THE MAGNET.

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PSYCHOLOGY.

For the Magnet.

MAGNETIC PHENOMENA.

In my last communication in No. 5 of the Magnet, I mentioned, that I believed exposure was the cause of the inflammation of the brain in the patient alluded to,—but it was otherwise. The evening previous to the disease having manifested itself, my patient had examined a young man subject to a very strange affection which troubled him at night only, after having retired to bed; the most prominent symptoms of which were, a dread of some person or persons endeavoring to injure him, loud and awful screams, disposition to fight, and tear or break every thing to pieces; and for the time a state of complete insanity. He was examined during the absence of his paroxysm, and at about a mile distant from the somnipathist, neither she, nor myself, having ever seen or heard of him before.

I did not magnetise the lady again, until several days after her perfect recovery from the phrenitic attack, and then inquired the cause of it. The reply was, "It was caused by examining the above patient; that in the examination her brain became similarly *polarised* with his—[mark her words—when awake she knows nothing of polarity,]—and that, if I had not been as prompt and decided in my treatment as I was, that she would have become incurably insane;" and she begged me never to allow her to examine such cases again, which you may believe I faithfully promised.

You may judge how the feelings of surprise, horror, and pleasure, alternately took possession of my mind, and I felt that I could not, in justice to Mesmerism, to the world, to truth itself, suffer such a fact to pass unknown to the community; for, with this fact before them, mesmerisers, whenever placed in similar situations, will know how to act and proceed; and it is only by a knowledge of such facts and circumstances that we can ever expect the science to progress, become perfected, and thus gain entire public confidence.

I have another incident to relate which may not be generally known among magnetisers, after which I will give some translations from Puysegur, who is rather a favorite of mine, and who being the discoverer of magnetic somnambulism, has, I think, been sadly neglected, as very little reference is ever made to any of his writings, which are very valuable, and from which much important information may be derived.

The person who formerly magnetised my patient with chorea, carried with him one day another patient, who had expressed a desire to see her in the somnipathic state. I mentioned to him the result that would take place if he magnetised them together, and desired him not to do it; but as he had never before magnetised for health, but experiments, &c. only, which is very improper and injurious, he could hardly believe me, and stated, that if what I represented should happen, he was powerful enough as a magnetiser to throw it off. Contrary to my wishes and expectations, he magnetised them together, and while they were in the magnetic state every thing proceeded very well, so much so, that I began to think nothing serious would ensue. They were thus together for nearly two hours, when the patient with chorea was restored to her natural state, and placed in communication with the other, who immediately commenced giving, in a powerful manner, and distressing to behold, the exact motions of the other. The magnetiser, unable to control them, became alarmed, and lost the presence of mind necessary for a magnetiser to retain under such circumstances; he awoke her, thinking that in the natural state they would disappear, but they still remained, though not exhibited so powerfully. Anxious to spare the feelings of the young lady, who, I knew, must witness this accident with any but pleasurable sensations, and extremely mortified and grieved myself, I hastened home with my patient, placed her in the magnetic state, and did not leave her until all this action had become completely subdued. However, for several weeks she suffered from this accident, and upon entering into the magnetic state evinced symptoms of a return of the same action, which had to be removed before any thing could be done with her in relation to her own diseases.

There is one thing which, sooner or later, must be known, notwithstanding the general expression of magnetisers that they can never injure, or do evil to their magnetic patients; and, it seems to me, there is no better time than the present to make it known, while the science is in its infancy; for a few vicious actions of some unprincipled magnetisers would cause mesmerism to lose the confidence of the public, and thus crush, in the bud, a science destined to become, in the hands of the good, one of the greatest blessings ever bestowed upon man by his Creator, both for social, physical, moral, philosophical, medical, and truly religious purposes.

No person should be permitted to magnetise another, unless he be one in whom that other can place implicit confidence as to integrity, morality, and purity of purpose; *for every magnetiser should be one of the most moral among men.* And every magnetiser, if only for the sake of the science, should make

it a rule from which he will *never* depart, to magnetise no *female* unless some third person, or friend, remains present during the continuance of the treatment: if this is done, the science will progress rapidly in perfecting itself, and in gaining public encouragement, and busy scandal will have no mark at which to aim her shafts. And let the public remember, that whenever any magnetiser refuses to accede to the above rule, and can give no *reasonable* and *satisfactory* excuse for it, we may justly believe that his morals are not the purest, his feelings the kindest, nor his intentions the most sacred towards his patient, and in the hands and power of such a man we may fear for her accordingly.

JOHN KING, M.D.

New Bedford, Oct. 1842.

FROM PUYSEGUR.

The girl, C— V—, at the time of my departure from Buzancy, towards the 15th June, 1784, was not entirely cured of the disease which she formerly had. I had recommended her to go to the magnetised tree with assiduity, hoping that its assistance alone, without my presence, would be able to complete her cure, since it sufficed merely to touch her to place her in a somnambulism which characterized her *magnetic crisis*. I had instructed L—, my farmer, a very observing man, with the means of restoring her to her natural state by his will.* I learned, that for 8 days she had visited the tree regularly, and health had become much better; and believing herself entirely well, she came no more. As the labor which her service on a farm demanded during the harvest would not permit her to travel very slowly, she went half a league of the road every day; what then was her surprise, at the end of several days, to find all her diseases returned—colic, vomiting, debility of the stomach, and all her former sufferings.

L— took her to the tree; she experienced one of her ordinary *crises*, followed by a sensible benefit. This alternative had been pursued several times, until finally L— bethought him of supplying himself the virtue of the magnetised tree. It is he who operates at present, and of whom I speak, as related by him. "The 28th Sept. of this year, being unable to absent myself from my farm, and seeing the need that this girl had of magnetism, I tried one day to *touch* her.* I had seen you operate, I had reflected on several things which you had told me, on what I had read in a letter from your brother to Mesmer, and on what I had done every day to restore C— to her natural state, after having been magnetised by the tree; finally, I became persuaded of the existence of an *universal agent*, first cause of our existence, and acting continually to preserve it; I comprehended the possibility of fortifying this agent within me, and to direct it on another, after which I began to touch this girl.

"What was my surprise to see her, at the end of two minutes, in the same state of somnambulism as that produced by the tree. To her I was truly a loadstone: my finger sufficed to direct her, to remove her, to make her sit where I willed, without speaking a single word to her; finally, I exercised on her, *at my will*, all the extraordinary phenomena which I had seen you produce.

"From the day following this first crisis she had no more vomitings, and found herself doing well. I continued to magnetise her for several days, and always with success. I will observe to you, however, that she acknowledged to me that she felt almost constantly a little pain in the side; that it commenced as soon as the vomiting ceased, and, she added, that when you were here, and while she went to the tree, she had always experienced this pain, which she did not mention to you, as it did not prevent her from work, nor from having a good appetite.

"Since your departure, there have been a great many people who came with the hope of being magnetised, and of being touched by the somnambulists in your treatment. After a while, the tree became deserted. It soon became known, that C— continued, with me, to fall in crisis, and many came to see her. While she was in this state, I made no objection to their consulting her, and each one returned home fully satisfied with what she had told them. Her pain in the side did not leave her, but neither of us paid any attention to it.

