we played at various games after dinner: Signor Augustin took a part in them along with the rest of the company, and afterwards retired to repose. At eleven o'clock his servant told us that his master would walk that night, and that we might go and watch him. I examined him some time after with a candle in my hand; he was lying upon his back, and sleeping with open, staring eyes. We were told that this was a sure sign that he would walk in his sleep. I felt his hands and found them extremely cold, and his pulse beat so slowly that his blood appeared not to circulate. We played at backgammon until the spectacle began. It was about midnight, when Signor Augustin drew aside the bed curtains with violence, arose, and put on his clothes. I went up to him, and held the light under his eyes. He took no notice of it, although his eyes were open and staring. Before he put on his hat, he fastened on his sword belt, which hung on the bed post; the sword had been removed. He then went in and out of several rooms, approached the fire, warmed himself in an arm chair, and went thence into a closet where was his wardrobe. He sought something in it, put all the things into disorder, and having set them right again, locked the door, and put the key into his pocket. He went to the door of the chamber, opened it, and stepped out on the staircase. When he came below, one of us made a noise by accident; he appeared frightened, and hastened his steps. His servant desired us to move softly, and not to speak, or he would become out of his

mind; and sometimes he ran as if he were pursued, if the least noise was made by those standing around him. He went into a large court and to the stable, stroked his horse, bridled it, and looked for the saddle to put on it. As he did not find it in the accustomed place, he appeared confused. He then mounted his horse and galloped to the house door. He found this shut; dismounted, and knocked several times at the door with a stone which he had picked up. After many unsuccessful efforts he remounted, and led his horse to the watering place, which was at the other end of the court, let it drink, tied it to a post, and went quietly to the house. Upon hearing a noise which the servants made in the kitchen, he listened attentively, went to the door, and held his ear to the key-hole. After some time he went to the other side, and into a parlor in which was a billiard table. He walked round it several times, and acted the motions of a player. He then went to a harpsichord on which he was accustomed to practise, and played a few irregular airs. After having moved about for two hours, he went to his room, and threw himself on his bed in his clothes, and we found him in them the next morning, for after his attacks, he always slept eight or ten hours. The servants declared they could put an end to the paroxysm only either by tickling his soles, or blowing a trumpet in his ear.

“Here, *hearing, touch*, the sense of *weight* and *resistance* were active, and probably *sight* to some degree; he was roused with *impunity*.

“Drs. Righellini and Pigatti describe, from their own observation, the sleep-waking of a man servant named Negretti, twenty-four years of age, who, from his eleventh year, had experienced attacks of the disease in March, not extending beyond April. March 16th, 1740, after going to sleep on a bench in the kitchen, he first began to talk, then walked about, went to the dining room and spread a table for dinner, and placed himself behind a chair with a plate in his hand, as if waiting on his master, the Marquis Luigi Sale. After waiting till he thought his master had dined, he cleared away, and put all the things into a basket, which he locked up in a cupboard. He afterwards warmed a bed, locked up the house, and prepared for rest. Being then awakened, and asked if he remembered what he had been doing, he answered, ‘No.’ Often, however, he did remember. On the 18th of the same month, he went through with the same process, but, instead of going to bed, went into the kitchen and sat down to supper. Dr. Righellini, with many others, were very curious to see him eat. At once recollecting himself, the man said, ‘How can I so forget? to-day is Friday, and I must not dine.’ He then locked up every thing and went to bed. If water was thrown in his face or his eyes were forcibly opened, he would awake, but remained some time faint and stupid. His eyes were firmly closed in the paroxysm, and he took no notice of a candle placed close to them. Sometimes he went against the wall, and even hurt himself severely. If any body pushed him, he got out of the way, and moved his arms rapidly on every side; and, if in a place with which he was not well acquainted, he felt all the objects around with his hand, and showed much inaccuracy; but

in places familiar to him, he was not confused, and went through with his business well. After Dr. Pigatti had shut a door through which he had just passed, he struck himself against it on returning. Sometimes he carried a candle about, but, on a bottle being substituted, he carried it about as if it were a candle. Dr. Pigatti was certain he could not see. Once in his sleep he said he must go and hold a light to his master in the coach. Dr. Righellini followed him closely, and found that he stood at all the corners of the streets with his torch not lighted, waiting a while in order that the coach which he fancied was following might pass, when the light was required. On one occasion he ate several cakes and some salad for which he had just asked the cook. He then went with a lighted candle into the cellar and drew wine, which he drank. He would carry a tray with wine glasses and knives, and turn it obliquely, to avoid an accident, on passing through a narrow doorway. Dr. Pigatti once substituted some strongly seasoned cabbage for a salad which he had prepared and had sat down to eat: he ate the cabbage, and then some pudding which was substituted for it, without perceiving the difference. At another time, having asked for wine, he drank water which was given to him; and sniffed ground coffee after asking for snuff.

"The state of *taste* and *smell* were here inquired into, and found inactive: *touch* and the sense of *weight* and *resistance* were active; *sight* inactive; and the actions were habitual.

"Dr. Francesco Soave relates the case of Castelli, the pupil of an Italian apothecary. The youth was found asleep one night, translating Italian into French, and looking out the words in a dictionary. They put out his candle, when he, finding himself in the dark, began to grope for it, and went to light it at the kitchen fire, though other candles were alight in the room. At other times he had gone down to the shop and weighed out medicines, and talked to supposed customers. When any one conversed with him on a subject on which his mind was bent, he gave rational answers. He had been reading Macquer's Chemistry, and somebody altered his marks. This puzzled him, and he said, "Bel piacere di togliermi i segni." He found his place and read aloud, but his voice growing fainter, his master told him to raise it, which he did. Yet he perceived none of the persons standing round him; and though he heard," says Dr. Soave, "any conversation which was in conformity with the train of his ideas, he heard nothing of the discourse which these persons held on other subjects. His eyes seemed to be very sensible to objects relating to his thoughts, but appeared to have no life in them; and so fixed were they, that, when he read, he was observed not to move his eyes, but his whole head from one side of the page to the other."

"Here was a most decided *sight*, though the existence of it was so partial, and his mind could attend in so limited a way, that the presence of other candles was not noticed, and he went to the kitchen for a light: *hearing* was active; of course the sense of *weight*, and *resistance*, and *touch*. *Volition over the muscles* was rather weak, as his voice grew fainter while he read, and he did not exert the muscles of his eyes, but *moved his whole head*."

"In 1686, Lord Culpepper's brother was indicted at the Old Bailey, for shooting one of the guards and his horse. He pleaded somnambulism, and was acquitted, on producing ample evidence of the extraordinary things he did in his sleep. There is a somewhat similar story of a French gentleman, who rose in his sleep, crossed the Seine, fought a duel, and killed his antagonist, without recollecting any of the circumstances when awake."

"The next, as well as the cases mentioned at p. 633, illustrates the occasional great acuteness of sleep-wakers: 'A young man named Johns, who works at Cardrew, near Redruth, being asleep in the sumpter-house of that mine, was observed by two boys to rise and walk to the door, against which he leaned; shortly after, quitting this position, he walked to the engine shaft, and safely descended to the depth of twenty fathoms, where he was found by his comrades soon after, with his back resting on the ladder. They called to him to apprise him of the perilous situation in which he was, but he did not hear

them, and they were obliged to shake him roughly till he awoke, when he appeared totally at a loss to account for his being so situated.'

"In the following cases a partial increase of mental power took place, as is sometimes noticed in insanity and common dreams:—

"A story is told of a boy who dreamed that he got out of bed, and ascended to the summit of an enormous rock, where he found an eagle's nest, which he brought away with him and placed under his bed. Now, the whole of these events actually took place; and what he conceived, on awaking, to be a mere vision, was found to have had an actual existence, by the nest being found in the precise spot where he imagined he had put it, and by the evidence of spectators who beheld his perilous adventure. The precipice which he ascended was of a nature that must have baffled the most expert mountaineer, and such as, at other times, he could not have scaled.

"Gassendi tells of a man who often rose and dressed in his sleep, went into a cellar and drew wine, appearing to see in the dark as well as in the day; but, when he awoke, either in the cellar or street, was obliged to grope his way back to bed. He often thought there was not light enough, and that he had risen too early, and therefore struck a light. He tells of another who passed on stilts 'over a torrent asleep one night, and on awaking was afraid to return before daylight, and before the water had subsided.'

"The intellectual achievements of Coleridge and others during ordinary dreaming, are as striking as any thing of the kind to my knowledge recorded of sleep-waking.

"An increase of muscular strength has sometimes, as in insanity, been noticed. One Sunday, Mr. Dubric, a musician at Bath, attempted in vain to open a window that happened to be nailed down in his bedroom. At night he arose in his sleep, and made the attempt successfully, but threw himself out and broke his leg."

"A female servant in the town of Chelmsford, surprised the family at four o'clock one morning, by walking down a flight of stairs in her sleep, and rapping at the bedroom door of her master, who inquired what she wanted; when, in her usual tone of voice, she requested some cotton, saying that she had torn her gown, but hoped that her mistress would forgive her, at the same time bursting into tears. Her fellow servant, with whom she had been conversing for some time, observed her get out of bed, and quickly followed her, but not before she had related this pitiful story. She then returned to her room, and, a light having been procured, she was found groping to find her cotton box. Another person went to her, when, perceiving a difference in the voice, she called out, 'That is a different voice—that is my mistress;' which was not the case—thus clearly showing that she did not see the object before, although her eyes were wide open. Upon inquiry as to what was the matter, she only said that she wanted some cotton, but that her fellow servant had been to her master and mistress making a fuss about it. It was now thought prudent that she should be allowed to remain quiet for some short time, and she was persuaded to lie down with her fellow servant that she might then awake in her accustomed manner. This failing in effect, her mistress went up to her room, and rather angrily desired her to get up and go to her work, as it was now six o'clock: this she refused, telling her mistress that if she did not please her she might look out for another servant, at the same time saying she would not rise at two o'clock, pointing to the window, to injure her health for any one. For the sake of the joke, she was told to pack up her things, and start off immediately, but to this she made no reply. She rebuked her fellow servant for not remaining longer in bed, and shortly after this became quiet. She was afterwards shaken violently, and awoke. She then rose, and seeing the cotton box disturbed, demanded to know why it had been meddled with, not knowing that she alone was the cause of it. In the course of the day several questions were put to her in order to try her recollection, but the real fact of her walking was not made known to her; and she is still quite unconscious of what has transpired.

"Here *sight* was suspended, but *hearing* perfect, as well as *touch* and the *feeling of weight and resistance*; all

was forgotten; she was roused by shaking, and with impunity.

"A lad named George David, sixteen years old, in the service of Mr. Hewson, a butcher in Bridge Road, Lambeth, at about twenty minutes past nine, bent forward in his chair, and rested his forehead on his hands, and in ten minutes started up, went for his whip, put on one spur, and went thence into the stable; not finding his own saddle in the proper place, he returned to the house and asked for it. Being asked what he wanted with it, he replied, to go his rounds. He returned to the stable, got on the horse without the saddle, and was proceeding to leave the stable; it was with much difficulty and force that Mr. Hewson, junior, assisted by the other lad, could remove him from his horse; his strength was great, and it was with difficulty that he was brought in doors. The lad considered himself as stopped at the turnpike gate, and took sixpence out of his pocket to be changed; and holding out his hand for the change, the sixpence was returned to him. He immediately observed, 'None of your nonsense, that is the sixpence again; give me my change.' When twopence halfpenny was given to him, he counted it over, and said, 'None of your gammon, that is not right; I want a penny more,' making the threepence halfpenny, which was the proper change. He then said, 'Give me my castor,' (meaning his hat) which slang term he had been in the habit of using, and then began to whip and spur to get his horse on. His pulse was at this time at 136, full and hard; no change of countenance could be observed, nor any spasmodic affection of the muscles, the eyes remaining close the whole of the time. During the time of bleeding, Mr. Hewson related a circumstance of a Mr. Harris, optician in Holborn, whose son, some years since, walked out on the parapet of the house in his sleep. The boy joined the conversation, and observed, 'He lived at the corner of Brownlow Street.' Soon after the arm was tied up, he unlaced one boot, and said he would go to bed. In three minutes from this time, he awoke, got up, and asked what was the matter, (having been then one hour in the trance,) not having the slightest recollection of any thing that had passed, and wondered at his arm being tied up, and at the blood," &c.

"An American lady, now, we believe, alive, preached during her sleep, performing regularly every part of the Presbyterian service, from the psalm to the blessing.—This lady was the daughter of respectable and even wealthy parents; she fell into bad health, and under its influence, she disturbed and amazed her family by her nocturnal eloquence. Her unhappy parents, though at first surprised, and perhaps flattered by the exhibition in their family of so extraordinary a gift, were at last convinced that it was the result of disease; and, in the expectation that their daughter might derive benefit from change of scene, as well as from medical skill, they made a tour with her of some length, and visited New York and some other of the great cities of the Union. We know individuals who have heard her preach during the night in steamboats; and it was customary, at tea parties in New York, (in the houses of medical practitioners,) to put the lady into bed in a room adjacent to the drawing room, in order that the dilettanti might witness so extraordinary a phenomenon. We have been told by ear witnesses that her sermons, though they had the appearance of connected discourses, consisted chiefly of texts of scripture strung together. It is strongly impressed upon our memory that some of her sermons were published in America.*

"A lady subject to spectral illusions would not only talk in her sleep with great fluency, and repeat great portions of poetry, especially when unwell, but even cap verses for half an hour at a time, never failing to quote lines beginning with the final letter of the preceding, till her memory was exhausted."

"Shakspeare, aware of the frequency of the phenomenon in sleep-walkers, represents Lady Macbeth as walking in her sleep with her eyes open, though he makes the

* This lady was the celebrated "sleeping preacher," as she was called, Mrs. Baker. We have seen persons who have heard her at the times referred to.—ED.

royal physician ignorantly infer that therefore she must be awake, and a gentlewoman of the court know better,—

'Doctor. You see her eyes are open.

Gentlewoman. Ay, but their sense is shut.

"But a remarkable circumstance is that, though a particular sense appear torpid, it may be alive to some impressions. A sleep-waking female, mentioned by Lorry, could not be made to see, or hear, or be aware of the presence of any person but one, and him she evidently saw, and to him she used to address herself upon the subject of her dream. Dr. Pritchard gives an account of a boy who, in these paroxysms, became insensible to all external impressions, except that, when he happened to play on the flute, he sometimes perceived if other boys began to accompany him, and then evidently directed his attention to them. The insensibility to external impressions in sleep-waking, as in common sleep, is not in the organs of sense or the tract of their nerves, but in the portion of the brain most immediately connected with them; and, if these portions are not torpid, and at the same time there is excitement, either of a particular kind, as musical, for instance, or in connection with a particular individual, those impressions tell which are in relation with the excitement, while those which find all torpid with which they might be in relation are unnoticed. But, for this singular partial sensibility to take place, the portion of the brain in connection with the very extremities of the nerve of sense cannot be torpid: for, if it were, no excitement in relation to any object of that sense, no attention or direction of the thoughts, would avail. Such a portion is torpid sometimes. Negretti sat down to eat a bowl of salad; yet, though his thoughts must have been upon it, and his attention directed to it, he ate first cabbage and then pudding, which his friends substituted for it in succession, without perceiving the difference. When he had asked for wine, he did not detect that they gave him water; when snuff, that he received coffee. On the other hand, if the portion of the brain in connection with a particular sense is not asleep, its objects may be perceived though presented unexpectedly. Signor Augustin heard slight sounds at a distance, and was set listening. I therefore cannot agree with Dr. Pritchard, who attempts to explain these differences entirely by generalizing the remark made on Castelli's case by the reporters, and saying that, 'when attention is by a voluntary act directed to the particular operation of sense, the perceptive faculty of the sleeper is perfect, even remarkably acute. But when his mind is distracted, his reverie presenting different objects, even loud sounds are imperceptible to him.' If, on the other hand, a particular sense is not torpid, but the portion of the brain in immediate connection with its nerves sensible, impressions may not be perceived, on account of the excitement of the thoughts—of attention, in another direction; just as, when in study we become wrapped in thought, we cease to hear the chimes of a clock in our apartment: and, though a sensation take place, the mind may form a wrong judgment if imperfectly excited towards it; as when Negretti, if a blow was given him with a stick, or a muff was thrown at him, fancied in each instance it was a dog—mistakes similar to those which we make, if addressed or touched when in deep thought. And, although a sense be nearly torpid, a powerful partial excitement and concentration of thought, such as happens in common dreaming when we successfully effect what we had attempted in vain when awake, may cause very slight impressions on that sense to be accurately perceived. Probably, not merely is the *intellect* partially much heightened, in some instances; but a *sense* rendered exquisite, so that a person may see with the eyes so much closed that others consider them shut, and perceive in what others call darkness. I shall mention a case of extraordinary sensibility to light at p. 653, *infra*.