"There came one day a patient from Soissons, Miss Rousseau. C— being in crisis, told me to make the *chain* with this young lady, as it would do her much good. I did as she desired. In a short time, C— said to me, 'Look, Miss Rousseau suffers much, you must touch her.' I still obeyed, but it only increased the sufferings of the patient. C—, who observed her attentively, encouraged me to continue, telling me that if I could make her fall in the crisis, I would very much benefit her, and that this was the only method by which to cure her. Not knowing very well how to place her thus, I inquired. She replied, for me to get a bottle, and to use it in order to touch the lady. I followed her advice, strictly. I procured a bottle, and used it in the manner indicated

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* The restoration to the natural state is the most easy of the magnetic operations. Considering ourselves as perfect *human electrical machines*, endowed in a supreme degree with the positive and negative forces, the only difficulty consists in mounting, or winding up this machine, and to know how to use it. But from the time that we have arrived at the point of *magnetising in plus* (so to speak), we ought also to be able to *magnetise in minus*: the one is the attendant of the other—it is the same handle, which we turn in another sense.

See the note on the will, and reflect on that which is the will, on the possibility of having it only for good; consider what are all the accessories which may destroy the good will; from which you will certainly conclude, that it is always the fault of the magnetiser when he does no good to his magnetised patient. Abstain above all from ever making any idle question to the being you wish to relieve; these questions make labor for the mind and imagination, which, in a patient, ought always to be in a state of repose. It ought to concern you very little whether he feels cold or hot, whether he falls asleep, or whether he has startings or jumpings:—*will* only to help him, and be tranquillized as to the event, which will always be the more favorable as the thought which determines it approaches nearer to the purity and goodness of the principle from which it necessarily emanates.

I repeat, that it is only practical experience which will enable men to feel the power of their *will*, the spring and source of which have been too often closed or destroyed by disquietudes, sorrows, diseases, disordered passions, and misfortunes.

* I often employ the word *touch*, as synonymous with the word *magnetic*; when applied in speaking of a new patient, it is always necessary to represent it under the second acceptation. The proceedings for it have been indicated by Mesmer to his pupils in so precise a manner, as to need no new explanation.

The experience that I have acquired confirms me in the idea, that the *head* and the *solar plexus* are the parts of the human body which receive the *magnetic emanations* the most effectually. The eyes, above all, appear to me to be more susceptible than any other organ. It is by a light friction on the eyes that I finish the magnetic charge from whence results *somnambulism*; and it is, also, by a very light friction on the same organ, that I produce the discharge from whence follows awakening and the natural state. The immediate touch without pressure, is that which I prefer; though it seems to me that the magnetic action is increased in its intensity by a light friction. In other respects the magnetiser may, without inconvenience, make slight differences in his manner of proceeding.

by C—. Miss R. suffered still more, but did not fall in crisis: C— was astonished. 'It is singular,' she said, 'she ought to fall in crisis; let me see, I will touch this bottle myself.' I allowed her to take it, and examined with attention the effect which it would produce upon Miss R.; but what was my terror to see C— immediately fall into frightful convulsions. Aided by my wife and daughter, we could not hold her, this girl, naturally of a gentle character, in whom the crises were ordinarily so calm, now struggling with a surprising force, and making fearful cries. I had much trouble to quiet her, and too much frightened at the effect I had caused, I resolved to touch her no more. In the evening she was tranquil, and well as usual, without even feeling any fatigue from the state in which she had been.

"I was in hopes, that by not touching her any more, she would have no more *crises;* but the next day, at the same hour, behold C— in the same convulsions as on the previous day, and the same difficulty to remove her out of it; finally, for four days this state was renewed. You may judge, sir, of my inquietude, and how I reproached myself for having used a means with which I was only imperfectly acquainted."

This recital of L —, though not given in precisely the same words, yet the sense is the same.

"Without doubt," said I to L—, "the only danger there is in the employment of magnetism, is to use it without knowing all its resources; your indiscretion may have disorganized this poor girl for the rest of her life. These are the unfortunate *convulsions* which have done so much injury to the discovery of Mesmer. Many people imagined themselves very knowing if they could produce them; every day presented the same scene; and the habit of seeing them rendered them no longer to be dreaded; cures rarely followed, as the only object was to give convulsions, and none were embarrassed at the consequences. But where is the poor girl ?"

He answered—"After five or six days the tertian ague attacked her, she had it for a month; it is now three weeks since the fever left her, without her taking any thing to remove it; and since that time she has been exceedingly well, feels no pain in the side, grows fleshy, is gay, eats and sleeps well, and is hardly recognizable."

"Thank Heaven !" said I; "nature has come to your assistance; you have been more fortunate than wise: without this blessed fever, C— would probably have been incurable. It you had been better instructed at the time of her first convulsion, you would have thrown away the bottle, and continued to magnetise as customary, which would have tranquillized your patient very quickly; by abandoning her to herself, you rendered null the effort which you had given to nature; for several days it would have been necessary to replace her in the condition from which she had departed, although no benefit would have followed it; that is the reason why it was beneficial on the next day to produce the same convulsions, taking care never to quit your patient without calming her, and probably at the end of three *crises* of this kind, you would have seen her as well cured as she is at present by the assistance of the fever."

Magnetisers, in general, are not aware how very dangerous is the state of convulsions when left to itself, at least while operating on epileptics, on whom magnetism acts but slowly. Whenever we meet with individuals in whom magnetism produces convulsions, or spasmodic motions, we should be careful how we abandon them to themselves, still more how we seek to augment this violent state; on the contrary, it is necessary to make every effort to calm them, and never to quit the patients until they are in a certain state of tranquillity. (*Puysegur.*)

The susceptibility which patients in the magnetic crisis have of receiving with promptitude certain diseases, has been demonstrated to me several times. I have seen somnambulists in the middle of a chain of many patients, ask to quit their places, saying that their neighbors made them unwell; others remove themselves with haste; and I have often had to repair accidents caused by the approach of certain persons.

So great an inconvenience has given me an unfavorable idea of a large treatment; and for a year past, when I have had occasion to place several patients together, I have always taken the precaution of admitting none of the subjects whose influence I feared.

I one day consulted a patient who had the sad experience of receiving diseases, two or three times, on the kinds of diseases which may be the most easily communicated to somnambulists. His reply, which was in writing, and which I preserved, was, that the most dangerous were "*epilepsy, scurvy, diarrhœa, paralysis, sciatica, catalepsy, itch, cold humors,* and all *venereal diseases.* It is proper," added he, "for none but magnetisers to treat these kinds of diseases, because *their action* and *their will* repel their evil influences; whereas, on the other hand, the *crisises* give and receive *fluidity, perspiration,* and as the *action of disease* happens to them at the same time as the *sensation,* they are susceptible of taking very quickly that which they desire to remove."

The danger which somnambulists run in touching certain patients, ought not, however, to deter us from consulting them on the diseases of others; but it is necessary to do so with much caution. A somnambulist very active (*mobile*), at the same time a clairvoyant, ought to be able to distinguish patients at a certain distance; and when, after having examined them thus, he consents to have them come near, there is then, certainly, no risk for him. All somnambulists are not, I believe, as susceptible one as the other—with them, *debility* is an indication of their susceptibility.

A lady who had suffered from this communication told me at the time of her accident, "that the humor of epilepsy and paralysis was not thrown so strongly upon her, in consequence of the purity of her blood. *I have had several changes,*" said she, "*which have renewed my blood—I likewise have my body as healthy as an infant newly born; but because of my debility, the abundance of humors of this little girl are very quickly diffused upon me.*" She also added, that if she had touched her longer, the patient would have been entirely cured at her expense.—(*Puysegur.*)

For the Magnet.

CASE OF NATURAL SOMNAMBULISM.

Dear Sir,—From the merited encomiums bestowed on your work, it would seem very likely to become one of the most popular periodicals in our country. And, with the hope of increasing its usefulness, I shall take the liberty of stating a few facts in regard to my own case, which, perhaps, may not be altogether uninteresting to you.

I have, for years, been much interested in the study of this subject, but, unhappily, till I met with your publications, I had received but little assistance in my investigations. And now, since you have so ably and fearlessly combated prejudice, and brought the subject before the public in a more tangible form, I feel in duty bound to communicate my pleasing gratification at seeing this important science

enlisting the attention of the ablest minds in the community.

We have, at this present time, in the city of Lancaster, a physician, who has thus far been eminently successful in his magnetic operations, and in some instances quite beneficial to his patients in removing local diseases. I have always held it a duty incumbent on every individual, to give his item of knowledge to the sum total of human happiness. And, as I am of a peculiar temperament, it may, perhaps, add something to the progress of this unexplored science, to give a description of my personal experience, so far as it may be related to human magnetism.

I have, from my early youth, been a natural sleep-walker; but it would, perhaps, be superfluous to relate all the adventures I have made, in the natural somnambulic state, as related to me by my parents; however, a few of the most prominent may be given.

From the age of ten to fifteen, it was almost a nightly habit with me to get up from my bed and travel through the whole house, unbarring the doors and walking through the different apartments with the greatest ease in utter darkness, sometimes unlocking the back door and travelling into the yard and out-houses, stopping at different places, and examining, apparently with the nicest precision, such articles as happened to fall in my way.

Yet, after being awakened, not the slightest recollection remained of what had happened. During some of these nocturnal excursions, I opened a dormer window, and crawled out thence to the very apex of the roof! On one of these occasions, after getting on the top of the house, I was awakened by a slight shower of rain, and it was with difficulty I made a safe descent by way of the next neighbour's house, which obliged me to rouse the family in order to get back to my bed again.

The most singular feat, however, that I performed in the somnambulic state, was a situation that I got into, out of which I could not extricate myself again in a waking state, neither could I, upon trial, without the assistance of something to step on first, get into it again. The room in which I slept, at this time, had in it an old-fashioned cradle, of double length, made for twin babes. This was placed upon a long, narrow keg, which stood on its end, so that when standing alongside of it, the sides of the cradle came within two inches of my chin, and it was so poised, that a slight preponderance either way would capsize it. During one of my nocturnal perambulations in the middle of the night, by some means I got into this cradle, without the assistance of any thing that would enable me to step up, save some strange inexplicable cause. It was a cold winter night, and I became awakened while in the act of pulling books from around me, which were in the cradle at the time. After being perfectly awakened, it required a great deal of caution to support my centre of gravity, until I had called the assistance of some of the family to enable me to get down.

In the somnambulic state, I am told my eyes are wide open, and have a glassy appearance. Although I would answer questions, and talk freely on subjects that were indicated by my conduct, yet it was next to impossible to waken me by any other process than the application of cold water. After a more advanced age, these symptoms have taken a different form, my nightly perambulations being confined to my chamber, and the symptoms are more particularly connected with the organs of hearing and vision. It does appear, that, like the inner vision without the aid of the external eye, there is also a distinct faculty of hearing, independent of the external ear. This has been experienced by persons of my acquaintance. I have frequently hastened to the place from whence sounds appeared to come. Generally, it appears to be the calling of my name, by persons whose voice I can recognise; but the most frequent delusions are through the eye. These symptoms, from their frequency, although not fearful in themselves, have been of late a source of annoyance, and they always occur in a half-waking condition. The clearer and smoother the chamber in which I sleep, the less am I annoyed with these delusions. Of these symptoms and their operations, I have a tolerable distinct recollection afterwards. I generally find myself sitting up in bed, in the act of getting up and moving towards the objects, which mostly appear to be human beings, and often persons of my acquaintance. Although this happens to me in a half-waking condition, still, I possess the faculty of reasoning within myself upon the necessity of not minding these delusions, but seldom become perfectly satisfied until I get up and try to touch the object; but invariably get awake on being touched by another person. After being awakened, it has often appeared to me that a conflict had been going on between the material and spiritual functions.

It appears, that a universal agent (which you term magnetism), does influence all animate matter, and that it may be so modified in an individual, by the power of the same property in another individual, as partially to neutralize it in one or the other. With myself, it generally affects me more when I am magnetising, than it does the person magnetised, and yet I often succeed in throwing my patients into sound magnetic sleeps; but, as yet, they always get awake on my leaving them, or ceasing to manipulate.

Such have been a part of my observations on human magnetism, and I freely submit them to your disposal. From an earnest desire for the progress of this important science, and the peculiar advantages of my profession, I can perhaps furnish you with occasional remarks, that may assist in promoting your worthy investigations.

Very respectfully your obedient servant,

JOHN WISE.

Lancaster, Pa. Oct. 14, 1842.

We should be pleased to receive communications from other natural sleep-walkers, giving an account of their present feelings and recollections on this interesting subject.—Ed.

For the Magnet.

QUERIES.

Rev. La Roy Sunderland,

Dear Sir—I rejoice that you have ventured to contemplate man as a legitimate subject of scientific investigation; that you have dared to unveil the heart and show its connection with unchanging laws, and the perpetuity and immortality of mind from the developement of its own powers.

I rejoice, that, by the aid of the magnetic phenomena, the great principles of christianity are likely to be seen and read of all, in the very lineaments of mind, in the exhibition of an inherent power, capable of directing and controlling the moral relations of the physical constitution of man, and thus make it subserve the great end of human existence.

To me, it seems the world has always been indebted to magnetic phenomena for its views of immortality; that there has been, in every age, occasional exhibitions of the power of mind over the physical relations of matter, insomuch, that mankind have generally recognized this sentiment, and referred to corresponding phenomenas.

All systems of religion refer to some exhibitions

of mental power, controlling and directing the physical relations of man, and claim immortality of mind on the ground that it possesses, and has exhibited power, over those agents which mark ultimate destruction upon every thing else: and the great dissideratum of all religious systems seems to be, the resumption of that power which may, perhaps, be regarded as the individual property of the mind, and which gives to it the imagery of God.

In exhibiting phreno-magnetic phenomena I would inquire:

1st. Is it proper to restore the somnipathist to a natural state when under phreno-magnetic excitement?

2d. Is it proper to let the somnipathist eat or drink, when those appetites are magnetically excited?

3d. How long, in pulmonary complaints, should the magnetic slumber be continued?

4th. Why is the magnetic character assumed by one, and cannot be impressed upon another?

I have made but few experiments, but in one case (a girl of 13,) I excited the love of stimulants, and she immediately called for brandy—wanted two quarts, and as the excitement was continued, demanded greater and greater quantities; and nothing would do but brandy. I excited acquisitiveness, at the same time, and told her I could not buy so much, and she said I must steal it then, for she would have it. I then excited combativeness and destructiveness in conjunction with the love of stimulus, and she made a pass at my throat, and said she would kill me if I did not get it. I then removed the excitement of combativeness and destructiveness and excited benevolence, and the ferocious maniac became mild and fascinating in her child-like expressions. But still she urged me in tones of impressive sweetness to get the brandy, for she could not live without it.