"The sensibility sometimes either quickly varies or becomes very peculiar in the paroxysm. For, while it was certain that my little patient in her delirium saw perfectly all round her, I darted my finger rapidly towards her eyes, but the pupil did not lessen nor the lids wink. The same extraordinary phenomenon occurred in a case presently to be quoted from Dr. Abercrombie, and in

another from an American journal. I made the experiment repeatedly on different days. Another singularity was, that, though she evidently saw well around, she declared, on my holding up one finger, that there were two; on holding up two, she declared there were four; on holding up four, she said there was a large number. On presenting a watch to her, she could not tell the time, though she attempted carefully; she at length pronounced an hour, and persisted in it, but quite wrong. Once while looking at Baron Dupotet, she said he had a great many eyes, and then that his eyes turned right round in his head. In the delirium I always noticed one eye to be too near the nose.

“The following case also exhibited either rapid changes or an extraordinary state of sensibility:—Dr. Darwin relates the case of a young lady about seventeen years of age, who, every day for five or six weeks, had fits of violent convulsions, then retchings, next equally violent hiccups, then tetanus, and at last sleep-waking, becoming insensible, yet singing, quoting whole passages of poetry, and holding conversations with imaginary persons, and coming to herself with great surprise and fear, but with no recollection of what had happened. At length she could walk about the room in the fit without running against the furniture, and evidently had some external sense: for she took a cup of tea and expressed a fear that there was poison in it; and seemed to smell at a tuberosé, and deliberated about breaking the stem, because it would make her sister so charmingly angry; once heard a bell, was less melancholy when the shutters were open, and impatient if a hand was held over her eyes, or her hands were held down, saying, ‘She could not tell what to do, as she could neither see nor move.’”

For the Magnet.

THE MAGNETIC FORCES.

BY HENRY HALL SHERWOOD, M. D.

The facts I have stated, in regard to the manner in which the earth is magnetized, and the number and situation of its magnetic poles, are directly opposed to the theories of modern philosophers on these subjects. According to the theory on which they are generally agreed, the line of no variation, and the magnetic meridians of the earth, are irregular curved lines, and there are two magnetic poles somewhere within the arctic, and two within the antarctic circle. One of these, within each circle, being a *strong* pole, which moves very fast, and the other a *weak* pole, which moves very slow; and this is the machinery with which these philosophers have attempted to account for the variations in the declination of the needle; and with which they have drawn their fanciful curves on their Magnetic Charts, which are only equaled by the numerous fantastic curves they have drawn from the common magnets, to illustrate those they have drawn for the earth.

A necessary condition in the production of like magnetic forms, in different bodies, is like forms of the bodies magnetized; (see fig. 1, 2, 6, and 8, in the first number of the Magnet;) and as the form of the earth, and these magnets, have no common likeness, the magnetic curves of one cannot correspond with those of the other. A theory constructed on the form of the magnetic curves of one of these bodies must, therefore, be fallacious, and of no value, when applied to the other; and such has been the result of the labor bestowed upon this theory.

As Dr. Roget has given a very concise view of this theory, in the work before noticed, I will copy it here for the benefit of those who have not access to large libraries.

“*Variation of the Compass.*—It has been already stated, that if a magnetic bar be poised on its centre so as to move freely in a horizontal plane, and if no

ferruginous body be sufficiently near to affect it sensibly, it will assume, when left at liberty, a direction nearly north and south. When disturbed from this situation, it returns, after several oscillations, to the same position. On this property is founded the mariner’s compass, which is of such essential use in navigation. In moving horizontally towards the position which it thus tends to assume, the needle of the compass is said to *traverse*.

“It is found that in this country, as well as throughout Europe, the north pole of the compass deviates a certain number of degrees to the westward of the exact northern direction. This deviation from the true geographical meridian has been called the *magnetic declination*; but it is more usually known by the term *Variation of the Compass*. The vertical plane which passes through the direction of the horizontal needle at any particular place is termed the *magnetic meridian* of that place, in contradistinction to the *geographical* or *true meridian*, which is a vertical plane passing through the poles of the earth.

“There are but few places on the earth where the compass points directly to the poles; that is, where it exhibits no variation. As far as observation has extended, these places are situated in a line which encompasses the globe, and is called *the line of no variation*. In many of its portions it appears to form part of a great circle of the sphere, but in others it deviates much from regularity, presenting many flexures in its course. It may be considered as commencing from a point which may be designated as the *principal* arctic magnetic pole of the earth, and the exact situation of which is not yet perfectly ascertained, although the late voyages of discovery in these regions have enabled us to form a tolerable approximation to the precise spot, which appears to be a point somewhere to the westward of Baffin’s Bay. After crossing the United States of North America it passes along a tract of the Atlantic, a little to the eastward of the windward West India Islands, till it touches the northeastern point of the South American continent. Thence it stretches across the Southern Atlantic towards the south pole, where navigators are unable to follow it. It reappears in the eastern hemisphere to the south of Van Dieman’s Land, and passing across the western part of the Australian continent, is again found in the Indian Archipelago. Here, according to Biot, it divides into two branches, one of which crosses the Indian Sea and enters Asia at Cape Comorin; it then traverses Hindostan and Persia, and passing through the western part of Siberia stretches over to Lapland and the Northern Sea.* The second branch, pursuing a more directly northern course, traverses China and Chinese Tartary, and makes its exit from Asia in the eastern division of Siberia, where we again lose it in the Arctic seas. Between these there must exist an intermediate line of no variation in some part of the continent of Asia; but the observations we possess regarding it are, as yet, too imperfect to admit of any attempt to trace it correctly.

“If we consider these Asiatic lines of no variation as composing a single band, we may then consider the globe as divided by this and the corresponding American line into two hemispheres. In that hemisphere which comprehends Europe, Africa, and the western parts of Asia, together with the greater portion of the Atlantic, the variation is to the west. In the opposite hemisphere, which comprises nearly the whole of the American continents, both North and South, and the entire Pacific Ocean, together

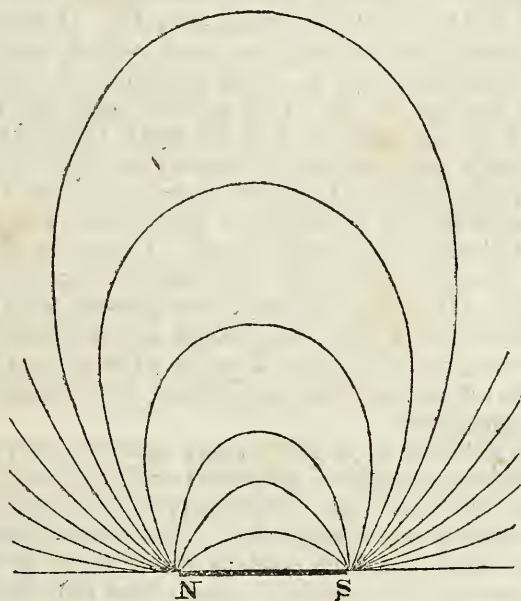
* To the weak magnetic pole.

with a certain portion of Eastern Asia, the variation is to the east."

"*Hypothesis of the Magnetism of the Earth.*— From a consideration of the general facts that have now been stated with respect to the influence of terrestrial magnetism, it will be sufficiently evident that the earth acts upon magnetized bodies in the same way as if it were itself a magnet; or rather as if it contained within itself a powerful magnet lying in a position nearly coinciding with its axis of rotation. This hypothesis was originally proposed by Dr. Gilbert in his work entitled, 'Physiologia nova de Magnete, et de Tellure magno magnete,' published in the year 1600; and Kepler ranks this hypothesis among the greatest discoveries in the annals of science."

The following is one of the doctor's most simple drawings of magnetic curves from a magnet, which is a sample of that which is supposed to be "lying in a position nearly coinciding with the earth's axis of rotation," of which he says:—

" Fig. 32.



"It may be mathematically demonstrated, that if such be the law of the magnetic forces, the direction of the needle is that of the tangent of a peculiar curve of an oval shape, which has been denominated the *magnetic curve*. Every magnet having two poles N and S, (*fig. 32*) has a system of magnetic curves related to the line joining these poles, and which may be called its axis. The general form and disposition of these curves, according to their different distances from the magnet, is shown in the figure.

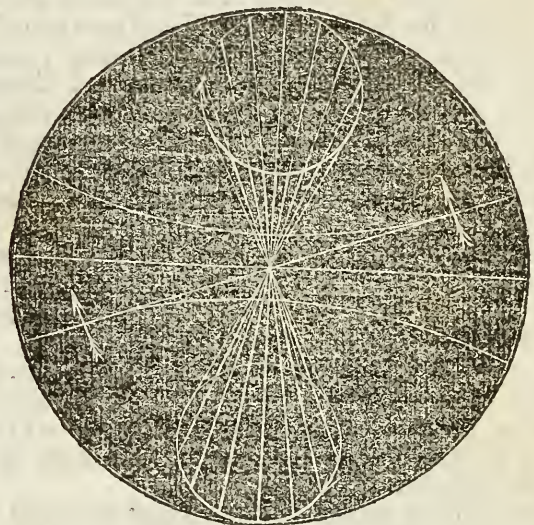
"The magnetic curves have the following remarkable property; namely, that the difference of the cosines of the angles, which lines, drawn from any point in the curve to the two poles, make with the axis, taken on the same side, is constant."

"The forms and disposition of these curves are elegantly illustrated by the lines in which iron filings arrange themselves when acted upon by a powerful magnet. In order to exhibit them, we need only place a sheet of paper or pasteboard immediately over a straight magnetic bar laid flat upon a table, and scatter lightly some very fine iron filings over the pasteboard, which is best done by shaking them through a gauze bag. If we then tap gently upon the paper, so as to throw them into a slight agitation, they will arrange themselves with great regularity in lines, which exactly follow the course of the magnetic curves, extending from one pole of the

magnet to the other. These minute fragments of iron, being rendered magnetic by induction, have their dissimilar poles fronting each other, and therefore attract one another, and adhere together in the direction of their polarities, which is that of the tangent to the magnetic curve: thus affording a beautiful ocular exemplification of the mathematical properties of these curves."

The above is a brief but comprehensive view of the prevalent theory of Terrestrial Magnetism prior to the magnetizing of a connected iron ring, in 1837, when new and true laws of the magnetism of the earth were displayed and demonstrated on that remarkable instrument.

The magnetic axis *c* (*fig. 6*, first number of the Magnet) crosses the axis of rotation *a* at an angle of $23^{\circ} 28'$, and describes two inverted cones in every revolution of the pole, (*fig. below*:—)



The great circle of maximum declination passes through the magnetic poles, and crosses the earth's axis at the same angle with the magnetic axis, and moves from east to west at the same annual rate as the magnetic poles. It passed over the meridian of London, in 1820, where the declination of the needle then arrived at its maximum, and was $24^{\circ} 36' 18'' 31'''$ W. at the Observatory, (Greenwich.) It remained stationary there three years and a half, and then the declination began to decrease, and will go on decreasing there, as the magnetic pole advances in the arctic circle, until it is reduced to nothing, in 166 1-2 years. The declination will then begin to be east, and will go on increasing until it arrives at its maximum eastern declination in 163 years, when the needle will again rest in its position three years and a half. The eastern declination will then begin to decrease, and will go on decreasing until it is again reduced to nothing in 166 1-2 years. The declination will then begin to be west, and will go on increasing 163 years, when it will again arrive at its maximum as before, and again rest in its position three and a half years.

Translated for the Magnet.

MAGNETISM AMONG THE CHINESE.

Extract from a letter of the Count of Mellet, marshal of the camp, to the Marquis of Puysegur.

PARIS, Oct. 8, 1787.

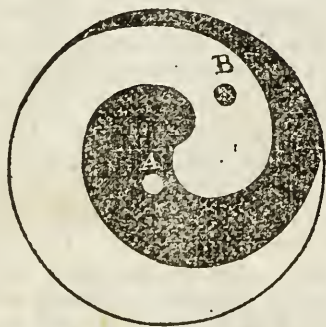
For a very long time, sir, before the appearance of doctor Mesmer, I believed in an aerial, celestial medicine, which the ancients knew and expressed under the name of *Rapha-el*, (or the medicine of God.) I believed in it, more particularly, when I

observed the *Rapha-im* announced as the powers of the world; and what men are able to be as powerful as the primitive antediluvian people, if it is not those who pay every attention in procuring the advantages of health? It was already possessed by all beings before they abused the gifts of a strong nature, and the powerful resources which Deity had distributed throughout every thing for the preservation of his works.

After some knowledge of electricity I likewise believed this medicine applicable by fire, is, without doubt, modified in a manner analagous to living nature, pretty nearly as we respire it with the air which serves it as a vehicle, without imagining how we communicate it, because, I feared the ordinary electrical machine, as operating with too much rapidity and power. Finally, Mesmer appeared, and I suspected that he had one of these *Rapha-im* which I sought. All that was said for and against only augmented my hopes, and the desire of seeing the Adamic medicine revived. I had seen a medicine of attitudes, or postures, in some Chinese memoirs, which had caused me some reflection. I, therefore, made a small collection of works on Mesmerism, and sent it to Pekin to father Amiot, a missionary of very great talents, whom I knew had the truly apostolic love for the progress of the sciences and the happiness of humanity, and I begged him to inform me if the *cong-fou* would not agree to all therein contained. His first letter, which unfortunately, I have not with me, was very satisfactory, and he promised me a still further account in the following year. You will find accompanying this, an extract from the second; and with your permission, I will trace from memory the particulars of the first, which will serve as an explanation to the kind of exordium in that which I afterwards received.

The Chinese picture Nature, which they call *Tay-ki*, under the form of an eye, nearly resembling that of Isis. This general agent, this *Tay-ki*, forms a whole, male and female, that is to say, it contains opposite principles which they name *yang* and *yn*, and it is by the action of this *yn-yang* that every thing is produced, that all is born to be destroyed, and is destroyed only to be reborn under new forms.

Figure of Tay-Ki.



The *yn* A has a centre or *ly-yang*; and the *yang* B has a *ly* or mover, *yn*.

These two *ly*, marked by two little rings, the one of which is white in the black, and the other black in the white of *Tay-Ki*, seek always to rejoin themselves to their analogies, making continual efforts, communicating motion to matter, and in producing the flowing and ebbing, follows the power of their successive explosions. * * * *

FROM FATHER AMIOT, MISSIONARY IN CHINA, TO THE
COUNT OF MELLET.

SIR: I had only time last year to say a few words on animal magnetism, announced in Europe for the first time by Mesmer, and I promised to speak of

it sooner or later, provided that in the course of this year I acquired any new light on that which concerns this important subject. I have reflected, I have informed myself, and I have had an opportunity of instructing myself by reading with attention the pamphlets which you had the goodness to send me by M. de Bertin, for which I thank you with sentiments of the most perfect gratitude.

The fruit of my researches has been a thorough conviction of the existence of a universal agent which influences every thing, to which every thing is submitted, and which, from the first moment of its existence even to when it ought to cease to exist, acts constantly by laws the most simple possible; and has produced and will produce without cessation all the secondary causes which constitute the vast universe, as well as all the physical agents, which are necessary for the preservation and maintenance of order in it, so long as it will please the Creator to allow it to exist. This corporeal, but invisible agent, occupying all created space, is named by the Chinese *Tay-Ki*. We may give to it any name we choose. This name of *Tay-Ki* in the Chinese idea, signifies, *first material principle, grand comble, that in which, and of which every thing exists, &c., &c.* It incloses in its nature, the *yn* and the *yang*, which are the two great movers of it, and a *ly*, which is the first author (*moteur*) of it. This *yn* and *yang*, put into play by the *ly*, seek to join, or unite themselves; they mingle and combine alternately in large, small, and equal quantities; and from this mixture they form an infinity of beings who partake more or less of the nature of their *constituents*. I speak as clearly as I can, of a thing, which, in itself, is not wholly very clear; but there are intelligent persons who understand at half a word that which others would not comprehend after the most lengthy explanations; as you, sir, are among those of the first, I will continue in the same tone.

Each of these particular beings receives only the kind of being which is proper to each of them, because of the less or greater quantity of *yn* or of *yang*, of which they are constituted; and it is this less or greater quantity which renders them more or less dependent on the one or the other of the two universal agents, *yang* and *yn*, which, in communicating to them the virtue of acting on other analogous beings subordinate to them, impresses upon them an action which they communicate to all around them, to other similar beings even to infinity. I have equivalently told you this in my first letter, but I have to repeat it here, that I may enter upon that which I wish to mention.