When I excited thirst, she called for water. I drank, in a position she could not have seen me, if her eyes had been open, and she said, "drink faster, drink faster." I told her she must have some brandy, but she said, "no, no, no."

I excited hunger in conjunction with combativeness and destructive ess; and she consented to feast on coons, possums, snakes, &c., and exhibited a corresponding ferocity. But when I dissipated the action upon combativeness and destructiveness, and excited benevolence, she wanted something nice, something good, and manifested an indignant feeling, though couched in mild expressions, when asked to eat a coon.

I restored her to a natural state without dissipating the excitement upon the organ of hunger, and without being made acquainted with what had passed, she repeatedly complained of being very hungry. Three hours after, she dined and remarked, "things never tasted so good."

These observations induce me to enquire of you whether it is not desirable, at the close of every sitting, to excite the whole region of the moral faculties, with a view to obtain a habitual determination of the nervous fluid to that department?

With sentiments of high respect for your independence and perseverance in the cause of truth, I am, though a stranger, your kinsman in the visions of the mind, L. M. PARSONS.

N. Ridgeville, *Lorain County, Ohio.*

Sept. 26, 1842.

P. S. If you can make any part of this letter subserve the interest now universally felt in the cause of human magnetism, it is at your service. If it should be convenient for you to give some instruction touching my inquiries, in some future number of your valuable Magnet, you will confer, I doubt not, a blessing upon many suffering individuals; as many I believe, like myself, need the direction of some master in the science, in attempting to exhibit its remedial powers.

September 29th—I have read this letter to several friends here who are greatly interested in the discoveries you are presenting to the world, and they are very desirous that you should give publication at least to the sentiments contained upon the first page, and have directed me to give this intimation of their wishes.

There is one very interesting feature in the exhibition of phreno-magnetic phenomena, viz: when appetites are excited in conjunction with the animal passions, they exhibit a grossness peculiar to animals. But when excited in conjunction with the *moral* faculties, they exhibit a delicacy and refinement not equalled in the most elevated society.

For the Magnet.

INTERESTING EXPERIMENTS.

Allow me to make known through your valuable journal, the following remarkable results, which prove human magnetism beyond a doubt:

1. Having reversed a glass tumbler, I placed several common sewing needles upon the bottom in lines parallel to each other; after having magnetised them strongly, for fifteen or twenty minutes, drawing the hands regularly from one end of the needles to the other, they became magnets, and attracted and repelled the same as any other magnets.

2. Having procured a small bar of pure soft iron, not magnetised, about five or six inches in length, I wound thread around it, as is done in magnets attached to a battery, leaving only a small part of each end exposed; this bar thus prepared, exhibited no properties other than is common to iron not magnetised, but when grasped in the hand of a somnipathist it immediately became a magnet, attracting and repelling, making permanent magnets, &c. &c. As soon as removed from the patient its magnetic properties ceased.

3. While magnetising several patients one day, a gentleman from Philadelphia, who is well known in that place, Mr. Obed Colman, magnetised the lid of a book for several minutes, and then with his hand at the distance of an inch or two, he caused it to raise and open itself merely by the magnetic attraction existing between his hand and the lid; he repeated this experiment several times with success. Mr. C. states, that it requires a powerful exertion to accomplish it, with a constant, fixed, and determined will, and that he experimented some hundreds of times before he was able to effect it. I have tried it many times, and as yet, have only been able to make it raise a line or two, vibrate as it were, and then fall. None but strong, healthy individuals should try this experiment, as its debilitating effects upon the system are very severe.

4. While making examinations, one evening, the idea entered my mind of ascertaining if there was an organ, by acting upon which, the person, while in a natural state, would be able to know my thoughts. After about three quarters of an hour, in study, my patient informed me that there was; but, that it would be dangerous to employ it; it was pointed out to me, and a willingness expressed that I might test it for a few minutes. I went through the necessary process and then restored her to her natural state, and explained what I wished her to do. Keeping my thoughts strongly on several subjects, she informed me correctly, what they were. I kept her thus, for about eight or ten minutes, and then replaced her in the magnetic state, in which state

she kept me almost constantly employed for four hours, in magnetising various points, in order that no bad effects might be produced from what had been done, and she awoke as well as usual. I will add here, that nothing would ever tempt me to repeat the above experiment.

I have given you these facts, without comment, for to every reflecting mind, they will suggest ideas which will aid greatly in facilitating the progress of the science.

I have tried experiment No. 2. in a number of cases, in some the magnetic power is more clearly manifested than in others; again, in some, it will not appear unless they are requested to magnetise the bar, and in others, there appears to be no effect whatever. The magnet produced in this manner will attract and repel small needles, and make permanent magnets of them; in some instances, the magnetism is so weak as to be shown only in its action on iron filings.

In having a bar made, it is best to have it done by *filing down* a piece of pure soft iron to the proper size, about $\frac{1}{4}$ inch square in diameter, and five or six inches in length; *hammering* hardens it—and the softer it is, the more satisfactory will be the result.

And idea has just struck me while writing this, to try the effect of magnetising the magnetic pole, also the electrical, in this experiment, particularly on those in whom the magnetism does not appear to be shown; likewise to ascertain if electrical sparks can be drawn from a glass, or brass rod held in the hand of a somnipathist, while the pole of electricity is magnetised—to be tried in a room darkened.

Although, at present, these experiments appear to be of no particular benefit to sick persons, yet they are of great importance in proving the truth of the science.

JOHN KING, M. D.

New Bedford, Mass., October, 1842.

NOTE BY THE EDITOR.—Of course, we are not to be considered responsible for articles which we publish, like the above, over a responsible name.

With regard to what is stated, 1 and 3, we may add, that others have affirmed to us that they had done, and seen others perform, the same, under circumstances where there could be no collusion or mistake. And if so, these facts do unquestionably demonstrate the *identity* between what is called the *nervous influence* and the ordinary *magnetic forces*.

THE MORAL FACULTY.

BY THE LATE BENJ. RUSH, M.D.

1. The effects of CLIMATE upon the moral faculty claim our first attention. Not only individuals, but nations, derive a considerable part of their moral, as well as intellectual character, from the different portions they enjoy of the rays of the sun. Irascibility, levity, timidity, and indolence, tempered with occasional emotions of benevolence, are the moral qualities of the inhabitants of warm climates, while selfishness, tempered with sincerity and integrity, form the moral character of the inhabitants of cold countries. The state of the weather, and the seasons of the year also, have a visible effect upon moral sensibility. The month of November, in Great Britain, rendered gloomy by constant fogs and rains, has been thought to favour the perpetration of the worst species of murder, while the vernal sun, in middle latitudes, has been generally remarked for producing gentleness and benevolence.

2. The effects of DIET upon the moral faculty are more certain, though less attended to, than the effects of climate. "Fullness of bread," we are told, was one of the predisposing causes of the vices of the Cities of the Plain. The fasts so often inculcated among the Jews were intended to lessen the incentives to vice; for pride, cruelty, and sensuality, are as much the natural consequences of luxury, as apoplexies and palsies. But the *quality* as well as the quantity of aliment has an influence upon morals; hence we find the moral diseases that have been mentioned are most frequently the offspring of animal food. The prophet Isaiah seems to have been sensible of this, when he ascribes such salutary effects to a temperate and vegetable diet. "Butter and honey shall he eat," says he, "*that* he may know to refuse the evil, and to choose the good." But we have many facts which prove the efficacy of a vegetable diet upon the passions. Dr. Arbuthnot assures us, that he cured several patients of irascible tempers, by nothing but a prescription of this simple and temperate regimen.

3. The effects of CERTAIN DRINKS upon the moral faculty are not less observable, than upon the intellectual powers of the mind. Fermented liquors, of a good quality, and taken in a moderate quantity, are favourable to the virtues of candour, benevolence, and generosity; but when they are taken in excess, or when they are of a bad quality, and taken in a moderate quantity, they seldom fail of rousing every latent spark of vice into action. The last of these facts is so notorious, that when a man is observed to be ill-natured or quarrelsome in Portugal, after drinking, it is common in that country to say, that "he has drunken bad wine." While occasional fits of intoxication produce ill-temper in many people, habitual drunkeness (which is generally produced by distilled spirits) never fails to eradicate veracity and integrity from the human mind. Perhaps this may be the reason why the Spaniards, in ancient times, never admitted a man's evidence in a court of justice, who had been convicted of drunkenness. Water is the universal sedative of turbulent passions: it not only promotes a general equanimity of temper, but it composes anger. I have heard several well-attested cases, of a draught of cold water having suddenly composed this violent passion, after the usual remedies of reason had been applied to no purpose.

4. EXTREME HUNGER produces the most unfriendly effects upon moral sensibility. It is immaterial, whether it act by inducing a relaxation of the solids, or an acrimony of the fluids, or by the combined operations of both those physical causes. The Indians in this country whet their appetites for that savage species of war, which is peculiar to them, by the stimulus of hunger; hence, we are told, they always return meagre and emaciated from their military excursions. In civilized life we often behold this sensation to overbalance the restraints of moral feeling; and perhaps this may be the reason why poverty, which is the most frequent parent of hunger, disposes so generally to theft; for the character of hunger is taken from that vice; it belongs to it "to break through stone walls." So much does this sensation predominate over reason and moral feeling, that Cardinal de Retz suggests to politicians never to risk a motion in a popular assembly, however wise or just it may be, immediately before dinner. That temper must be uncommonly guarded, which is not disturbed by long abstinence from food. One of the worthiest men I ever knew, who made his breakfast his principal meal, was peevish and disagreeable to his friends and family, from the time he left his bed till he sat down to his morning repast; after which, cheerfulness sparkled in his counte-

nance, and he became the delight of all around him.

5. I hinted formerly, in proving the analogy between the effects of DISEASES upon the intellects, and upon the moral faculty, that the latter was frequently impaired by fevers and madness. I beg leave to add further upon this head, that not only madness, but the hysteria and hypochondriasis, as well as all those states of the body, whether idiopathic or symptomatic, which are accompanied with preternatural irritability—sensibility—torpor—stupor or mobility of the nervous system, dispose to vice, either of the body or of the mind. It is in vain to attack these vices with lectures upon morality. They are only to be cured by medicine,—particularly by exercise,—the cold bath,—and by a cold or warm atmosphere. The young woman, whose case I mentioned formerly, that lost her habit of veracity by a nervous fever, recovered this virtue, as soon as her system recovered its natural tone, from the cold weather that happily succeeded her fever.*

6. Idleness is the parent of every vice. It is mentioned in the Old Testament as another of the predisposing causes of the vices of the Cities of the Plain. Labor of all kinds favors and facilitates the practice of virtue. The country life is happy, chiefly because its laborious employments are favorable to virtue, and unfriendly to vice. It is a common practice, I have been told, for the planters in the southern states, to consign a house slave, who has become vicious from idleness, to the drudgery of the field, in order to reform him. The bridewells and workhouses of all civilized countries prove, that LABOR is not only a very severe, but the most benevolent of all punishments, in as much as it is one of the most suitable means of reformation. Mr. Howard tells us in his History of Prisons, that in Holland it is a common saying, "Make men work and you will make them honest." And over the rasp and spinhouse at Grœningen, this sentiment is expressed (he tells us) by a happy motto:

"Vitiorum semina—otium—labore exhauriendum"

The effects of steady labor in early life, in creating virtuous habits, is still more remarkable. The late Anthony Benezet of this city, whose benevolence was the sentinel of the virtue, as well as of the happiness of his country, made it a constant rule in binding out poor children, to avoid putting them into wealthy families, but always preferred masters for them who worked themselves, and who oblige these children to work in their presence. If the habits of virtue, contracted by means of this apprenticeship to labor, are purely mechanical, their effects are nevertheless, the same upon the happiness of society, as if they flowed from principle. The mind, moreover, when preserved by these means from weeds, becomes a more mellow soil afterwards, for moral and rational improvement.

7. The effects of EXCESSIVE SLEEP are intimately connected with the effects of idleness on the moral faculty; hence we find that moderate, and even scanty portions of sleep, in every part of the world, have been found to be friendly, not only to health and long life, but in many instances to morality. The practice of the monks, who often sleep upon a floor, and who generally rise with the sun, for the sake of mortifying their sensual appetites, is certainly founded in wisdom, and has often produced the most salutary moral effects.

8. The effects of BODILY PAIN upon the moral, are not less remarkable than upon the intellectual powers of the mind. The late Dr. Gregory, of the University of Edinburgh, used to tell his pupils, that he always found his perceptions quicker in a fit of the gout, than at any other time. The pangs which attend the dissolution of the body, are often accompanied with conceptions and expressions upon the most ordinary subjects, that discover an uncommon elevation of the intellectual powers. The effects of bodily pain are exactly the same in rousing and directing the moral faculty. Bodily pain, we find, was one of the remedies employed in the Old Testament, for extirpating vice and promoting virtue: and Mr. Howard tells us, that he saw it employed successfully as a means of reformation, in one of the prisons which he visited. If pain has a physical tendency to cure vice, I submit it to the consideration of parents and legislators, whether moderate degrees of corporeal punishments, inflicted for a great length of time, would not be more medicinal in their effects, than the violent degrees of them, which are of short duration.

9 Too much cannot be said in favour of CLEANLINESS, as a physical means of promoting virtue. The writings of Moses have been called, by military men, the best "orderly book" in the world. In every part of them we find cleanliness inculcated with as much zeal, as if it was part of the moral, instead of the Levitical law. Now, it is well known, that the principal design of every precept and rite of the ceremonial parts of the Jewish religion, was to prevent vice, and to promote virtue. All writers upon the leprosy, take notice of its connection with a certain vice. To this disease gross animal food, particularly swine's flesh, and a dirty skin, have been thought to be predisposing causes—hence the reason, probably, why pork was forbidden, and why ablutions of the body and limbs were so frequently inculcated by the Jewish law. Sir John Pringle's remarks, in his oration upon Captain Cook's Voyage, delivered before the Royal Society in London, are very pertinent to this part of our subject:—"Cleanliness (says he) is conducive to health, but is it not obvious, that it also tends to good order and other virtues? Such (meaning the ship's crew) as were made more cleanly, became more sober, more orderly, and more attentive to their duty." The benefit to be derived by parents and schoolmasters from attending to these facts, is too obvious to be mentioned.