The agent has two poles, which, from this circumstance Mesmer named *animal magnetism*, is only the one of these particular and subordinate beings submitted to the two general agents *yn* and *yang*. Its functions are limited in the animal kingdom, and we cannot draw from it any benefit for the cure of diseases which afflict the human race, without having previously a perfect knowledge of *yn* and *yang*. It is further necessary to know the subject on whom we wish to direct its sanative virtue; and, in my opinion, it is that in which lies all the difficulty, or, at least, the greatest difficulty; for example, if the subject is affected by an excess of *yang*, the physician adds to this superabundance by directing towards the patient the *yang* instead of the *yn*, he is certain that instead of lessening or extirpating the evil, he increases and strengthens it, and may produce death instead of a cure. It is, I think, for this reason, that Mesmer assures us, that unless we are acquainted with his secret, we cannot employ animal magnetism with any success. This is also expressed in other terms by the Chinese, when they say, that without

a perfect knowledge of the actual condition of the *yn* or the *yang* in a patient, we cannot flatter ourselves with being able to perform a cure. It is to acquire this knowledge, that for more than four thousand years, all those who wish to make a public profession of the art of curing, consecrate their laborious studies; but whatever may have been their success at different times, it does not appear that like Mesmer, they have ever been able to arrive at the point of doing without ordinary medicines. They serve themselves with these medicines as so many conductors of *yn* and *yang*, in convenient proportions of the one or the other as will remove the disease, and restore to health. We find in their medicinal works, only one example of cure operated by means of *yn-yang*, without any other remedy whatever, without any other conductor than a simple tube, and without touching or even seeing the patient. The following is the fact as related to me by a physician who had read it in a work made under the *Soui*, or at the latest under the *Tang*, that is to say, within, at least, ten centuries.

"A mandarin of high rank, it is stated in this work, had a dearly beloved wife, whom he saw wasting away from day to day, and rapidly hastening towards a dissolution, without complaining, whatever, of any pain or sickness; he wished to submit her to the examination of a physician, but she opposed him, saying, that in entering his house she had taken a firm resolve never to allow herself to be seen by any other man, and that she did not want any, she would sooner die. The mandarin begged, pressed, and solicited very much,—all was useless. He consulted the physicians, who told him that they could give him no advice unless they had, at least, some indications of the disease which affected the person for whom they were consulted.

"An old man of letters presented himself, and assured him that he would cure her without seeing her, without even entering into the apartment where she was, provided however, that she would be willing to hold in one hand one of the ends of a long tube of bamboo, while he held the other end. The mandarin regarded this as a curious expedient; and without any faith in the promised cure, he proposed it, nevertheless, to his wife, rather as something which would amuse than as a remedy.

"The patient entered into it with a good feeling—the old man came with his tube, of which he held one end, while the lady held the other, and applied it to that part of her body where she suspected her disease to lie, removing it from one place to another until she experienced painful sensations. She obeyed the directions, and when she had carried the end of the tube towards the region of the liver, the pains manifested themselves, and made her cry out loudly. 'Do not remove it,' said the old man, 'you will infallibly be cured.' After having continued in this state of pain for the space of more than fifteen minutes, he withdrew, and promised to return the next day at the same hour; and so he continued each day, until a perfect cure was effected, which was produced on the sixth day.

"The mandarin, full of acknowledgments, recompensed him liberally, but exacted from him a promise that he would frankly state if his method were not a *sie-fa*, that is to say, a superstitious art, or as we term it, a witchcraft. 'My art,' answered the old man, 'is in the most common laws of nature, and it is for this very reason, that it is always efficacious. It consists only in the knowledge that I have of *yn*, and of *yang*, which are in my body, likewise in my skill in directing the one or the other, as may be proper, towards any one in whom the *yn* and the *yang*

are not in equilibrium, in order to re-establish them, &c.'"

This history, true or invented, proves, 1st., that, at least, there have been ten centuries during which the Chinese have had the idea of an agent, concentrated in each individual under the name of *yn-yang*, depending upon the universal agent diffused throughout space under the same name; 2ndly, that every individual can, at his will, dispose of this peculiar agent, provided he has acquired the necessary knowledge so to do; 3rdly, that he can, in directing it properly, make any quantity of it whatever, pass to another individual, in order to unite it to the particular agent of this other individual, and, that he can, finally, make it serve him as a very efficacious means for the cure of diseases.

If I am not deceived, it is this which Mesmer attributes to that which he calls *animal magnetism*. I say more, the *yn-yang*, this universal agent which produces and modifies all bodies, which submits every thing to them in general, and to each of them in particular, to the general laws to which it is itself submitted, is the only key which can open to us the sanctuary of nature. It is in it, only, and by it, that we are able to give a reason for all the phenomena which we meet with, at every step in the obscure regions of physics, and by which we may be enabled to form a clear idea of the true theory of the world. Acknowledge, sir, that your presumptuous learned men, who regard the Chinese as such philosophers and physicians, may be well astonished, if they, necessarily, have to adopt the system of these same Chinese, as being, if not the truth, at least the most satisfactory, and approaching nearer to truth than any other; and as this system is very ancient with them, so that we cannot name its author, and as we likewise have it only by tradition since the first age of the monarchy, it is necessary to conclude from them, with M. Bailly, that they have received it from an anterior people, from a lost people; in a word, from the antediluvians, who were, probably, more advanced in the sciences than we of the present day possibly can be.

J. KING, M. D.

HUMAN MAGNETISM.—Results of a very surprising character connected with this matter have been elicited in this city. The phenomena described have not been exhibited in a single case only, but have been displayed in various instances, with more or less vividness, according to constitution, sex, individual excitability, and the cultivation and exercise of the intellect. Now, it must be conceded that upon whatever theory or supposition these astounding facts are accounted for, enough is known, backed by authority which cannot be disputed as to the facts themselves, to arrest public attention, to silence unthinking prejudice, and to secure that patient investigation and rigid analysis demanded in a matter which certainly looks as if likely to revolutionize systems of mental philosophy, to affect medical science, and to bear upon many of the most important interests of the human race.

This is a subject not to be slighted or to be dismissed with a sneer. After all its experiences, the world should be wiser than to wrap itself in the mantle of indifference and skepticism, merely because a new proposition is presented, militating against preconceived ideas, and likely to disturb long established modes of thought and belief. There has been enough, and more than enough, of this description of folly, and mankind should now endeavor to attain a more healthy state of mind, by which novelty should not be disdained because it is novelty, or truths rejected when they do not harmonize with earlier impressions.—*The Pennsylvanian*.

THE MAGNET.

NEW YORK, JULY, 1842.

THE MAGNETIC PHENOMENA.

There are two kinds of what may be called magnetic sleep. Though, indeed, all sleep might be denominated magnetic; but we speak now of that kind of sleep which overcomes certain persons, either spontaneously or by sympathy with the will of another.

The phenomena described in our present number, under the head of "Sleep-waking," we should call the natural or spontaneous magnetic sleep; and it has, most commonly, been designated by the term somnambulism. Many have noticed the phenomena which have occurred in this state, who are altogether sceptical with regard to the phenomena, which are alleged to have appeared from *somniphathy*, or the induced magnetic sleep, when it will be seen, at once, that there is scarcely any thing more remarkable or miraculous in the latter than has often been known to occur in the former state.

But, in regard to the *induced* magnetic phenomena, of which such marvelous stories have been circulated, there are many things to be taken into the account, which should not be overlooked, especially by those who think they have penetrated, by this agency, as it were, into the secrets of another world. When this subject becomes better understood, it will not, perhaps, be a matter of so much surprise, that different magnetizers have been so frequently deceived, as to the real nature of the phenomena which they may have, in some form or other, been the means of producing. There is something quite captivating in many of the aspects which this subject often assumes. Of the reality of the magnetic influence there can be no reasonable doubt. Where it is used for the relief of human suffering, or in those cases where a state of sleep is produced, the mind of the operator is frequently taken by surprise, and carried so far from its true bias, that it becomes quite ready to receive, as equal realities, whatever may be, in any way, associated with this strange state.

The facts detailed in the article above named, and also in the preceding number of this work, are, certainly, sufficient to demonstrate, beyond all question, that man has a faculty, or sense, independent of the physical organs. And the same may be affirmed of insects, animals, and birds. Is it not this *sense* which guides the feathered tribes in their migrations from one hemisphere to another? Is it not this sense which guides the ox in selecting two hundred and seventy-six kinds of herbs, and, at the same time, teaches him to avoid two hundred and eighteen, as unfit for food? A species of spider digs a hole in earth, about two feet deep, and closes it with a curious trap door, so as to deceive and keep out every intruder. The tortoise, though hatched a mile from the water, no sooner leaves its shell, than it runs directly to the ocean, without a guide. The *sphex fabulosa* prepares little cells in the earth, then she fetches spiders, and deposits one with each egg, that the little ones may have food as soon as they break forth from the shell. All animals, without instruction, move with perfect skill from the time of their birth, from one place to another; and they use their limbs, and select their food, at the proper time and place. Mix salt and arsenic, and it is said a sheep will select the former from the latter, a thing which man could not do.

This sense has been called *instinct*, but is it anything more or less than the magnetic sense, if we may so speak, with which the great Creator has endowed every living being? True, for its exercise, or its various manifestations, in man, we have organs, the strength and activity of which

depend on the power of the magnetic forces, and the strength and proportions of the different magnetic poles, or sympathetic points. But, it is well known to those familiar with human physiology, that in diseases of the nervous system, persons have been able to see without the use of the eyes, and to do things which they could not do when in a healthy or waking state. And cases may be found described in the books, where persons long sick, and enfeebled with disease, have, all at once, become so strong, by an excitement of the nervous system, as successfully to resist the strength of two or three strong able bodied men. The nerves and muscles, in such cases, seem to possess superhuman power, and the brain to be endowed with a most unaccountable susceptibility.

So in cases of mental derangement. Gentlemen of the Medical Faculty, who have hitherto resisted the assumptions of Phrenology, now quite generally admit, that, though the cause of mental derangement may be sometimes located in the stomach, for instance, yet this disease is so connected with the brain, that no treatment should be tolerated for a moment, which is not adapted to the laws which govern that important organ. Insanity results from the derangement of the magnetic forces of the brain. Hence we see the effects often produced by a violent blow upon the head; or the effects produced on the mind when the brain becomes charged from the stomach, or other parts of the body too highly stimulated. Monomania is the result of the *morbid action* of one organ. We call it insanity when the entire brain is diseased, or a number of the organs together. In a word, all *morbid* action of one or more organs of the brain, produces derangement in the mental exercises. This is so plain, that we presume no one will attempt to deny it; certainly no one who admits the claims of Phrenology.

But, it becomes a serious question, as to how we shall be able to decide between sanity and insanity? How or where shall the line be drawn between monomania, and the healthy action of all the cerebral organs? This may be as difficult as it is to decide on the line which divides light from darkness; for there can be no doubt but that the mental organs are often excited to unhealthy action, without giving the least suspicion to any one, that the person is laboring under monomania.

But when one or more of the mental organs become so impaired or excited in their exercises, that it is carried beyond a healthy action, such action as ceases to be in harmony with the healthy action of the other organs, and so far as to be shown in the conduct or mental exercises for any time, then we do not hesitate to pronounce it a case of insanity, or monomania. And in such cases, every one knows how common it is to speak of the *mind* as being diseased! *

But is it not evident, that, if the *mind* may be diseased, it may die? For, whatever is subject to disease, must, of necessity, be perishable, and in time, decay. However, without entering here into the inquiry as to any supposed difference between mind and matter, so far as the question of *immortality* is concerned, we may take it for granted, that the mind is imperishable, and, therefore, cannot become physically diseased. The organs of its manifestations may suffer disease—they may become over excited, and the mind become obscured and deranged in its exercises accordingly; but, during all this time, the conscious, thinking, self-determining principle, remains the same unchanging *identity*.

Human knowledge is the conscious perception of any positive or relative existence. But this consciousness may exist in various degrees in different persons, and in different de-

* In a course of Medical Lectures advertised to be delivered before the College of Surgeons, in this city, the present season, we notice one of the gentlemen, it is said, will "lecture on Diseases of the *Mind*."

excruciating kind. On the 28th of June last, the day before Mr. Sunderland commenced magnetizing me, my sufferings seemed beyond endurance.

I desired Mr. Sunderland to put me into the magnetic sleep for the purpose of having my teeth drawn, not anticipating any other relief; but I am now happy to say, that I have been very much relieved,—indeed, more so than I have ever been before in the use of medicine. The pain in my face has been subdued, and so far removed, that I feel more freedom from suffering, and have had more rest during the week since Mr. Sunderland commenced magnetizing me, than for two years before. If I could hope that the relief I have already experienced might be permanent, I should consider myself cured of one of the most distressing complaints which it seems possible for the human frame to endure.

SOPHIA C. PARKER.

7 Green-street, Boston, Mass., July 7, 1842.

Thinking it might be more satisfactory to some who may read these statements, to have an account of the last two cases from an experienced physician, we requested Dr. Sherwood to examine them. The following is his testimony:—

Mrs. Caroline A. Wilkins, 72 Carmine-street, New York, light complexion, aged 20 years. I called to see her, by request of Mr. Sunderland, July 5, 1842, and, on an examination of the case, found her affected with tubercular disease of all the organs, including the brain. The disease had also extended to the muscles, rendering it altogether *one of the most deplorable cases I have ever seen*. I also examined, at the same time and place, the case of Mrs. S. C. Parker, of Boston, and found her affected with tubercular disease of the brain, lungs, heart, and liver.

H. H. SHERWOOD, M. D.

New York, July 8, 1842.

We do not, by any means, assume, that a thorough cure has been effected in either of the cases above referred to, but we do say, what the patients themselves, together with their friends and neighbors, agree in testifying, that the relief afforded is very remarkable, and it encourages us to hope that it may be extended to a permanent cure.

PHRENO - MAGNETISM.

For the Magnet.

MENTAL PHENOMENA.

Mr. Editor:—The following account was originally drawn up for one of our city papers. You will, doubtless, recollect the facts here related, and readily grant this a place in your interesting miscellany:—

Having had the privilege of witnessing a series of exceedingly interesting mental phenomena, on the evening of the 7th inst., with your permission, I will give your readers a plain, unvarnished statement of what I heard and saw. The patient was a blind lady, of about 28 years of age. A number of scientific gentlemen had been invited to *examine* the subject, and, at about 8 o'clock the company were seated, and prepared for the exhibition.

The Rev. Mr. Sunderland being present, at the request of Mr. Peale, the operator, briefly stated the object of the examination. The subject of Magnetism, in connection with Phrenology, he said, was comparatively new to them all. We are satisfied, however, that it is worthy of the most serious examination. In the course of the experiments performed by himself the last fall, it was found that the patient could not only be put to sleep, but, by

operations on separate portions of the brain, certain very remarkable phenomena were the results. And, carrying these operations still further, he had ascertained that the different functions of the brain may be *excited*, in a most remarkable degree, and even to *ecstasy*, and insanity or madness, both in the sleeping and waking state. And Mr. Peale has invited the gentlemen present, for the purpose of submitting these phenomena to such *tests* as they may think proper to institute, in order to satisfy themselves of their reality. No plan has been agreed upon for the proceedings, and Mr. Sunderland suggested that the patient and Mr. Peale should retire, while Mr. O. S. Fowler, the Phrenologist, who was present, might briefly name a few of the organs, and describe the natural language of those organs, as well as the common results of their exercise. The patient having retired, Mr. Fowler stated, that he believed that neither Mr. Peale nor the patient had any tolerable knowledge of the location of the different organs, or of Phrenology, generally. He then proceeded to give a most interesting description of the natural language of the different organs, and how a person always acts and speaks when those portions of the brain are excited.

Mr. Peale having now returned with the patient, stated, that he could operate on the organs, either when the patient was in the Mesmeric sleep, or awake; and even without touching the patient. The operations on the organs, by disturbing them, as it was called, were first done last July or August, at the suggestion of Mr. Sunderland. Nothing of the kind, as far as he knew, had ever before been heard of or thought of; and it was remarkable, that when first suggested by Mr. Sunderland, the results had been precisely as he anticipated. They had found, that the organs were susceptible of much greater activity than was at first supposed, as he was now ready to demonstrate, when they should point out to him what organs they wished to see exercised. The organs were then designated by Mr. Fowler, who was put in communication with her, and asked her various questions, generally, however, not till she herself had spoken on something relating to the organ which had been excited.

Language. These organs were no sooner operated on, than the patient began as follows:—"O! I have a great deal to tell you! I want to tell you all about my journey to Newark—O! you never saw such a thing—Well, I'll tell you all about it," &c., &c.

Causality was next excited in connection with Language, when she began thus:—"Don't you think that was a very good *reason why* I should not go to Boston? *Because* Mrs. —, reasoning, could not doubt the evidence of her own senses, could she?" &c.

Self-Esteem. As soon as this organ had been operated on, without a word spoken to her, she immediately straitened up, and setting her head back in a peculiar position, she began:—"I think *I* did very well at Newark the other night. I did it,—they could not have done any thing without *me*."