10. I hope I shall be excused in placing SOLITUDE among the physical causes which influence the moral faculty, when I add, that I confine its effects to persons who are irreclaimable by rational or moral remedies. Mr. Howard informs us, that the chaplain of the prison at Liege in Germany assured him, "that the most refractory and turbulent spirits, became tractable and submissive, by being closely confined for four or five days." In bodies that are predisposed to vice, the stimulus of cheerful, but

* There is a morbid state of excitability in the body during the convalescence from fever, which is intimately connected with an undue propensity to venereal pleasures. I have met with several instances of it. The marriage of the celebrated Mr. Howard to a woman who was twice as old as himself, and very sickly, has been ascribed by his biographer, Dr. Aiken, to gratitude for her great attention to him in a fit of sickness. I am disposed to ascribe it to a sudden paroxysm of another passion, which, as a religious man, he could not gratify in any other than in a lawful way. I have heard of two young clergymen, who married the women who had nursed them in fits of sickness. In both cases, there was great inequality in their years and condition of life. Their motive was, probably, the same as that which I have attributed to Mr. Howard. Dr. Patrick Russel takes notice of an uncommon degree of venereal excitability which followed attacks of the plague at Messina, in 1743, in all ranks of the people. Marriages, he says, were more frequent after it than usual; and virgins were in some instances violated, who died of that disease, by persons who had just recovered from it.

much more of profane society and conversation, upon the animal spirits, becomes an exciting cause, and like the stroke of the flint upon the steel, renders the sparks of vice both active and visible. By removing men out of the reach of this exciting cause, they are often reformed, especially if they are confined long enough to produce a sufficient chasm in their habits of vice. Where the benefit of reflection, and instruction from books, can be added to solitude and confinement, their good effects are still more certain. To this philosophers and poets in every age have assented, by describing the life of a hermit as a life of passive virtue.

11. Connected with solitude, as a mechanical means of promoting virtue, SILENCE deserves to be mentioned in this place. The late Dr. Fothergill, in his plan of education for that benevolent institution at Ackworth, which was the last care of his useful life, says every thing that can be said in favour of this necessary discipline, in the following words: "To habituate children from their early infancy, to silence and attention, is of the greatest advantage to them, not only as a preparative to their advancement in a religious life, but as the groundwork of a well-cultivated understanding. To have the active minds of children put under a kind of restraint—to be accustomed to turn their attention from external objects, and habituated to a degree of abstracted quiet, is a matter of great consequence, and lasting benefit to them. Although it cannot be supposed, that young and active minds are always engaged in silence as they ought to be, yet to be accustomed thus to quietness, is no small point gained towards fixing a habit of patience, and recollection, which seldom forsakes those who have been properly instructed in this entrance of the school of wisdom, during the residue of their days."

For the purpose of acquiring this branch of education, children cannot associate too early, nor too often with their parents, or with their superiors in age, rank, and wisdom.

12. The effects of music upon the moral faculty, have been felt and recorded in every country. Hence we are able to discover the virtues and vices of different nations, by their tunes, as certainly as by their laws. The effects of music, when simply mechanical, upon the passions, are powerful and extensive. But it remains yet to determine the degrees of moral ecstacy, that may be produced by an attack upon the ear, the reason, and the moral principle, at the same time, by the combined powers of music and eloquence.

13. The ELOQUENCE of the PULPIT is nearly allied to music in its effects upon the moral faculty. It is true there can be no permanent change in the temper and moral conduct of a man, that is not derived from the understanding and the will; but we must remember that these two powers of the mind are most assailable, when they are attacked through the avenue of the passions; and these, we know, when agitated by the powers of eloquence, exert a mechanical action upon every power of the soul. Hence we find, in every age and country where Christianity has been propagated, the most accomplished orators have generally been the most successful reformers of mankind. There must be a defect of eloquence in a preacher, who, with the resources for oratory which are contained in the Old and New Testaments, does not produce in every man who hears him at least a temporary love of virtue. I grant that the eloquence of the pulpit alone cannot change men into Christians, but it certainly possesses the power of changing brutes into men. Could the eloquence of the stage be properly directed, it is impossible to conceive the extent of its mechanical effects upon morals. The language and imagery of a Shakespeare, upon moral and religious subjects, poured upon the passions and the senses, in all the beauty and variety of dramatic representation; who could resist, or describe their effects?

14. ODOURS of various kinds have been observed to act in the most sensible manner upon the moral faculty. Brydone tells us, upon the authority of a celebrated philosopher in Italy, that the peculiar wickedness of the people who live in the neighborhood of Ætna and Vesuvius is occasioned chiefly by the smell of the sulphur, and of the hot exhalations which are constantly discharged from those volcanoes. Agreeable odours seldom fail to inspire serenity, and to compose the angry spirits. Hence the pleasure, and one of the advantages, of a flower-garden. The smoke of tobacco is likewise of a composing nature, and tends not only to produce what is called a train in perception, but to hush the agitated passions into silence and order. Hence the practice of connecting the pipe or cigar and the bottle together, in public company.

15. It will be sufficient only to mention LIGHT and DARKNESS, to suggest facts in favour of the influence of each of them upon moral sensibility. How often do the peevish complaints of the night in sickness, give way to the composing rays of the light of the morning? Othello annot murder Desdemona by candle-light, and who has not felt the effect of a blazing fire upon the gentle passions?*

16. It is to be lamented, that no experiments have as yet been made, to determine the effects of all the different species of AIRS, which chemistry has discovered, upon the moral faculty. I have authority, from actual experiments, only to declare, that dephlogisticated air, when taken into the lungs, produces cheerfulness, gentleness, and serenity of mind.

17. What shall we say of the effects of MEDICINES upon the moral faculty? That many substances in the materia medica act upon the intellects is well known to physicians. Why should it be thought impossible for medicines to act in like manner upon the moral faculty? May not the earth contain, in its bowels, or upon its surface, antidotes? But I will not blend facts with conjectures. Clouds and darkness still hang upon this part of my subject.

Let it not be suspected, from any thing that I have delivered, that I suppose the influence of physical causes upon the moral faculty renders the agency of divine influence unnecessary to our moral happiness. I only maintain, that the operations of the divine government are carried on in the moral, as in the natural world, by the instrumentality of second causes. I have only trodden in the footsteps of the inspired writers; for most of the physical causes I have enumerated are connected with moral precepts, or have been used as the means of reformation from vice, in the Old and New Testaments. To the cases that have been mentioned, I shall only add, that Nebuchadnezzar was cured of his pride, by means of solitude and a vegetable diet. Saul was cured of his evil spirit, by means of David's harp, and St. Paul expressively says, "I keep my body under, and bring it into subjection, lest that by any means, when I have preached to others, I myself should be a cast-away." But I will go one step further, and add, in favour of divine influence upon the

* The temperature of the air has a considerable influence upon moral feeling. Henry the Third, of France, was always ill-humoured, and sometimes cruel, in cold weather. There is a damp air which comes from the sea in Northumberland county in England, which is known by the name of the 'sea-fret,' from its inducing fretfulness in the temper.

moral principle, that in those extraordinary cases, where bad men are suddenly reformed, without the instrumentality of physical, moral or rational causes, I believe that the organization of those parts of the body, in which the faculties of the mind are seated, undergoes a physical change;* and hence the expression of a "new creature," which is made use of in the Scriptures to denote this change, is proper in a literal, as well as a figurative sense. It is probably the beginning of that perfect renovation of the human body, which is predicted by St. Paul in the following words: "For your conversation is in heaven, from whence we look for the Saviour, who shall change our vile bodies, that they may be fashioned according to his own glorious body." I shall not pause to defend myself against the charge of enthusiasm in this place; for the age is at length arrived so devoutly wished for by Dr. Cheyne, in which men will not be deterred in their researches after truth, by the terror of odious or unpopular names.