She was asked, if she was going to Boston to be mesmerized, when she said:—"I go to Boston to be mesmerized by an *actor*? No! not *I*. If Mr. Hill wants me, I very much doubt whether he gets me. I go to Boston?—no, I think too much of myself. I am satisfied with *myself*,—I am right, and you will find me so, if you reflect upon it."

Approbativeness. On exciting these organs, she gave her head a peculiar motion, backward; and, on Mr. Fowler's intimating that some thought her a humbug, she commenced:—"O! I feel very angry, *because* they doubt my word; and I am not very

well pleased with *you*, because you didn't speak to me to-night."

Combativeness. The head was now jerked back, alternately, over each shoulder; her mouth opened and shut quickly, and the features assumed an angry appearance. She commenced:—"O! I am so mad! You didn't speak to me, and I am mad with you. But, I *scorn* to get mad; but I never get mad without a *cause*. I am angry with every body; but I *scorn* to make a confession to any one of them! Isn't it reason enough for me to be mad when people doubt my word? I am better than you—I am more intelligent, but I don't choose to show how much I know. Yes, I tell you, I feel my own importance."

Approbativeness was now still more excited:—"I'll tell you my disposition—and, if you only *think* you'll find that I am right. I love the praise of people, but I'll not stoop to gain it. I'll not have people doubt my word,—I'll make no confession even when in the wrong—I'll make no confession, even when angry."

Self-Esteem was reduced. She now became very angry, and struck at Mr. Fowler:—"O! I'll reason with you! but you must not make me angry."

Destructiveness. The countenance now assumed a terrific aspect, and she shook her head from side to side, seized her clothes, and tore some paper, which was put into her hands, in the most violent fury. These last named organs were immediately subdued, leaving *Approbativeness*, &c. still excited: "O! I want people to say I am the best singer that ever was; my friends think I am very handsome. If I am blind, this deficiency is all made up in my other qualities."

The excitement was removed from all the organs, leaving her still asleep. She complained of pain in the front and back parts of the head, which was removed by the hands of the operator.

Self-Esteem was now excited, without touching the head of the patient. She immediately raised herself up, stuck back her head, and, on being asked, said:—"How *should* I feel? I am very well satisfied with myself," &c.

Benevolence was next excited in the same way. She instantly dropped her head forward, and exclaimed:—"O! I am so sorry for the poor people—can't you give me something for the poor?"

Hope, Veneration, and Marvelousness. The countenance became calm and placid,—and without being spoken to, she said:—"O! I am so sorry for those poor people—and I want to go to church. Don't you think that greater efforts should be made to teach christianity to poor people? O! I *hope* they will; yes, I have that *faith* that they will embrace christianity." *Marvelousness* being more excited, her features assumed a heavenly smile:—"I very much desire that every body should go to church; and I *hope* they will believe. It is necessary that they should not merely *believe*, but *realize* it. I have thought I had *visions*. O! I trust in God's providence, because my *hope* and *faith* are so strong; not the least shadow of a doubt crosses my mind. My *hopes* are so bright, and I wouldn't give them up for any thing in this world. O! I feel perfectly happy, and I want every body to feel as I do."

Mirthfulness. She immediately commenced laughing immoderately; and saying all the while, "It's wrong to laugh so—I cannot help it, 'tis wicked, but I can't help it," &c. The excitement being removed from *Mirthfulness*, she said she had no recollection of having laughed, and did not believe she could have laughed in such a state of mind.

Combativeness again. The head was thrown back alternately, each side, as before. "O! I do

feel angry; but I shall be happy when the time comes for me to be free from anger. O! I hope I shall be free; but I am so mad—I should like to go to church." *Combativeness* was now subdued, and, as before, the countenance became placid.

Imitation was next excited, and *Mirthfulness* a very little. She immediately commenced *mimicking* cats, dogs, babies, and the voice and manners of particular persons. This was peculiarly amusing, and was done in such style as I do not find it in my power to describe.

Number. She instantly began to count the folds in her sleeve, her hair, &c.—"O! I must count—O! how I wish I had studied arithmetic—O! how I love it—O! I can't count fast enough, 1, 2, 3, 4, &c. &c. O! I'll tell you; when I went to school I didn't love arithmetic—O! I wish I had learned it."

Caution. The countenance became excited as if she would cry; and, stretching out her hands to the operator, she said:—"O! I am so afraid I shall fall—I am so afraid they will run over me when I go home," &c.

Alimentiveness. On the excitement of these organs, she seized and bit her hand with such violence, that Mr. Peale found it quite difficult to disengage it; and when she let go, the blood was seen around the print of the teeth. He now reversed the organ of *Benevolence*, and, on being asked, she declared she felt no pity for the poor, and did not feel disposed to help them, as she was poor herself. Mr. Peale then caused her to read the names of various persons present, after which she was waked up, and the company separated at about ten o'clock, apparently much gratified.

Thus, Mr. Editor, I have given you and your readers an exact account of what I, and others, both heard and saw, and under circumstances which, in my opinion, precluded the possibility of collusion. I have stated the facts as they occurred, and I leave others to draw what inferences they please.

New York, Jan. 8, 1842.

D.

CORRESPONDENCE.

Cincinnati, Ohio, June 14, 1842.

Rev. La Roy Sunderland:—Dear Sir,—Two months since I was an unbeliever in Magnetism. Circumstances prompted an investigation, and my full conviction of its reality is the result of my own experiments. I will report one, which, I doubt not, will greatly interest you. It was made in May last, in the presence of several of my friends. It was the second one of the kind I had made, but I have witnessed a similar one by two other gentlemen, but upon the same subject, and with the like, if not more successful, results.

I placed Mr. S. in a sound magnetic sleep in about five minutes. I have magnetized the same gentleman four times. He is a reputable private citizen, whose veracity no one would venture to question. After performing some few experiments in *Volition* and *Sympathy*—such, for instance, as causing him to rise from his chair, cross the room, and reseat himself—the chair having been placed in another part of the apartment—and in *Sympathy*, when my hair was pulled, my hand and ear pinched, he would say, "You pull my hair"—"You pinch my hand"—"You pinch my ear"—and when I took tobacco into my mouth he would say, "I taste tobacco." I asked him to play a game of "Euka" with me. He replied, "Yes." I took the cards, shuffled them, and we cut for deal. It was his deal, and without my telling him the fact, he took up the cards, and dealt them out as is usual in

"Euka." I passed, he discarded, and took up the trump. He played his cards out with good judgment, and made his point. He was blindfolded, and a pasteboard—the cover of a box about two feet in length by about eighteen inches in width—was held between his face and hands, resting upon his wrists, so that it would have been impossible for him to see had he been awake, and not blindfolded. In consequence of the extreme rigidity of his muscles, much time was consumed in playing out his hand—say some fifteen minutes. It was frequently necessary to relieve his arms of that rigidity by making the reversive passes. Whenever I took the trick, he would take up the cards and hand them over to me; and when the trick was his, he would take them up and turn them down to himself.

And here it must be remembered, that he played his cards himself, and not by my will. I did not see or know what cards he had in his hand. The whole play was his own act. It was "vision without the eye," beyond all question. He would pass his fingers over the upper edge of the cards several times, never placing them upon the face to indicate that it was by the sense of touch, but would, occasionally, draw out a card, hold it off some little distance from him, then replace it, take another, which would prove to be the card he wanted, and play it. I repeat, he played his cards well, with excellent judgment. In this instance I played but the one hand, which was sufficient to test the success of the experiment. I then asked him to take a glass of wine with me. He replied, "I will." I placed the glass of wine in his hand, and, after relieving his arm and mouth by one or two passes, he drank off the wine. After restoring him, I magnetized his arm, his hand, and even a single finger. I also magnetized one eye—shut it up so completely as to deprive him of all power over it.

A strong and exciting interest has been created in the minds of this community on the subject of Magnetism. Some twenty gentlemen are about organizing a society for the purpose of prosecuting investigation. They hold their first meeting to-morrow evening.

One number of your Magnet has reached us. I think you can get from 50 to 100 subscribers in this city. I will aid it all I can—will forward you some names in a few days.

Very respectfully, yours, &c.,

WILLIAM R. FOSTER.

Princeton, N. J., Aug. 28, 1841.

Dear Sir:—Your letter, making inquiry in reference to Animal Electricity, was received yesterday, but I fear I can give you but little information on the subject. We are, as yet, in possession of but a few definite facts, belonging to this part of science, and these are so insulated as scarcely to be entitled to the appellation of scientific.

The term polarity, of which you make use, is rather an indefinite expression, derived from magnetism, and sometimes rather loosely applied to certain electrical phenomena, but nothing like these has, as yet, been shown to exist in connection with the brain. Of the electro-magnetism of the human system I know nothing, and I can say, with certainty, that no branch of science bearing this name has an existence in the circle of the positive sciences of the present day.

In reference to the galvanism of the human system, it may be said, that there are some striking analogies between the operations of the nervous influence and those of the galvanic current; but no definite connection has, as yet, been made out between them, although many experiments have been

instituted for that purpose. Prevoost and Dumass, two Genevese philosophers, advanced the hypothesis, a few years since, that muscular contraction is the result of a current of electricity from the brain, through the filaments of nerves which surround the bundles of muscular fibres. And Prevoost, just before his death, in 1839, (I think) announced that he had succeeded in imparting magnetism to iron needles by means of the nervous influence. As yet, however, this experiment has not been verified by any other person, although many have attempted it, and myself among the number. No effect could be obtained, although the directions of Prevoost were observed, and I am almost certain that he was misled by some fallacy in the arrangements of the apparatus or the indications he observed. You will find a notice of this experiment in the *Bibliothèque Universelle de Geneve*, and I believe there is a brief account of the hypothesis before mentioned, given in Melim Edward's *Physiology*.

A variety of experiments were made by the English and French physiologists by dividing the gastric nerves of different animals, and introducing a galvanic apparatus into the circuit; but it is not certain whether the effects observed were due to the specification of the electricity, or to the ordinary vital action stimulated by galvanism.

In the July number of the London, Edinburgh, and Dublin Philosophical Magazine, you will find the beginning of a paper by Martin Roberts, Esq., on the analogy between the phenomena of electrical and nervous influence. The author, however, appears to have only a very superficial acquaintance with the principles of natural philosophy, and his speculations are, therefore, of little or no value. Philosophical discoveries in the present advanced state of science can only be made by those who have prepared themselves by long study for the purpose, and have served, as it were, an apprenticeship to the business of experimenting. In order to advance any of the experimental sciences, we must have a profound acquaintance with all that has been done in the particular branch, as well as with all the collateral ones. We must be familiar with the processes of experimenting, and with the logical methods of reasoning which alone are admissible in science. Respectfully yours, &c.

JOSEPH HENRY.

Rev. La Roy Sunderland.

P. S. You will find in the *Annales de Chimie et de Physique*, by consulting the general index to the work, several papers by Marianini on the effects of galvanism on animals, and also on the subject of electrical fish.

We were favored with the foregoing letter from Professor Henry, last Fall. His well known scientific attainments entitle his opinions to great weight on this subject; and hence we have given this letter a place in our columns.

HUMAN MAGNETISM.

PROCESS OF MAGNETIZING.

The methods of different persons vary, and it would not, perhaps, be possible to give directions which should always be followed, by different persons, in all cases.

There are, however, a few simple rules, or prerequisites, in which all are agreed, who are familiar with this subject. They may be briefly stated as follows:—

1. The attempt to magnetize should never be made from idle curiosity. The *object* should be to do good, to relieve suffering humanity.

2. No person should attempt to magnetize whose health is not good. The operator should be of sound

health, and a good heart. The more Benevolence and Conscientiousness, Concentrativeness, Firmness, and power of Will, the better.

3. The operator should be superior to the patient, both in physical and mental power.

4. The attempt should not be made in a promiscuous company.

5. There are some temperaments which do not agree; that is,—persons of one temperament do not seem to have much magnetic power; and others do not seem to possess much power over persons of the same temperament. Hence, it would seem, that some knowledge of the temperaments, and of the power, and different susceptibilities of different persons, should be possessed by the operator.

We have different methods, which we adopt, with different persons. But, the directions of Deleuze are so appropriate, in the main, and have been so generally approved, that we prefer to give them here, in preference to any extended remarks of our own. No one, perhaps, was ever more successful in the cure of disease by Magnetism than Deleuze, and hence it is, that persons familiar with this subject, generally observe, more or less, the rules laid down by him for Magnetizing. They are as follows:—

The principles we have given in the preceding chapter are essential, invariable; and, in all cases, the power and efficacy of magnetism depends upon their application. The processes of which we are about to speak are not alike employed by all magnetizers. Many of them follow peculiar ones; but, whatever method they pursue, the results are nearly the same. The processes, however, ought to be diversified according to circumstances, and even by the desire of avoiding what might appear extraordinary. What I am about to say, is useless to persons who have acquired the habit of magnetizing. Let them continue to follow the method which has constantly issued in the comforting or the curing* of their patients. I write for those who, not yet knowing anything about it, are embarrassed in the exercise of a faculty whose existence they do not doubt; and I am about to teach them the manner of magnetizing which I adopted after having received instruction, and after having collected and made observations during thirty-five years.

When a sick person desires you to attempt to cure him by magnetism, and neither the family nor the physician make objection to it, if you feel the desire to second his wishes, and are resolved to continue the treatment so long as it shall be necessary, settle with him the hour of the sittings, make him promise to be exact, not to limit himself to an attempt of a few days, to conform himself to your advice in relation to regimen, and not to speak of the undertaking except to persons who ought naturally to be informed of it.

When you are once agreed, and determined to treat the thing seriously, remove from the patient all persons who would be troublesome; do not keep near you any except necessary witnesses, (one only if it can be so,) and request of them not to occupy themselves at all with the processes you employ, nor with the effects that follow, but to unite with you in the intention of doing good to the patient. Arrange things so as not to be too cold or too warm, so that nothing shall interfere with the freedom of your movements, and take precautions to prevent all interruption during the sitting.

Cause your patient to sit down in the easiest po-

sition possible, and place yourself before him, on a seat a little more elevated, so that his knees may be between yours, and your feet by the side of his.—Demand of him, in the first place, that he give himself up entirely, that he think of nothing, that he do not trouble himself by examining the effects which he experiences, that he banish all fear, and indulge hope, and that he be not disquieted or discouraged if the action of magnetism produces in him temporary pains.

After you have brought yourself to a state of self-collectedness, take his thumbs between your two fingers, so that the inside of your thumbs may touch the inside of his. Remain in this situation five minutes, or until you perceive there is an equal degree of heat between your thumbs and his; that being done, you will withdraw your hands, removing them to the right and left, and waving them so that the interior surface be turned outwards, and raise them to his head; then place them upon his two shoulders, leaving them there about a minute; you will then draw them along the arm to the extremity of the fingers, touching lightly. You will repeat this *pass** five or six times, always turning your hands and sweeping them off a little, before reascending; you will then place your hands upon the head, hold them there a moment, and bring them down before the face, at the distance of one or two inches, as far as the pit of the stomach; there you will let them remain about two minutes, passing the thumb along the pit of the stomach, and the other fingers down the sides. Then descend slowly along the body as far as the knees, or farther; and, if you can conveniently, as far as the ends of the feet. You may repeat the same processes during the greater part of the sitting. You may sometimes draw nearer to the patient, so as to place your hands behind his shoulders, descending slowly along the spine, thence to the hips, and along the thighs as far as the knees, or to the feet. After the first passes you may dispense with putting your hands upon the head, and make the succeeding passes along the arms, beginning at the shoulder, or along the body, commencing at the stomach.

When you wish to put an end to the sitting, take care to draw towards the extremity of the hands, and towards the extremity of the feet, prolonging your passes beyond these extremities, and shaking your fingers each time. Finally, make several passes transversely before the face, and also before the breast, at the distance of three or four inches; these passes are made by presenting the two hands together and briskly drawing them from each other, as if to carry off the superabundance of fluid with which the patient may be charged. You see that it is essential to magnetize, always descending from the head to the extremities, and never mounting from the extremities to the head. It is on this account that we turn the hands obliquely when they are raised again from the feet to the head. The descending passes are magnetic, that is, they are accompanied with the intention of magnetizing. The ascending movements are not. Many magnetizers shake their fingers slightly after each pass. This method, which is never injurious, is in certain cases advantageous, and for this reason it is good to get into the habit of doing it.

Although you may have, at the close of the sitting, taken care to spread fluid over all the surface of the body, it is proper, in finishing, to make several passes along the legs from the knees to the end of the

* I might add the words comforting and curing, because every method having for its object the production of surprising effects, or to show the power of the magnetizer, is essentially vicious.

* I employ the word *pass*, which is common to all magnetizers: it signifies all the movements made by the hand in passing over the body, whether by slight touching, or at a distance.—*Dr. Underhill.*

grees in the same person at different times, according to the size and proportions of the mental organs. Undoubtedly it must exist in the greatest perfection, in those minds where the cerebral developments are the nearest to perfection, not only as it respects their size and proportion, but as it regards their healthy exercise. So that, knowledge must be the highest in that mind, where the brain is of the necessary size, and where the organs are properly balanced, and sufficiently exercised with healthy action. And we must admit the *competency* of the human mind in a waking state, where the mental organs are thus properly developed and balanced, to determine on the question of sanity, and whether any given proposition be true or false. We cannot allow that the human mind may ever set up a standard of its own attainments, in any but a waking healthy state. To admit the reverse of this would be opening the door for the annihilation of all knowledge, without leaving us any available use of either sense or perception.

The question at the present time, is not whether the mind, in the magnetic sleep, may not have perceptions of facts, which it could not know in the waking state; but it is as to whether the knowledge said to be obtained in the magnetic sleep, should form a standard by which all other knowledge possessed by the human mind in a waking state, should be tried and judged? That is, shall we judge of the knowledge said to be possessed by a person in the magnetic sleep, by the knowledge we have of the mind, and the nature and limits of evidence in the waking state, or shall we judge of the latter by the former?

In order to fully understand the human mind, and, as far as possible, the nature of its capabilities and exercises, of course we must examine it in its different states. We must dissect, as it were, its numerous phenomena; we must examine it in its sleeping state; we must analyze its operations when they are manifested through a diseased brain; we must know how different states of the nervous system effect its mysterious agency, and be able to show the difference between the results of morbid and healthy cerebral action. And hence it becomes an inquiry, of the utmost importance, as to what kind of action the brain is subjected to in the production of the phenomena which result from the magnetic sleep. Is it morbid, or healthy?

That what we have denominated the *excitement* of the cerebral organs, is morbid, we have no doubt at all. We have seen how the action of the organs may be *increased*, in certain persons, either awake or asleep; but that the excitement, when it is extraneous, or when it is out of proportion with the state of the other organs, or with the natural and healthy state of the brain, is morbid, cannot admit of a doubt. We must take another opportunity for describing what may be considered a healthy action of the brain; but we may now assume what, probably, no one will feel disposed to deny, that an *unnatural* or extraneous excitement, of any one or more of the mental organs, is *morbid*. We say *unnatural*, because, sometimes, an organ may need exciting to its natural tone, or degree of activity; in such cases, the action may be perfectly healthy, though, indeed, not caused by any inherent stimulus. But we refer, now, to those excitements of the mental organs which produce the remarkable results which have so much astonished all who have witnessed them; those excitements which exceed the nature of the person in whom they are produced.

We know what results follow Monomania. A man of good education, and intelligent, called on us some time since, and gave the following account: "I see," said he, "constantly above me a man walking upon the clouds!" But where is he, we inquired? "O," said he, "there! there! *there!* he is, see, see him! See! he has a cloud wound around his hat." And we could make nothing so

real to the perception of that Monomaniac, as the sight of that man walking upon the clouds.

Another, suffering from an over excitement of Marvelousness and Veneration, told us he saw the devil, and he even showed us the spot where he had had a fight with his satanic majesty; and pointed to the ground torn up and scattered in various directions as evidence, indisputable, of what he stated. Now we affirm, that in these cases, (and thousands of others like them could be named) the perceptions of these Monomaniacs were as real, and precisely of the same character, as those produced in the minds of persons in the magnetic sleep. A short time since we excited the Ideality of a very intelligent lady while in the magnetic sleep, and she immediately saw and described a very singularly looking man, *dancing*. At another time she saw various odd looking animals and persons, all of them, undoubtedly, the creations of this excited organ. Indeed, we might fill our columns with accounts of a similar character, describing visits to the sun, moon, and stars; and, of which we may make just as much as of the man seen walking upon the clouds.

But we shall be reminded, that persons in the magnetic state have often been known to describe things which they never saw, correctly, and things even which no one else had ever seen, at the time. True. And the same may be said of natural sleepwalkers. But, in these cases, is the brain in a state of healthy action? Or, is the entire cerebral mass in a state of morbid excitement? We incline to the former opinion, though, indeed, we are aware that some plausible reasons may be assigned for the latter.

"THINGS HARD TO BE UNDERSTOOD."—We have been fully aware of the difficulties we should have to encounter in meeting the responsibility alluded to in the following extract:

"It was with an honest and earnest desire to obtain reliable information, that we turned our attention to the Magnet. The 'thousand marvelous stories,' kept in circulation by the newspaper press, have had the effect to fix the public eye with much intensity upon this publication; and we trust its editor is not unaware of the responsibility of the post he occupies—that the popularity and success of his work will, in a great measure, depend upon his speedily disabusing the public mind of the impositions of quackery and villany, and honestly teaching the truth—what is really known and what is merely conjectured. And, if it be not impertinent, we would add—we hope he will do this in language intelligible to the common reader; for in employing old words to describe new things, there is no little danger of being misunderstood. In the first number of the Magnet there are, we think, *some things hard to be understood*—probably for the reason above alluded to; for instance, the phrase, 'by operating,' page 9th, used to denote some new method of 'exciting the organs of smell.' We are acquainted with no other method of doing this than by bringing them into contact with the effluvia of strong scented substances. But as this, we presume, cannot be the 'operation' intended in the Magnet, we shall look for more light in the succeeding numbers."

[Skaneateles Democrat.]

By the term "operating," nothing more or less is meant, that the application of the hand or fingers to any particular part of the head or face of the patient, as is explained in the review of Dr. Buchanan's work, and, also, in the article headed, "Process of Magnetizing," in the present number.

We find a person of the right temperament, and we apply the thumb and forefinger to what the French call the "wings of the nose," where we find the poles, or sympathetic points of the organs of smell, which are located in the brain, forward of Thirst and Alimentiveness, and in this way we excite a desire in the patient to smell. And so of the other organs, and their sympathetic points in the face and neck.

With regard to what is really known, and what is merely conjectured, our cotemporary may rest assured, that we shall do justice to truth in this matter. We have elsewhere stated, how easy it is for persons to be deceived in the results of

what must be considered morbid excitements of the brain ; and in our future numbers we shall omit nothing which may be necessary to give a clear and philosophical view of this whole subject, as far as it may be in our power to contribute to this end.

ABUSES OF MAGNETISM.—While we fully believe that Magnetism may be used for the most benevolent of purposes, and that it has already contributed, in thousands of cases, to lessen human suffering, we are free to confess, that, like other good things, it may be abused. And, if the fears which are so often expressed on this subject be not altogether without some foundation, how fearful is the weight of responsibility which rests upon those who have to do with this subject ; and the more so, as we know that it has been presented to the community in so many repulsive forms, or through so many disreputable channels ! We apprehend that a great error, generally, prevails in relation to the degree to which the *will* of one person may be subjected, by magnetism, to the will of another. Our experiments have demonstrated, we think, that there is an organ appropriate to this faculty,* and, in every case, when we have excited it, we have found it utterly out of our power to control it. True, we could control the state of the nervous system, or excite, or suppress, the action of any of the other organs ; but the *WILL* always has its own way ; and we are compelled to gratify it, or do nothing with the subject in the magnetic state.

We have elsewhere stated it as an abuse of Magnetism, for any one to attempt to induce the sleep, merely out of an idle curiosity. And the same is true when the attempt is made for mercenary purposes. It is an abuse of the person magnetized, to subject one to the control of those who do not believe in the reality of the magnetic sleep ; and to such barbarities as cutting or pricking the flesh, severe galvanic shocks, and other cruelties, which no one would consent to endure for a moment, in the waking state. And, while upon this subject, we feel compelled to notice the complaints which have reached us of one, to whom an allusion was made in our last number, who has, for a year or more, not only abused this subject, but the public and the innocent persons also on whom he has publicly experimented. We should much prefer not to notice such an individual in any way, but we do not see how we can shut our eyes against the light which has been shed upon his character, from the various places he has visited. We have now before us, letters and affidavits of respectable persons, in which he is charged with conduct the most infamous. Indeed, we have just received a letter from a respectable female whom he had been in the habit of magnetizing, in Boston, in which she charges him with *deception, falsehood, profanity*, and an attempt to defraud her ; and, also, with extreme *cruelty* towards her while in the magnetic state.

We do not see how we can avoid the responsibility which a knowledge of such abuses imposes upon us. To consent to have such conduct covered up, or to refuse to lift our voice against it, when it forms a trait in the character of one who assumes to be an *apostle* [?] of Magnetism, would be the way to blacken our favorite cause with unfading infamy. If truth suffer from the conduct of such persons, as it undoubtedly will, our skirts are clear. We have said enough, we hope, to put our friends upon their guard ; and we mean this notice for other countries besides our own ; for we have been given to understand that this same man is about to return to England, to practise similar impositions upon the people of that country.

* Located directly below Self-Esteem.

VISIONS!—We have enjoyed abundant opportunities during the year past for being amused with the accounts which have reached us, from different persons and places, of discoveries which many suppose they have made, in connection with Human Magnetism. One imagines he has found an organ of *insanity* [! Why not an organ of head-ache?] Another whispers that he has found the organ of *Lying* ; and a fourth is anticipated, who will doubtless find the organ of *Rheumatism*, or *Gout*, perhaps !

To be serious. There is one important discovery which these amateurs have not made ; it is this,—that a person in the magnetic sleep is an instrument, on which almost any tune may be played ; and without something else by which to be guided, you will follow an *ignis fatuus*, and find your discoveries have no foundation in reality except the vagaries of a perverted mind.

Here is an example. An intelligent gentleman informed us, with considerable self gratification, that he had, with "one of the best subjects," found the organ of *Prevision*, and it was located so and so. We said nothing. A few days after, we were present when his oracle gave us the following information—"Firmness was located below Self-Esteem, and Tune was where Time has been located ;" and so of the other organs ! Of course, such an oracle would be able to tell where the organ of *Prevision* was located, and if consulted, would tell you where to find the organ of *Head-ache* !

CAUTION.—We deem it proper to caution the public against believing many of the reports which are often put in circulation, about what may be said to have been produced in the magnetic sleep. Some of these stories, we know, will not bear examination. We supposed that we had explained ourselves sufficiently to give all to understand, that, though we have had some of the clearest demonstrations of what is called clairvoyance, yet we do not depend on these accounts that are said to have been given of the planets, and of the "expected European steamers," nor do we believe many of the marvelous stories told of this subject. Indeed, that strolling lecturer, who has published pretended "descriptions of the planets," has, as we know, in numerous instances, deceived the public with his eyes wide open, and reported things which neither he nor any other person ever saw, either asleep or awake. Nothing has done more to bring this subject into contempt, than these silly stories so often put in circulation, about what persons in the magnetic sleep are said to do. We think we know something about these wonders, and, as we value truth and the claims of science, we would caution the public against believing these stories of visits to the moon, and conversations in unknown tongues, and even with the spirits of the dead ! No intelligent physician need be told, that in cases of morbid action of the brain, or when the nervous system is peculiarly excited, persons have been known to think they saw the spirits of the departed, and to converse with angels, &c. And such visions we have often produced in the minds of persons in the magnetic sleep. But before we can receive these accounts as sober realities, without any further evidence on which to rest our faith, than the mere representations of the persons put into this state, we should have to annihilate our own reason, and do violence to the standard by which God enables human intelligences to distinguish the vagaries of monomania from the legitimate deductions of unperverted reason.

We long ago saw the mischief which was threatened to science by these marvelous stories ; and, indeed, this was one consideration that moved us in commencing the Magnet. And we would respectfully suggest to the friends of magnetism, whether duty does not require them to unite

their influence in elevating this subject above these embarrassments? We know very well, how easy it is to make persons of certain temperaments, see *any thing*, in the magnetic sleep. Nor do we doubt but the representations often given of invisible things, by somniphathists, may be exceedingly interesting to those who hear them. But we think we know, also, how it is that these phenomena are produced; and we do not hesitate to say, that it is in a manner which should make us exceedingly cautious how we depend on them, any further than our senses concur, in taking cognizance of the things described; and, above all, how we publish such accounts to the world, and then ask persons altogether uninformed on this subject, to believe what we say. Let this course be pursued, and we shall array the common sense, nay, the intelligence of the universe, not against a humbug merely, but against truth, and one of the most valuable and interesting departments of mental science.

PHRENO-MAGNETIC SOCIETY.—It affords us pleasure to announce the formation of such a society by the amateurs of this science, in the queen city. The following letter gave us the first intelligence of its existence, and we hope to hear of similar associations in other parts of our country:—

SOCIETY ROOMS, CINCINNATI COLLEGE, }
 June 30, 1842. }

SIR,—I take pleasure in informing you, that at a meeting of the Phreno-Magnetic Society of Cincinnati, held in their rooms in the Cincinnati College, on the evening of the 29th inst., you were unanimously elected an Honorary Member of said Society.

Any information calculated to aid the society in their investigations, and which you may have it in your power to impart, will be most acceptable.

With sentiments of respectful consideration,
 I subscribe myself, Yours, &c.

WILLIAM R. FOSTER,

Rev. La Roy Sunderland.

Corresponding Sec'y.

THE MAGNET.—We are, certainly, under peculiar obligations to our brethren of the press, for the favorable reception we have met with among them. That we did design to merit their good opinion, is true; but we must confess, that, when we considered the deep-rooted prejudice which has so extensively prevailed against one of the subjects for the investigation of which this work has been commenced, we did not anticipate the words of approval and encouragement which have reached us from every point of the compass.

We did not ask or expect the endorsement of any one for the views we might advance in this work; nor do we interpret the numerous favorable notices, which have been taken of it, as so many evidences of faith in the subjects we propose to investigate. Not at all. But they afford cheering evidence of a state of feeling in the public mind which is very favorable to that kind of investigation which is necessary to settle the claims of those subjects which come within the purview of our work. We think we see in the reception we have thus far met with, a disposition to know the truth,—a willingness to give an open ring and fair play to a subject as much misrepresented and abused as Magnetism has been hitherto.

It is hoped that the editor may not be unconscious of the many difficulties which must, necessarily, attend the proper management of this work. When it is considered, that the subject is comparatively new, and but little understood even among the best informed,—that the works on medicine, and other branches of science, afford but little or no light on Human Magnetism—and that about all we know, on this subject, has to be acquired by personal investigation, by experiments which require much time, patience, expense, and study; and when, with these embarrassments, it is known that our investigations, up to the present, have been carried on in

connection with the numerous duties of our profession, and the perplexity of supporting a newspaper office; we say, when these things are taken into the account, we hope that some apology may be found for the many imperfections of our work. For, certain we are, that if our readers could have a slight view of the many difficulties we have had to encounter, in searching for the light with which it has been our desire to illuminate these columns, we should share in their sympathy, at least, though we may not receive that support necessary to enable us to go forward in our labors.

MEDICINAL.

CASES.

In no country, perhaps, where Human Magnetism has become known, has its therapeutic benefits been so little sought after, and so poorly appreciated, as in our own. This may be accounted for, in part, by the manner in which this subject has been exhibited, from time to time, in different places. Where people have to depend upon public exhibitions of the magnetic sleep, and know nothing more of its use than what they see in experiments made for mercenary purposes, or to gratify an idle curiosity, we are not to expect them to place a very high estimate upon any practical benefits to be derived from Human Magnetism. We know, very well, that a large number of the most intelligent of the learned professions, in this country, are convinced of the truth of magnetism, and not a few of these classes have seen and tested the valuable benefits to be anticipated from its use, in the cure of disease, and the relief of human suffering. It is, nevertheless, true, that the great mass of those who believe in the reality of the magnetic sleep, seem to have no settled convictions as to the legitimate uses to which this agency should be devoted. They have heard of certain marvelous things said to have been done by lecturers, whose principal object has been to make money by the gratification of the marvelousness of the multitude; but they have no idea of the great benefits which this agency offers for the relief of suffering humanity. However, we rejoice in anticipation of the time, as near at hand, when physicians, and those whose Benevolence, Intelligence, and Health, qualify them for relieving the diseased, will take hold on this subject, and give to it such direction as will, at once, elevate it above the abuses to which it has too long been degraded, and use it as heaven's other gifts should be used, for the relief of human woe.

Did the limits of our work permit, we should gratify our readers with some accounts of the present state of the science, in France, Russia, Germany, and Prussia, countries where its practice has long been patronized by the learned, and especially by the medical profession.—The government of Prussia, in 1817, attempted to guard its practice by legislative enactments, prohibiting any but regularly authorized physicians from its use, and requiring them, when they did so, to report their proceedings quarterly, to the authorities of the state. The Society of Paris, from 1814 to 1820, published two periodicals, devoted, entirely, to the narrative of facts, and the diffusion of intelligence connected with this subject. In Prussia, and some other countries, we believe, Hospitals have been established for the sole purpose of treating the sick by use of magnetism. And a decree of the Medical College of Denmark, passed in 1815, and another in 1817,

imposed upon physicians the duty of reporting the results of their practice in the use of magnetism. Indeed, we have not the space necessary for any considerable proportion of the testimony which might be quoted, showing the estimate placed on magnetism, by the learned in other countries, as a medicinal agent. And, to deny it, as observed by Dr. Marc, before the Paris Academy of Medicine, (1825,) "to deny it, would be to suppose that men of the greatest merit, two learned bodies of the first respectability, and governments known for having surrounded themselves with the best physicians, must have, in various places, and at various periods of time, fallen dupes of miserable jugglers, and propagated, favored, and executed labors merely chimerical."