I cannot help remarking under this head, that if the conditions of those parts of the human body which are connected with the human soul influence the morals, the same reason may be given for a virtuous education, that has been admitted for teaching music, and the pronunciation of foreign languages, in the early and yielding state of those organs which form the voice and speech. Such is the effect of a moral education, that we often see its fruits in advanced stages of life, after the religious principles which were connected with it have been renounced; just as we perceive the same care in a surgeon in his attendance upon patients, after the sympathy which first produced his care has ceased to operate upon his mind. The boasted morality of the deists is, I believe, in most cases, the offspring of habits, produced originally by the principles and precepts of christianity. Hence appears the wisdom of Solomon's advice, "Train up a child in the way he should go, and when he is old he will not," I had almost said he cannot "depart from it."

Thus have I enumerated the principal causes which act mechanically upon morals. If, from the combined action of physical powers that are opposed to each other, the moral faculty should become stationary, or if the virtue or vice produced by them should form a neutral quality, composed of both of them, I hope it will not call in question the truth of our general propositions. I have only mentioned the effects of physical causes in a simple state.†

It might help to enlarge our ideas upon this subject to take notice of the influence of the different stages of society, of agriculture and commerce, of soil and situation, of the different degrees of cultivation of taste, and of the intellectual powers, of the different forms of government, and, lastly, of the different professions and occupations of mankind upon the moral faculty; but as these act indirectly only, and by the intervention of causes that are unconnected with matter, I conceive they are foreign to the business of the present inquiry. If they should vary the action of the simple physical causes in any degree, I hope it will not call in question the truth of general propositions, any more than the compound action of physical powers that are opposed to each other. There remain but a few more causes which are of a compound nature, but they are so nearly related to those which are purely mechanical, that I should beg leave to trespass upon your patience, by giving them a place in my oration.

The effects of imitation, habit, and association, upon morals, would furnish ample matter for investigation. Considering how much the shape, texture, and conditions of the human body influence morals, I submit it to the consideration of the ingenious, whether, in our endeavours to imitate moral examples, some advantage may not be derived, from our copying the features and external manners of the originals. What makes the success of this experiment probable is, that we generally find men, whose faces resemble each other, have the same manners and dispositions. I infer the possibility of success in an attempt to imitate originals in a manner that has been mentioned, from the facility with which domestics acquire a resemblance to their masters and mistresses, not only in manners, but in countenance, in those cases where they are tied to them by respect and affection. Husbands and wives also where they possess the same species of face, under circumstances of mutual attachment often acquire a resemblance to each other.

From the general detestation in which hypocrisy is held, both by good and bad men, the mechanical effects of habit upon virtue have not been sufficiently explored. There are, I am persuaded, many instances, where virtues have been assumed by accident or necessity, which have become real from habit, and afterwards derived their nourishment from the heart. Hence the propriety of Hamlet's advice to his mother:

> "Assume a virtue, if you have it not.
> That monster, Custom, who all sense doth eat
> Of habits evil, is angel yet in this,
> That to the use of actions fair and good,
> He likewise gives a frock or livery,
> That aptly is put on. Refrain to-night,
> And that shall lend a kind of easiness
> To the next abstinence; the next more easy;
> For use can almost change the stamp of nature,
> And master even the devil, or throw him out,
> With wondrous potency."

Important Surgical Operation.—An operation for the terrible disease called Ostea Sarcomo, was performed at Baltimore on Tuesday, upon a colored man, by Dr. C. B. Gibson, assisted by several other doctors, the result of which is described in the American. The patient received a blow on the chin, from the handle of a plough about six years ago, and thus the osseofibrous tumor was formed, and gradually increased until it had become frightful in the extreme—the tumor nearly filled the mouth, and pushing out the lower lip to a great extent. The operation consisted in removing the lower jaw as far back as the second molar tooth, the disease embracing all that portion. This disease is said to be one of the most dreadful in surgery, and has not often been performed, we understand, in this country. At the close of the operation, the poor fellow seemed to have sustained the shock with so much firmness as to induce the hope that his life will be saved. The nerve with which he endured the knife and the saw was astonishing.

Controversy.—A game, in which Destructiveness, Self-Esteem and Approbativeness, are apt to get the better of Conscientiousness.

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* St. Paul was suddenly transformed from a persecutor into a man of a gentle and amiable spirit. The manner in which this change was effected upon his mind, he tells us in the following words: "Neither circumcision availeth any thing, nor uncircumcision, but a new creature. From henceforth let no man trouble me; for I bear in MY BODY the MARKS of our Lord Jesus." Galatians, vi. 15, 17.

† The doctrine of the influence of physical causes on morals, is happily calculated to beget charity towards the failings of our fellow-creatures. Our duty to practise this virtue is enforced by motives drawn from science, as well as from the precepts of Christianity.

THE MAGNET.

NEW YORK, DECEMBER, 1842.

DR. BUCHANAN'S LECTURES.

Some of our readers will, probably, remember the notice we gave in our second number, of a work entitled "Sketches of Buchanan's Discoveries in Neurology," and the desire we then expressed to become better acquainted with the true nature of that *new agent*, which the author of that work thought he had added to our "therapeutic list."

During the past month, we have enjoyed the pleasure of hearing him in a course of six lectures, delivered in this city, in which he gave a full account of what he calls Neurology, and the benefits which it promises to the science of Phrenology and the healing art. The audiences were rather small, and, as far as we could learn, they were generally disappointed in what they were permitted to hear and see from Dr. Buchanan, on the subject of Neurology. The disappointment is not so much to be wondered at, perhaps, when we consider, that a large number of those who heard him were familiar with the subject of human magnetism, and the phreno-magnetic experiments heretofore described in our columns.

In his first lecture, the Doctor made one statement which surprised us, as, from the examination of his book, we had been led to infer, that he did not feel himself at all indebted to what has been called human magnetism for any of his discoveries. The statement was this—that after he had devoted some years to the study of the physiology of the brain, and brought out some of its functions by *galvanism*, on hearing of the experiments in animal magnetism, in which portions of the system were excited or paralysed at the will of the operator, it occurred to him that portions of the *brain* might be operated on in the same way; and on making the attempt, he found the brain susceptible to the mere application of the fingers to the head.*

As Dr. Buchanan has now come so directly before us, our readers will of course expect a few remarks from us, expressive of our views as to his theory, and the merits of "Neurology." But, as we have had no other opportunity for becoming acquainted with him or his experiments, than what was afforded others during his public lectures, we shall not attempt many details, lest we should do him injustice; and this we certainly would not willingly do, as we consider him a gentleman of good talents, and one who has evidently paid considerable attention to the physiology and functions of the human brain.