We have facts in abundance, and well authenticated, which go to show the therapeutic efficiency of Human Magnetism, without quoting from the numerous and large works, published in the French, German, and Prussian languages. We fear we shall scarcely be able to find room for an account of what we have seen and tested of this character. And we would gladly find a place for some of the cases stated by Dr. Poyen, and others, and by Mr. Hartshorn, in the notes to his translation of Deleuze; but, for the present, at least, we must confine ourselves to the statement of the following cases of our own, and for the truthfulness of which we are prepared to vouch. The names of the persons referred to, in each case, it is not necessary to give, but they can be known on application to the editor. In stating these cases we shall avoid all technicalities as much as possible, and merely give those particulars which may afford common readers a definite idea of the nature of the disease, and how the relief, or cure, has been effected.

1.—INFLAMMATION.

Mrs. G. being present while we were operating on a patient, stated, that she had been bitten, three weeks before, in the instep of one of her feet, by some poisonous reptile, and during that time she had been scarcely able to walk. The place was much inflamed and quite painful.

On magnetizing the part affected, by simply passing the hand over it for about ten minutes, she declared it perfectly relieved from pain, and from that moment she was able to walk with that foot, without the least difficulty.

2.—NEURALGIA.

Miss S. for some twenty years, had not been entirely free from pain in the head, and her sister informed us, that, at times, the pain was so great, that she became quite deranged in mind. We operated but once, and the patient declared herself more relieved than she had been for months, or even years, before.

3.—INFLAMMATION OF THE LIVER.

Mrs. B., No. 12 Vandam street. Her physician pronounced it a case of liver complaint, and said the left lung was much inflamed, great prostration of strength, and breathing quite difficult. On being magnetized about thirty minutes, she was perfectly relieved—breathed without the least difficulty, and sunk into what she described as a most delightful state of rest, which continued during the night. The next morning she arose and dressed herself, a thing she had not done for weeks

before. She left immediately for the country, and has since been much better.

4.—TOOTHACHE.

We have afforded relief, and perfect cures, in so many cases of toothache, that we could not undertake to describe them. We shall state one, however, as it was somewhat remarkable. A patient whom we had magnetized frequently, complained of great pain from one of the molars, which was ulcerated, and much swollen. We put her to sleep, and directed her to forget that tooth on waking up, which she did, and three weeks afterwards, on being questioned, declared that she had not since suffered at all from that tooth, and had no recollection of the ulceration, till we mentioned the fact to her.

5.—NERVOUS.

Mrs. S. was exceedingly troubled with what she called "Nervous Complaints"—was easily frightened—could not sleep well—nervous headache, and was troubled with frightful dreams. Was greatly relieved on being magnetized a few times, and her sleep became quiet and refreshing.

6.—PARALYSIS.

We call the following a case of Paralysis, but there is evidently a complication of diseases. The liver, heart, stomach, and lungs appear to be quite diseased; but the relief afforded in this and the next case, stated below, seems to be so remarkable that we give the statements of the patients themselves:—

I have been quite indisposed for the last two years, during which time I am not aware that I have derived any material benefit from medical attendance. About five months since I was brought down with *paralysis* of the spine and lower limbs; since which time I have not been able to walk at all, nor even to bear my weight upon my feet; indeed, a part of this time my limbs have been so cramped up, that I have been unable to straighten them. Besides other diseases, I have been affected with a determination of blood to the head, and spasmodic hysteria, so that frequently my entire system has been thrown into convulsions, which have been exceedingly distressing. When Mr. Sunderland commenced magnetizing me, only one week since, I did not anticipate much, if any relief; but am now, with my friends, astonished at the effect it has produced on my system. Besides curing me of the spasms, my limbs have become straight, and I am now so far recovered, that I am able to walk across my room. My remarkable recovery, thus far, I can attribute to nothing but Magnetism, and I feel great pleasure in bearing this testimony to its unexpected and surprising effects in my case, in hopes that others who may be suffering from like maladies may be induced to give it a trial,

CAROLINE A. WILKINS,
72 Carmine-street.

New-York, July 6, 1842.

7.—NEURALGIA.

I have been afflicted with Neuralgia for about three years. During this time my sufferings from extreme pain in the face have been more than it is in the power of language to describe. For months, I have been utterly unable to sleep at all except from the effects of morphine. Indeed, I may safely say, as all my family and friends know, that I have not been free from pain, and at times of the most

feet. To make them more conveniently, place yourself on your knees in front of the person you are magnetizing.

I think it proper to distinguish the passes that are made without touching, from those that are made with the touch, not only with the ends of the fingers, but with all the extent of the hand, employing at the same time a slight pressure. I give to these last the name of *magnetic frictions*; they are often made use of to act better upon the arms, the legs, and the back, along the vertebral column.

This manner of magnetizing by longitudinal passes, directing the fluid from the head to the extremities, without fixing upon any part in preference to others, is called *magnetizing by the long pass*, (*magnetiser a grands courans*.) It is more or less proper in all cases, and it is requisite to employ it in the first sitting, when there is no special reason for using any other. The fluid is thus distributed into all the organs, and it accumulates naturally in those which have need of it. Besides the passes made at a short distance, others are made, just before finishing, at the distance of two or three feet. They generally produce a calm, refreshing, and pleasurable sensation.

There is one more process by which it is very advantageous to terminate the sitting. It consists in placing one's self by the side of the patient, as he stands up, and, at the distance of a foot, making with both hands, one before the body and the other behind, seven or eight passes, commencing above the head and descending to the floor, along which the hands are spread apart. This process frees the head, re-establishes the equilibrium, and imparts strength.

When the magnetizer acts upon the patient, they are said to be in *communication*, (*rapport*.) That is to say, we mean by the word *communication*, a peculiar and induced condition, which causes the magnetizer to exert an influence upon the patient, there being between them a communication of the vital principle.

This communication is sometimes established very soon, and sometimes after a long trial. This depends upon the moral and physical conditions of the two individuals. It is rare not to have it established at the first sitting. Experienced magnetizers generally perceive it in themselves when this takes place.

When once the communication is well established, the action is renewed in the succeeding sittings, at the instant of beginning to magnetize. Then, if you wish to act upon the breast, the stomach, or the abdomen, there is no utility in touching, provided it is not found more convenient. Ordinarily, magnetism acts as well and even better in the interior of the body, at the distance of one or two inches, than by the touch. It is enough at the commencement of the sitting to take the thumbs a moment. Sometimes it is necessary to magnetize at the distance of several feet. Magnetism at a distance is more soothing, and some nervous persons cannot bear any other.

In making the passes it is unnecessary to employ any greater muscular force than what is required to lift the hand and prevent it from falling. The movements should be easy and not too rapid. A pass from the head to the feet may take about half a minute. The fingers ought to be a little separated from each other, and slightly bent, so that the ends of the fingers be directed towards the person magnetized.

It is by the ends of the fingers, and especially by the thumbs, that the fluid escapes with the most activity. For this reason it is, we take the thumbs of

the patient in the first place, and hold them whenever we are at rest. This process generally suffices to establish the communication; to strengthen which there is also one other process. It consists in placing your ten fingers against those of the patient, so that the inside of your hands are brought near to the inside of his; and the fleshy part of your fingers touch the fleshy part of his, the nails being outwards. The fluid seems to flow less copiously from the back of the hands than from the inside; and this is one of the reasons for turning the hands in raising them, without carrying them off too far from the body.

The processes I have now indicated, are the most regular and advantageous for magnetism by the long pass, but it is far from being always proper, or even possible to employ them. When a man magnetizes a woman, even if it were his sister, it might not be proper to place himself before her in the manner described; and also when a patient is obliged to keep his bed, it would be impossible to make him sit, in order to sit in front of him.

In the first case, you can place yourself by the side of the person whom you wish to magnetize. First, take the thumbs, and, the better to establish the communication, place one hand upon the stomach, and the other upon the back, then lower the two hands opposite to each other, one down the back, and the other at a distance down the forepart of the body, one hand descending to the feet. You may magnetize the two arms, one after the other, with one hand only.

In case the patient cannot raise himself, take your station near his bed in the most convenient manner; take his thumbs, make several passes along the arms, and, if he can support himself upright, several along the back; then, not to fatigue yourself, use only one hand, placing it upon the stomach, and making longitudinal passes, at first slightly touching through the clothes, then at a distance. You can hold one hand fixed upon the knees or upon the feet, while the other is in motion. Finish by passes along the legs, and by transversal passes before the head, the breast, and the stomach, to scatter the superabundant fluid. When the communication is established, one can magnetize very well by placing himself at the foot of the patient's bed, and in front of him; then directing at that distance both hands from the head to the feet, dashing them aside after each pass so as not to conduct the fluid to himself. I have produced somnambulism by this process, without establishing the communication by touching.

This is what I have to say about magnetism by the long pass, with which it is always proper to commence, and to which a person may confine himself until he has a reason for employing other processes.

Let us now consider the circumstances which point out particular processes.

When any one has a local pain, it is natural, after establishing a communication, to carry the magnetic action to the suffering part. It is not by passing the hands over the arms that we undertake to cure a sciatic; it is not by putting the hand upon the stomach that we can dissipate a pain in the knee. Here are some principles to guide us.

The magnetic fluid, when motion is given to it, draws along with it the blood, the humors, and the cause of the complaint. For example, if one had the headache, owing to the tendency of the blood to the head, if the forehead be hot and the feet very cold, by making a few passes from the head to the feet, and others along the legs, the head is relieved and the feet become warm. If one has a pain in

the shoulder, and the magnetizer makes passes from the shoulder to the end of the fingers, the pain will descend with the hand: it stops sometimes at the elbow, or at the wrist, and goes off by the hands, in which a slight perspiration is perceived; before it is entirely dissipated, a pain is sometimes felt in the lower part of the bowels. Magnetism seems to chase away and bear off with it what disturbs the equilibrium, and its action ceases when the equilibrium is restored. It is useless to search out the causes of these facts, it is sufficient that experience has established them, for us to conduct ourselves accordingly, when we have no reason to do otherwise.

The following rules, with some exceptions, may thence be established:—

Accumulate and concentrate the magnetic fluid upon the suffering part; then draw off the pain towards the extremities.

For example, do you desire to cure a pain in the shoulder? hold your hand upon the shoulder for several minutes, then descend, and, after having quitted the ends of the fingers, recommence patiently the same process. Would you cure a pain in the stomach, place your hands several minutes upon the stomach, and descend to the knees. You will accumulate the fluid by holding your hands still; by bringing them down, you will draw away both the fluid and the pain at the same time.

If your patient be troubled with an obstruction, place your hand upon the seat of it, leave it there for some time, either immovable or making a circular motion, and draw it along towards the extremities. If the obstruction does not occupy a great space, present your fingers near without uniting them, because it is principally by the points that the fluid escapes. Turn them aside when you bring them away, and then wave them towards the extremities. You may be assured that the motions you make externally, will operate sympathetically in the interior of the patient's body, wherever you have sent the fluid into it.

If any one has received a blow behind the head, producing a contusion, take the head between your two hands, conveying the action of your will to the seat of the injury. Then bring your hand down along the back, if the contusion is behind the head; or down the forepart of the body to the knees, if it is in the front of it; or along the arm, if it is on the side. You will thus prevent the blood from tending to the head, you will avoid the danger of inflammation, and probably render bleeding unnecessary. If you wish to cure a burn, chilblains, or a felon, follow the same process. The examples I have just cited may be applied to most cases. I think that, in general, contact is useful to concentrate the action, and that passes at a short distance are preferable for establishing and maintaining the magnetic currents. Magnetic frictions are employed with advantage in pains of the limbs.

In the headache, if the pain is very great, and if there be heat, after having placed your hands upon the head for some time, withdraw them as if you believed the fluid you have introduced to be united to that of the patient, that the mingled fluid stuck to your hands, and that in separating your hands and shaking your fingers, you could draw it off again: it is, in effect, what you will see verified. If the headache proceed from the stomach, this process alone will not succeed; it will be necessary to act upon the stomach. If the blood tends to the head, it will be requisite, as I have said, to draw it down, and repeat the passes over the legs and over the feet.

I have said that the fingers brought near and

pointed towards the part, act more powerfully, and concentrate the fluid better than the extended hand. There is one other process, the action of which is much stronger, and which may be employed with success for local pains and for obstructions.

Place a piece of linen several times folded, or a fragment of woollen cloth, upon the suffering part; apply the mouth above it, and breathe through it: it excites a lively sensation of heat; and the breath, which is charged with the magnetic fluid, introduces it into the system. It is also observed that the heat is not merely at the surface, as that of hot iron would be, but it penetrates into the interior. After having employed this process, make the usual passes to draw off and expel the pain.

Blowing cold air from the mouth at a distance, produces a refreshing effect. It helps to dissipate the heat, which is withdrawn by presenting the fingers, taking care to separate them as you draw them off, in the usual manner.

The head may also be cooled by putting the palm of the hands upon it, and holding the fingers elevated and separate; the fluid passes off at the ends of the fingers.

It is often impossible to draw a pain far from the part where it is fixed; and you will succeed solely by driving it off progressively, by little and little. A pain upon the top of the head, will be lessened at first in the centre, by waving the hands downward and outward, on the right and left. At every pass a portion will be dislodged and carried off. It will take more or less time to dissipate it entirely.

I will not here relate the details given by Mr. Kluge, Professor in the Medical School of Berlin upon the various kinds of manipulation.* What has been said suffices to indicate the processes that may be employed when no sensible effect has been produced. I will merely add, that the action is more lively and penetrating by the digital manipulation; that is, when one presents the end of the fingers, than when he presents the hands open and the fingers straight, so as to have the fluid pass from all the interior surface. Manipulation with the open hand at a distance, is a process generally used to soothe; it is often sufficient to appease the sharpest pains. The fingers, united to a point, concentrate the action upon the part towards which they are directed.

I am now going to recapitulate, in few words, what I have said upon magnetism with the long pass, by indicating the processes which are the most convenient at the commencement, during, and at the termination of the sitting.

1st. Establish the communication by holding the thumbs, placing the hands upon the shoulders, and making passes along the arms with a slight pressure, and placing the hands upon the stomach.

2d. Direct the current from the head to the feet, or, at least, to the knees. Touching is useless.

3d. Make passes, or else magnetic frictions along the legs to the extremity of the feet; soothe the patient by several passes at a distance with the open hand; and, finally, throw off the superabundant fluid by a few transversal passes. The first sittings ought to be about an hour in duration, when there is no reason to prolong or to abridge them. I say the *first* sittings, because a part of the time is consumed in establishing the communication. As soon as that has been once well established, the action of magnetism is manifested at the first moment; then a sitting of half an hour or three quarters, provided the

* In the German work, entitled "*Animal Magnetism as a curative means.*" Vienna, 1815.

labor commenced is duly sustained, will be sufficient.

It is necessary to order the treatment in the most uniform and regular manner possible. The sittings must be periodical, and equal in duration; the magnetizer must be calm and self-collected; all foreign influence must be banished; all curious persons excluded, and also every other witness except the one chosen at first. There must be a similar degree of magnetic power exerted at each sitting, and the mode of procedure first adopted must be continued. Nevertheless when the patient experiences sensations, these often determine the operator to vary or to modify the processes. This, then, is the place to speak of these effects, and of the indications they afford of the manner of proceeding.*

Before entering upon the details, I think it important to combat an opinion which appears to me entirely erroneous, although it is maintained by men well versed in the knowledge of magnetism; viz. that the processes are in themselves *indifferent*; that they serve only to fix the attention, and that the will alone does all. People have been led to adopt this idea at the sight of a phenomenon which some somnambulists present, and by the application of a particular case to a general theory.

There are some somnambulists perfectly concentrated, whose interior faculties are so energetic as to act upon themselves by their own power, and conformably to the will communicated to them by their magnetizer. The magnetizer causes a head-ache, or a side-ache, to cease, simply because he *wills* it. There are likewise men endowed with such magnetic power, that they can act upon patients who are very susceptible and in perfect communication with them, while directing the action upon this or that part, by the thought and by the look; but these cases are extremely rare, and no conclusions can be drawn from them for ordinary practice.

The processes *are* nothing if they are not in unison with a determined intention. We may even say they are not the *cause* of the magnetic action; but it is indisputable that they are necessary for directing and concentrating, and that they ought to be varied according to the end one has in view.

Somnambulists point out for themselves processes altogether different, according to the seat of the disease; and when they advise a patient to have recourse to magnetism, they take great care to prescribe to him the processes he ought to employ. It is certain, that by proper processes, and not by the will only, one is able to displace a pain, to make it descend, to accelerate the circulation of the blood, to dissipate an obstruction, and to restore the equilibrium. There are cases when one does much good by placing his hands upon the knees, though he would do much injury by holding them long upon the stomach. Numbness, heaviness, disagreeable sensations, are produced by charging the head too much. It is often essential to spread out the magnetism at the close of a sitting, and to withdraw the fluid by the extremities, in order to relieve him who is overcharged with it.

When I said that a method different from mine might succeed equally well, I intended to say that each one might modify the processes according to his own views and practice; but not that he could omit them, or employ them in a manner contrary to the general rules. For example, various magnetizers act equally well by passes, more gentle or more rapid; by contact, or at a distance; by holding the

hands to the same place, or by establishing currents. But it is absurd to believe one can cure chilblains on the feet, by placing the hands on the breast.

There are some general processes that are employed at the commencement;—there are others that are suggested by circumstances, or by the effects first produced.

We do not agree with all the views set forth in the foregoing extracts, but the directions are, on the whole, so good, that we think them worthy of a place in our work.

PHYSIOLOGY.

For the Magnet.

EFFECTS OF TIGHT DRESS.

Each organ of the body has a distinct office to perform; and when they all perform their duty, it may be said we are in health; and when any organ is not fulfilling the original intention, debility and disease is the result.

The lungs are situated in the upper cavity of the trunk, called the chest, one on the right, the other on the left, and are divided into lobes or separate apartments. The right lung has three lobes, the left but two. They have blood-vessels, air cells, and nerves, and these air cells are the fine branches of the wind pipe, and when spread out on a surface, they occupy 20,000 square inches. If they are thus extensive, surely we cannot suppose, when cramped to the size of a fashionable lady's waist, they can healthily perform their important office, which is to supply atmospheric air, for the purpose of purifying the impure blood, constantly made in our systems. It is necessary, to give health to the lungs, that the body should be well nourished, in order to form good blood; it is also necessary we should breathe pure air, and likewise that the lungs should not be encroached on by tight dress, in any form.

The blood vessels of the lungs are termed the Bronchial vessels, and when in a state of inflammation, they cause Bronchitis, or that disease so fashionable among public speakers, caused in most cases by improper diet, condiments, hot drinks, hot food, &c., and not by speaking, as is generally supposed, for, I believe, if the lungs and throat are not abused, they are capable of all necessary labor.

The lungs are formed of separate lobes; one may be diseased and indurated or hardened, so as to be incapable of use, while the others may be unaffected, or capable of performing their offices. The lower lobes are most liable to injury from tight dress, and are oftenest diseased. I have had lamentable proof of this, having seen in females not numbering twenty summers, lungs so perfectly diseased, ulcerated, and cramped, that on dissection, it was impossible to remove them without leaving a portion of them sticking to the ribs. I have some of these lungs preserved in spirits, for the inspection of those who feel anxious to see them.

A celebrated Professor, when writing on this subject, prepared several engravings, to show the position of these organs, and the protection nature has given to them in the ribs; but he has also shown, when the subject is young, and the bones tender, these may be compressed till nature cannot be identified in her own work. These I subjoin, with their explanations:—

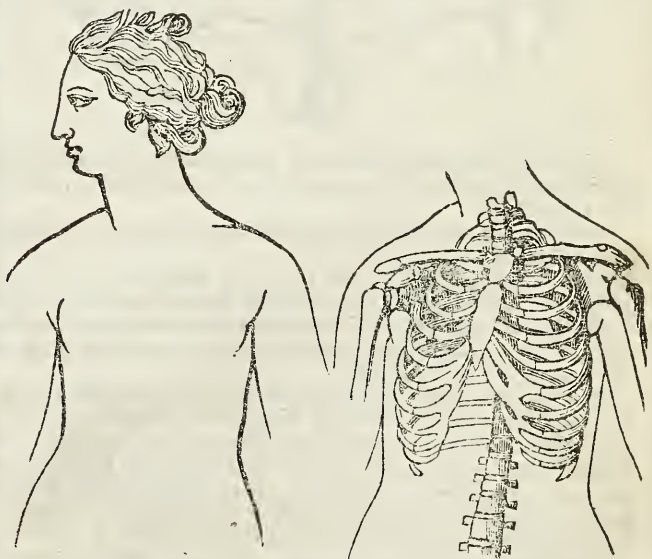


Fig. 1.

NATURAL SIZE.

Fig. 2.

* Many magnetizers experience sensations which ought of necessity to govern them in the choice of processes. But as this precious faculty is not common to all, I shall in another chapter speak of the means of developing it in ourselves, and of the advantages arising from it.

Fig. 1, is an outline of the famous statue of the Venus de Medici, and may be considered as the *beau ideal* of a fine female figure.

Fig. 2, is the skeleton of a similar figure, with the bones in their natural position.

Fig. 3, is an outline of the figure of a modern "boarding school Miss," after it has been permanently remodeled by stays.

Fig. 4, is the skeleton belonging to such a figure as No. 3.



Fig. 3.

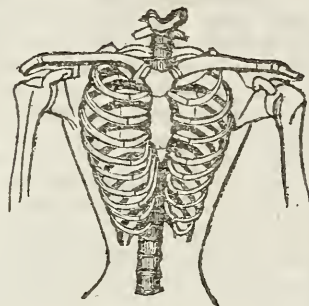
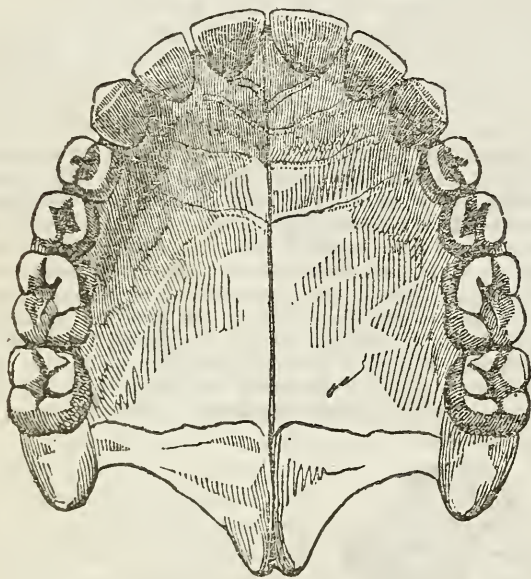


Fig. 4.

UNNATURAL SIZE.

"And God said to all the creatures he had made, to bring forth after their kind, and replenish the earth."

Suppose the third figure should bring forth after her kind or shape, would she be pleased with the result?



The teeth and upper jaw, here represented, is taken from the offspring of one corresponding with the figure, marked No. 1 and 2.

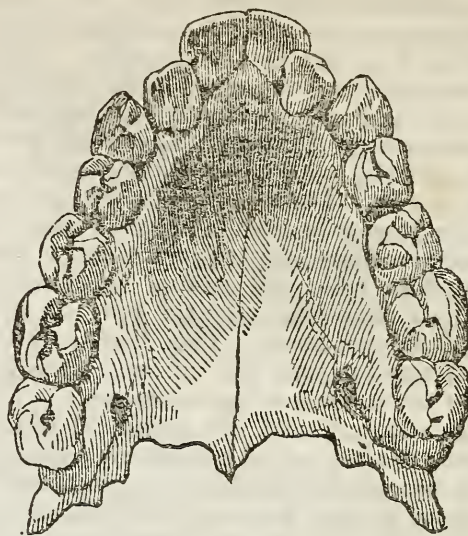
We here see the original intention fulfilled, in the regularity of the teeth.

The second drawing of the teeth, is taken from the offspring of one corresponding with the figure, marked 3 and 4.

When a bone is out of place, the philanthropist is called upon by his sympathies, and the moral organs, to set it in its natural or proper place.

The Author of our frame knew what he was about when he made man, and we should suppose he would have made all parts to correspond and harmonize with each other; but we find some persons who appear to think that God has increased in knowledge, and if he was to make another human pair, he would alter the proportions, and make them, in some measure, as he has the wasp and bee.

Now, these benevolent persons, who are said to glorify God with their bodies and spirits, (as they suppose,) are setting up schools or shops to instruct the rising generation how to appear when they walk, and to keep the hands folded



in front of their persons, and to stand like a post, incapable of bending. For this purpose they have contrived a chest-board, made of wood or steel, to put in front, to extend from between the nipples to some distance down on the stomach and bowels. In order to keep this sword in its place, it is necessary to have what is called a corset or jacket, made in a fashionable shape, more or less filled with whalebone, (procured by our whaling boys, near the poles,) and on the back part of the jacket are holes lined with metal, so that the mold shall not break when they are adjusting the sword in front, and drawing the strings behind, so as to make a good cast or impression. In doing this, it is necessary, in some cases, to have one or more assistants, who strain and work in order to get the harness on. About five hundred thousand dollars worth of them are sold annually in this city.

It is supposed that more money is spent in Christendom for these things, than is spent in all the heathen world in manufacturing idols and images, which are worshiped as a type of the invisible God. They leave the body in its natural shape, with the exception of a few of the Chinese, who cramp the feet; and also a tribe of Indians, called the Flat Heads, who do the same at the other end.

The Hindoo mother throws her child into the river Ganges, and if it happens to swim towards the shore, she says, "My dear, I want you to go to a place of happiness;" and then puts a stick on its head, so that it may go on its journey to the world of spirits.

I would warn young men who intend to marry, and obey the command, to "multiply and replenish the earth," with a healthy race, to act as intelligent beings, and select wives who are capable of bearing healthy children. In doing this, look at the shoulders and waist, and see if the proportions correspond; if they do not, then reject their company as beneath an intelligent being's notice. I would say, for your particular advantage, as well as the good of the species, that all the young of the mammiferous animals, commence their growth in connection with the mother, and are supported from the arterial blood, which must have received its quality, through the lungs, by the atmosphere. If the lungs are diseased or contracted, the offspring will partake of the same. Suppose the lungs can take in only three fourths as much of the atmosphere as is necessary, the blood will only be three fourths arterialized; this blood would go to form the offspring, which can only give it three fourths of a good constitution; let the offspring compress or destroy one quarter more of the original, and it would have only one half of a good constitution, therefore, it would only live one half the time it ought to; and the next generation would not, in all probability, survive childhood, provided they followed the same course.

Now, who is the most to blame, the Hindoo mother, who throws her child into the river, and ends its existence in a few moments; or the christian mother, who kills or destroys the image of God, as described above, by so long and tedious a process? And ten chances to one she will say, "The Lord has seen fit to take my child away." If so, he has done it because you were incapable of keeping it yourself. You are only reaping the fruit which has been sown by you, or your ancestors.

JOHN BURDELL.

New York, June 29, 1842.

GALVANIZED IRON.—A Mr. George Johnson, formerly free merchant of Calcutta, has published a pamphlet explanatory of the valuable and interesting process of rendering iron and steel proof against the ravages of rust.

PHRENOLOGY.

COMPARATIVE ANATOMY.

It has been suggested to us, that many of our readers may not be familiar with those facts which go to demonstrate the truth of Phrenology, aside from our discoveries, described in the first number of the Magnet. To such we commend the following article from the South Western Christian Advocate. And, we must congratulate the friends of science on the appearance of such an article in the column of that paper,—one of a class which has, heretofore, done not a little in opposition to the claims of Phrenology:—

Man has, by general acclamation, been placed at the head of the animal creation; and it is in him we find that beautiful and complicated mechanism which conduces so much to the perfection of life. As the inferior orders of creation descend in the scale of animated nature, becoming more remote from the formation of man, we find them gradually losing their perceptive excellence, their instinctive intuition; and the long line of locomotive being is at last merged in the inertia of vegetable existence.

Were it really necessary, we might *speculate* on the probable and apparent *causes* of the gradual declination in the scale of animal being; nor would such speculations be wholly irrelevant to the subject in hand. But a few plain, simple *facts* will set the matter in a clear view.

The whole animal kingdom has been divided into six great classes, and the distinguishing characteristics of each class drawn from the peculiarities of the *internal structure*. This classification is quite illustrative of our present design: and our object in calling attention to it is, to show that the gradual improvement of the animal race throughout its rising gradations, is dependent, for the most part, upon the concomitant development of one single system, the nervous, of which the brain is the very centre.

The first class to which we invite attention is Vermes or Worms. These have a heart with *one ventricle*, but *no auricle*; the blood is cold and white, and, the organs being very few and exceedingly simple, the phenomena of life have but little variety.

The second is Insecta, or Insects. These have a heart precisely like the first; and the composition and color of the blood the same. They differ from the first class in having antennæ, or feelers.

Pisces, or Fishes, constitute the third class. Here the heart is a little different. In addition to the ventricle, the heart has an *auricle*. The blood is red and cold, and the bronchæ, or gills, are external.

In the fourth class, Amphibia, or animals that can live in two elements, the heart is very similar to that of the third; the lungs, however, are internal, and respiration is nearly voluntary.

The fifth class, Aves, or Birds. Here the heart has *two ventricles* and *two auricles*. The blood is red and warm, and its circulation is carried on through the pulmonary structure, by means of the right ventricle and auricle of the heart, while the left ventricle and auricle of the same organ propel the general or systematic circulation. It is only in this last class we find any considerable development of the *cerebral* organs, and accordingly *instinct* is here observed in great perfection. But, like the inferior classes, it is oviparous.

The sixth and last class is the Mammalia. This embraces all those animals that are viviparous. Here the organization is comparatively perfect, the organs of the body numerous, and the phenomena of life exceedingly complex and multifarious. The volume of the brain is astonishingly increased in proportion to the size of the animal, and the nerves

emanating from it are more distinct, their destinations more marked, and their offices more apparent.

According to Linnæus, man forms the first genus of the first order of the last class. The simia, or ape, constitutes the second genus of the same order and same class. Now, where the varieties of these two genera approach each other, they are absolutely so nearly blended, and even mixed together, as to present no striking difference. For we are really informed that, in Sumatra, an island inhabited by a most degraded species of the human race, and where, also, the satyrus, or orang outang, is found in great perfection, the two have, on some occasions, abolished the generic differences which nature seems to have placed between them, and, by consanguinity, have resolved themselves into *species* of the *same variety*. The chimpanzee, or simia troglodytes, is said to resemble the human race even more than the satyrus, or wild man, as he is called. But this last variety approaches near enough to convince every one of his superior endowments over his less symmetrical brethren. It is said the inhabitants of the Ganges live in great fear of these animals, and regard them as a foreign nation, who do not speak for fear of being made to work. They frequently present sticks to travelers, and compel them to fight. Picard informs us, that, in the province of Sierra Leone, there is a species so strong-limbed and industrious, that, when properly trained and fed, they work like servants; that they walk on the hind feet, will pound substances in a mortar, bring water; and Shoutten remarks, they are taken in snares, and taught to use their fore feet as hands in performing different operations, as rinsing glasses, carrying drink round the company, turning a spit, &c.

Gaut says he saw a very extraordinary ape in Java. It was a female, and very much resembled the Hottentots at the Cape of Good Hope. She made her bed very neatly every day, lay on her side, and covered herself with the bed clothes.—When her head ached, she bound it up with a handkerchief, and exhibited many other performances which he says were extremely singular. Wadstram mentions one that ate, drank, slept, and sat at table, like a human being.

We have taken the liberty to make this apparent digression for the purpose of showing conclusively, that as animals approach the human form, they improve rapidly in the variety and perfection of their faculties; and what is undeniable, that change of structure consists in nothing so much as in the shape of the head, and, as a matter of course, in the configuration of the brain. We might inquire, What particular organization is invariably connected with the development of mind? Is it in any modification of the structure of the lungs? We are sure it is not. Is it resident in any of the tissues of the body, aside from the nervous? we answer, no. Does it consist in any conformation of the heart, or any other portion of the circulatory system? We are convinced it does not: for the heart of a goose, for example, is very like the human heart; but how astonishingly different is the brain! It must be evident to every one, then, that a structure so uniformly connected with mind as that of a large and well shaped brain, must of necessity have something to do with it; for one unvarying cerebral structure is always found where the least trace of reason is observed.

It is a fact, that every part of the human system is so nearly simulated by the same organs of the inferior animals, that the anatomy of man may be advantageously studied by means of these alone. But the brain is merely *resembled*, not completely represented, by that of any other creature; and that resemblance consists much less in the external figure

of the brain, than in its internal construction. It will be conceded, however, we think, by all, that the perfection of the simious animals, is in the circumstance of their resemblance to man, and the superior size of the head, together with the consequent development of the other portion of the nervous system, is the main source of that perfection.

But, to lay aside all semblance of speculation on this subject, to what extent does our own observation extend? Have we not been accustomed to associate great intellectual strength with a large brain, with as much propriety as strong and well developed muscles with a wrestler? And who ever saw a natural idiot whose head, unless it was dropsical, did not, by the precipitate recession of the fore part, the general diminution of the size, or irregularity of the shape, at once display the character of the individual? More than two thousand years ago, men were aware of the vast influence exerted on the intellect by the configuration of the brain. Accordingly, we find the ancients constructed the statues of Jupiter, their supreme god, with a forehead so prominent as to occasion a slight deformity. And we recollect to have heard a popular minister remark, that he had actually recognized the most able and talented of our senators in Congress from the size and figure of the head alone.

But there is another view we may take of this subject, if possible, still more conclusive and unanswerable. Wherever the seat of the intellect is in man, whatever organ *is* the instrument or medium of its conveyance, that part will necessarily present numerous morbid appearances in MANIA. Now, what part of the body, what organ of the whole system, invariably shews change of structure, and real disease, in derangement of the mind? We answer, without the least hesitation, the brain. It is true, madness has been ascribed to disease of the liver, and this opinion was advanced as early as the days of Hippocrates. But the fact is, numerous persons have been deranged in whose liver not the slightest original disease could be observed; and, on the contrary, in inflammations and abscesses of the liver, no mental aberration is present, unless through sympathy of the brain. Mania has been referred to the spleen, to the intestines, to the nerves apart from the brain. But the most unwearied anatomical investigations, have never confirmed either of these opinions, but the contrary.—There have been some who have placed it exclusively in the mind. But there are equally weighty objections to this hypothesis. For we cannot understand how impressions can be made on the mind except through the medium of matter; and again, the brain is uniformly affected in persons who have died in a state of insanity. It is a fact which cannot be denied, that phrenitis, apoplexy, palsy, epilepsy, &c., which have their seats, in a great degree, in the brain, are the frequent cause of madness, and perhaps produce more instances of this disease than all things besides.

Can we hesitate, then, when we see the full development and healthy action of an organ so essentially connected with the display of mind; and again, when that organ is diseased, its structure changed, that same mind languishing in gloom and descending into driveling maniacy,—can we hesitate to assign to it the grand, the noble function of being the medium through which the sublime phenomena of mind are displayed?

But we are gravely told that the testimony of the Bible is in favor of placing the point of union between mind and matter in the heart! We are very far from undervaluing the authority of the Scriptures; yet we feel assured that vague and incorrect

notions of certain passages have done much to retard the progress of literature.

We should be very cautious in quoting the Bible for authority in the support of any philosophical theory, as it rarely throws any light upon merely scientific subjects. One of the passages of Scripture relied upon to prove the heart to be the seat of the mind, is the following: "And God saw that the wickedness of man was great in the earth, and that every imagination of the thoughts of his heart was only evil continually." We cannot say what Greek word in the original, has been translated "heart," as a copy of the Septuagint is not at hand; but we think it might be "kardia," perhaps "kear," or even "hetor." Now, either of these words, without the least violation, could have been rendered, "mind." Then it would have read, every imagination of the thoughts of the *mind*, &c. But admit, for the sake of argument, it really and properly means the *heart*, let us observe the very next verse: "and it repented the Lord that he had made man on the earth, and it grieved him at his heart." Now, who does not see the imbecility of ascribing a fleshly heart to God? The truth is, nothing can be more conclusive that it should have an *immaterial* signification; and beyond the shadow of a doubt does signify the mind, or it never could have had a proper application to the spiritual God.

LITERARY NOTICES.

SKETCHES OF BUCHANAN'S DISCOVERIES IN NEUROLOGY.—
Louisville. J. Eliot & Co., 1842. 12 mo. pp. 120.

Dr. Buchanan will please accept our thanks for the copy of his work he had the kindness to forward us. We have read it with great interest, and suppose he will expect from us a few remarks, at least, expressive of the reflections which its perusal has suggested.

We have read it through, expecting, of course, to find some account of his *modus operandi*, in conducting the experiments to which we alluded in our first number, but we are sorry to say, we have been disappointed. Indeed we cannot resist the conviction, which an examination of this work has forced upon us, that Dr. Buchanan, himself, is not acquainted with the precise nature of that agency by which he has been enabled to excite and operate on the cerebral organs.* The matter in this work is made up, principally, of the various newspaper articles which had been previously published, giving accounts of his experiments. From different statements found in them, it appears, that Dr. B. has excited the cerebral organs, by the application of his hand, or fingers, to the head of the patient, the very process by which we have, from the beginning, operated on the mental and physical organs both, in the magnetic sleep, and, also, when the patient was awake.

Now when it is known, that Dr. B. excites the organs of certain persons by the application of his fingers to particular parts of the head, every person, at all familiar with the subject of Human Magnetism, will see, at once, to what he is indebted for the discoveries described in this book, and they will be no less surprised than ourselves, that Dr. B. should not seem to be aware of this fact; and

* Since the above was in type, we have been told, that Dr. B. dips his fingers in alcohol, before applying them to the brain. That the application of alcohol to the head excites the brain, is well known; and if this is the way in which Dr. B. has produced the excitement of the organs, our experiments are, certainly, more remarkable than his, inasmuch as we have excited the organs of persons in the waking state, simply by applying the fingers to them, without any other means.

still more, that he should attempt to present this subject under a new name, as though he had actually discovered an agency by which to operate on the human system, hitherto totally unknown. Speaking of the experiments and the agency by which they had been first performed, Dr. Buchanan says:—

“You perceive that an *agent has been added* to our therapeutic list, of extraordinary, and, as yet, incalculable power.”

And, to show that Dr. Buchanan is either unacquainted with the subject of Human Magnetism, or unwilling to yield it any credit for what it has enabled him to do, we ask the reader's attention to a few extracts from this work. Throughout its pages, there would seem to be a cloud of mystery hanging over his details, and but for similar discoveries of our own, we are confident we never could have conjectured from the book before us, anything definite or tangible, as to what was meant by “Discoveries in *Neurology*.” Nor can we persuade ourselves, that the readers of this book will not be generally misled, by the representations which will be found in it, with regard to the *agency* by which Dr. B. produces his excitements of the cerebral organs. We confess that we had been so often assured that Dr. B. *disclaimed* all knowledge or use of Magnetism in his experiments, that we could scarcely believe he ever had anything to do with that subject. And, on looking over the pages of this work, the reader will see by what means a wrong impression can but be made upon the minds of such as know no better. For instance, Dr. Buchanan, says:—

“I determined to ascertain the functions of the brain in some simple and direct manner. To do this, I determined to excite the different portions of the brain by a *galvanic*, or *galvanoid fluid*, and, calling them separately into action, to watch the resultant phenomena; or, by exciting them in myself, to enjoy, at once, a perfect consciousness of the nature of each faculty and its organ. *In this attempt* I have met with even a more glorious success than I had ever anticipated.”

Now, who would have *suspected*, from this statement, that this “*galvanic fluid*,” here spoken of, was the very thing every where known and understood by the term Animal or Human Magnetism?

Indeed, it is too plain to be denied, that Dr. Buchanan either does not know what Human Magnetism is, or, if he does, he is desirous of making it appear that he has not made use of this agency in his experiments.

The agency which he speaks of his having “added to our therapeutic list,” was known and employed in the cure of disease thousands of years ago! If it be said that he did not mean Magnetism, then it must follow that Dr. B. does not know what Human Magnetism is, and to suppose this of one who assumes to have made the discoveries in the nervous system claimed by Dr. B., is to suppose him more ignorant of the subject on which he has written, than any physician ought to be.

The following is from the Doctor's book, page 55:—

“Dr. Buchanan does not pretend that this was the *Mesmeric* sleep; for we have never heard that he has, as yet, attempted any thing in the line of what is strictly known as Mesmerism, or Animal Magnetism.”

It is natural enough to ask, how Dr. B. could publish this of himself, when he *should* have known (if he did not) that every one of his experiments, described in this book, were performed by what has been known under the name of *Mesmerism*?

Here is another disclaimer:—

“*Mesmerism*, with its mysterious manipulations, its passes, its clairvoyant conditions, its magnetic states and transmissions of mental power and ubiquity, all operating independent of contact, no more resembles the science of *Neurology*, as defined and exemplified by Dr. Buchanan, than the practice of the *faith doctors* does the regular practice of medicine.”

And, to the foregoing we might add the extracts from Dr. Buchanan's letter to us, in which he disclaimed Magnetism, and expressed an earnest desire to have a marked distinction made between his experiments and Animal Magnetism, to which he confesses they bear some *resemblance*.

From these repeated disclaimers on the part of Dr. B., the only conclusion we can form, consistently with his honesty, is, that he has but little, if any knowledge of Magnetism, and, consequently, he cannot be sufficiently familiar with the nervous system to justify all his assumptions with regard to what he calls discoveries in *Neurology*. And of this fact we think his book affords some conclusive evidence. For instance, on page 68, he says:—

“The *nervous system* is the seat of life, and the *CONTROLLER* of all the functions of the body. The whole science of *Physiology* is simply an exposition of these functions in the body, which are put in play, and carried on by the *nervous system*.”

Indeed! And why don't the nervous system *control* the functions of the body after death? The nervous system is not destroyed by death; as far as we know, it remains, in many cases, at least, precisely the same immediately after death as before. And does any intelligent physician need to be told, that the nervous system, in itself, has no “control over the functions of the body,” and that it is merely the medium through which the mind receives impressions, and acts upon the body? And do Dr. Buchanan's *discoveries* disprove this fact? And shall we yield to him the high claim he sets forth in the following terms?—

“Such has been my progress, [in discovering the functions of the nervous system] that but few important principles have been *left for future discovery*!!!”

To say the least of it, this is a most EXTRAORDINARY claim. It would seem, that the doctor *thought* he had gone over all the ground to be investigated, and that he had *actually* possessed himself of everything which was to be found within the entire range of the principles embraced in the science of Human Life! And hence it is, that he assumes that what he calls *Neurology*, “includes all the phenomena of mind and body.”

Although we are perfectly willing that Dr. B., or any one else, should use this or any other term for a justifiable purpose, yet we are by no means inclined to adopt the use which is made of it in this book; nor do we believe that any portion of the scientific world will sanction the use which is here made of it. *Neurology* no more includes the entire science of Human Life than the term *Physiology*, nor, indeed, is it so comprehensive as the latter term, because the latter includes what is meant by the former. And, while we freely yield to Dr. B. all that he can justly claim for his discoveries, we cannot consent to his monopolizing all that is included in Human Magnetism, as though he had “added” this agency “to our therapeutic list;” and this, too, while he disclaims all use of this agency; nor will millions of others all over the world, who are familiar with Human Magnetism, consent to such a claim from any man. And we know very well, that they, with us, will agree, if they shall ever read this book, that, if Dr. B. has discovered what he affirms, he is indebted for his knowledge to the agency of Magnetism. And, if he himself yet has this discovery to make, he may rest assured, that there is yet one “important principle” left for him to find out, and one a thousand times more important than anything he has included in “Discoveries in *Neurology*.”

Although Dr. B. has not, as we think, given any credit to Magnetism, for the assistance it has afforded him in his experiments, yet we will not, on this account, withhold from him the credit of what he has actually done towards demonstrating the truth of both Human Magnetism and Phrenology. His experiments are full of interest, and, as far as

we know, were the first of the kind ever performed by the use of alcohol. Ours were the first, probably, ever performed on patients merely by *magnetic* influence. And, it is a remarkable fact, that while ours were commenced by *suppressing* the action of the cerebral organs, Dr. B.'s were commenced by *exciting* them!

And, we have another fact which will surprise Dr. B. probably. He assumes that "the brain governs and sustains every corporeal and every mental function." But we have, often, by the mere touch of our finger upon the *face*, produced motion in the breast, lungs, liver, stomach, &c., and by touching the limbs we have produced motion in the various muscles, and can cause a movement not merely of the hand and arm, but also of each finger, or of one joint, even! Can Dr. B., by putting his hand on the patient's head, for instance, cause any proposed motion in the hand or fingers, without moving the arm? This we have done. Does Dr. Buchanan's "Neurology" afford any solution of these phenomena?

Indeed, Dr. B. seems to have had no idea of some of the most important facts demonstrated, as we think, by our experiments; such, for instance, as the poles, or *sympathetic points* of the entire human system; yet, in many important respects, the results of the experiments described in this work, perfectly agree with our own; and they prove, beyond all doubt or cavil, the truth of Phrenology and Human Magnetism.

COLLATERAL SCIENCE.

GEOLOGY.

By Prof. Hitchcock.

The Science of Geology furnishes facts of a most wonderful nature. It is found that the constituents of substances at the tops of the highest mountains have once been at the bottom of the ocean, and have been raised to their present condition. This is a startling statement, but no principle in science is better established than this: for rocks are found on the tops of these mountains full of plants which grow only at the bottom of the sea. The whole Valley of the Mississippi, from the Alleghany to the Rocky Mountains, and from the Gulf of Mexico to the Arctic Ocean, embracing a surface of three millions of square miles, is all found to be underlaid by rocks several miles in thickness, abounding in sea plants and animals. These rocks have not a horizontal position, but are found lifted up and more or less inclined, showing conclusively that the continents have been lifted up and that the ocean has not withdrawn from above them. These were thrown up at different periods: and geologists have established twelve different epochs at which these elevations have taken place in Europe; in our country there are ascertained to have been at least half a dozen. By what power was this wonderful phenomenon accomplished—and is this power still in action? are inquiries of high interest. Geologists are agreed that heat is the agent, and the thunder of two hundred volcanoes shows that its terrible energy has not departed. By deep excavations into the earth it has been proved that as we approach the centre the temperature continually increases. The heat of the sun never extends beyond one hundred feet below the earth's surface; still it is found that even beyond its influence the heat goes on to increase as we approach the centre. A remarkable instance of an experiment upon this subject occurred at Paris only a few months since. The Government had ordered the construction of an Artesian well; and on finding no water at the depth of 900 feet, ordered its discontinuance. By the request of a number of scientific men it was carried,

however, to the depth of 1800 feet, when, on lifting the auger out, a stream of water gushed forth which was found to be at a temperature of 83 degrees—almost at blood heat. Judging from this fact it is certain that at the depth of a mile, water would boil, and at sixty miles below the surface rocks and all other substances would be rendered incandescent.—There seems to be no escape from these conclusions, and the facility they furnish for the solution of difficult problems in the philosophy of Nature, as the spheroidal figure of the Earth, the existence of volcanoes, the fact that the Northern regions have been warmer than they are at present, has disposed naturalists to adopt it as the true theory. The writings of Baron FOURIER on this subject are especially instructive.

The history of the remains of animals and plants found buried hundreds of feet below the surface of the earth is full of curious interest. In Great Britain rocks exist six and a half miles in perpendicular thickness; and in this are found not less than ten thousand species, all different from any now known. The conclusion is, that the animals and plants, of which we have here the fossil remains, must have lived before the present race of animals had a being; else why should not some of these likewise be found embedded? These fossils are found in layers or groups at different depths, and about a dozen different groups are found; and the animals in each group are totally unlike those of all the others. The conclusion is, that these several successive groups were created at different periods, and that one race was destroyed to make room for another, so that five or six of these changes must have taken place before the creation of the present race. This does not necessarily conflict with revelation; for though Moses fixes the date of the creation of the present race, he says nothing of the creation of the globe, except that it took place "in the beginning," which is a perfectly indefinite expression. Between that time and the formation of man, a long period of time must have rolled away. It is found, too, that when these animals lived, the climate must have been tropical, or even ultra-tropical.

* * * * *

Marks are found on rocks which precisely resemble those of drops of rain falling upon soft mud; and by their elongation we may ascertain the direction of the wind at the time of the shower.

The most remarkable tribe of animals of which remains have been discovered is that called the *Saurian*, analagous to the alligator, which inhabited northern countries. One called the *Ichthosaurus* has been found, thirty feet long, and with eyes fourteen inches in diameter. Another of these animals, resembling in shape our common black lizard, has been found, called the *Icuanodon*, one hundred feet in length, and fourteen feet around.

There is no evidence that this animal was very ferocious or savage, and I have accordingly had his organ of benevolence drawn large. I must confess, however, that notwithstanding this I am strongly reminded by his appearance of MILTON's description of Satan:

"With head uplift above the wave, and eyes
That sparkling blazed; his other parts beside,
Prone on the flood, extending long and large,
Lay floating many a rood; in bulk as huge,
As whom the fables name, of monstrous size,
Titanian, or earth born, that warded on Jove,
Briareus, or Typhon, whom the den
By ancient Tarsus held: or that sea-beast,
Leviathan, which God of all his works
Created hugest that swim th' ocean stream,
So stretched out huge in length the arch-fiend lay,
Chained on the burning lake." *Tribune.*