We have said his audiences were *disappointed*. They were promised, in his public notices, that his new theory would be illustrated by a course of experiments after each lecture. This promise, however, the Doctor did not think it best to carry out so extensively as was anticipated, and it operated considerably to his disadvantage.—And most that heard him, had read the accounts published of the wonders of Neurology; they had been assured, that the wonderful developments made by Dr. B. had left all other experimenters in the shade; that neurology was destined to revolutionize the science of phrenology, and the materia medica; that it outstripped the wonders heretofore produced by magnetism, "with its mysterious passes," and indeed, that "such had been" his progress "in discovering the functions of the brain, "that but few important principles were left for future discovery." He had found the key which unlocked the temple of science, and walked in and taken possession of its untold treasures. The anticipations of something most extraordinary from Dr. Buchanan were raised, certainly, by himself. His book authorised expectations of no ordinary character, and if the Dr. has not been able to meet those expectations, it is, surely, his own fault. Any one who examines the pages of his book, will see at once, that the Dr. himself, has expressed hopes and anticipations of a most extraordinary kind, in regard to his discoveries; and sometimes, language would seem almost too poor to do justice to his theme.

But it will be asked, how he must be considered as the cause of this disappointment? From the first, he has assumed that the *agency* by which he has operated on the human brain, was *a discovery of his own*—that it was distinct, and altogether different from what has been known under the name of magnetism. Indeed, he undertook to maintain this very ground, in this course of lectures. He assumed, that the human brain evolves *electricity, galvanism, magnetism*, and the "*Neuaura*," as he called it; and that these influences are distinct, and not at all identical with each other.

Now, we never were solicitous about the name of this agency, but we put it to any one acquainted with Dr. Buchanan's experiments, to say, wherein the agency differs from that used by Mesmer and Puysegur, and every magnetist who has succeeded in the removal of pain by manipulating the parts affected? Wherein does it differ from the touch, by which the seventh son has long been reputed for curing the "king's evil?" Wherein does it differ from the influence which the touch of the human hand has been known to produce on the human system from time immemorial? Indeed, it was for the best of reasons that the press has so generally called the Dr.'s operations "mesmerism" and "animal magnetism in *disguise*;" for, until the Doctor can show the real difference between electricity, magnetism, and galvanism, and especially between that *agency* heretofore known under the term of "animal magnetism," and the agency by which he operates upon the brain, his neurology will be consi-

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* Whether those experiments by magnetism were the same described in the New-York Watchman (copies of which were sent to Dr. B. at the time) in August, 1841, or not, we have no means of determining. We may add, however, that we have never seen any account of any MANUAL excitement of the separate organs of the brain, which were PUBLISHED previous to those in the Watchman above alluded to, and which were performed by ourself, in this city, in the summer and fall of 1841. If Dr. Buchanan, or any other person, will forward to us any account of any SUCH experiments, which were PUBLISHED previous to the time here referred to, we will give them a place in the Magnet. The accounts must state, expressly, that the excitements were produced merely by the application of the fingers to the organs.

We make this offer, because Dr. B. has intimated, in a letter addressed by him to the Cincinnati Phreno-Magnetic Society, (and in other forms, as we have been told,) that we copied our experiments from him! An INSINUATION which one sustaining the relations to SCIENCE which Dr B. professes to maintain, should have felt it beneath him to make of any one, except upon the clearest evidence.

dered as nothing more nor less than "animal magnetism" under a new name.

Let us look at this matter a little more closely. Dr. B. says, that by placing his fingers in any one place, he can cause the brain to evolve pure electricity, in another pure galvanism, in another pure magnetism, and in a fourth the pure *neuaura*. Very well. And now will he tell us, by what agency *he* causes these *different* results to appear? Does his own system evolve each of these imponderable fluids, at *will?* or does he evolve nothing but *neuaura*, while he causes his subject to throw out these different substances? If so, then the *neuaura* has control over the electrical, magnetic, and galvanic forces; and if these forces do not differ in their nature in the human system, from what they are known to be in minerals, then we should like to know, why this neuaura would not control the needle, as well as the magnetic forces in the human body?

We have supposed, and so stated, that the magnetic or electrical forces, *in a modified form*, constituted that influence which one person is known to exert over another by the ordinary manipulations; and we have already given an account of numerous experiments, which go far towards identifying these forces and the nervous influence of the human body. Whether we are correct or not, must be determined by facts. We wish to follow where truth leads the way; we have no favorite theory to defend or build up, either under a new or an old name.—Give us the facts; and all the theories in the universe may go to the four winds of heaven.

In the notice of Dr. Buchanan's book, we felt compelled to state the conviction, which its perusal forced upon our mind, that its author could not have been well acquainted with the precise nature of the "agency" which he assumed to have "added to our therapeutic list;" and fidelity to truth and science now force us to the same statement again, and of its justice we are more deeply convinced than before. But it is by no means pleasant to feel necessitated to make a remark of this kind, of one of whom so many good things might be said. But we see (what must have been too obvious to those who heard the Doctor's lectures), that he has vastly overated the importance of his discoveries. The extraordinary developments which followed his experiments, have evidently so completely sublimated his own mind, that he has been led astray, in some instances at least, from the facts and the dictates of sound philosophy.

We do not say that Dr. B. has not based his theory on the observation of facts: what we mean is, that he has been misled by the kind of facts to which he appeals—they were facts of an exclusive character, and resulted from the operation of an influence which he does not sufficiently understand. This is susceptible of the clearest demonstration. For instance: he lays it down as a fundamental principle in his theory, that the portion of the brain covered by the hand, when it is placed on and around the chin, *invariably* evolves caloric; and that when any results follow this operation, they will correspond with this assumption. Now we know that this assumption cannot be supported by an appeal to facts. In some, these results will follow this operation; and in others, the same results may be produced in various other ways. Two gentlemen came into our office a few days since, enraptured by the effects which had just been produced in their systems by Dr. Buchanan. On their stating what their sensations were, we immediately produced the same, in a far greater degree, by operating on another part of the brain. So, Dr. B. affects the arms, for instance, by operating on one portion of the brain, and we do the same thing by operating on another. Now, what do these facts prove? Why, evidently, that the nerves of motion and sensation are susceptible from different points of the body, and in a manner of which Dr. B. seems to have no idea. The great law which controls these results, is nothing more nor less than SYMPATHY; and Dr. B. will probably find, sooner or later, that he has yielded too much in the importance he has given to the results of his experiments, proving, as he thinks they do, that he has discovered a *new* agency, which invariably controls the nervous system, as he states, and are altogether distinct from any heretofore known.

Nor do we see how the world is to be much benefited, even admitting the claims which Dr. B. sets up for himself. He thinks, that not more than one person in every thousand is susceptible to what he calls the highest degree; about one in a hundred is partially so, while the rest cannot be affected by his operations at all. If we allow his meaning of the term *impressible*, we must admit the truth of this assumption. But what will follow? Why, that the wonderful benefits of *neurology* can only be fully realized by one in a thousand of the entire community, and in a very small degree by one in a hundred. And it would further appear, that this susceptibility of which he speaks, is owing to a diseased state of the nervous system; and that it is the exception, and not the rule, to be applied to the entire mass of human beings.

When we consider the opportunities which Dr. B. affirms he has enjoyed for testing the susceptibility and functions of the human brain, it would seem quite remarkable that he has not found out the most important fact with regard to this subject; and that he has not yet arrived at this knowledge is evident, inasmuch as it is no where even alluded to in his work, nor did he advance anything in his recent lectures which had any perceptible bearing on this fact. Indeed, no writer that we have ever read has alluded to it, that we now remember. We refer, now, to the *difference* in the *susceptibilities* of different persons. We had proceeded but a small distance in our experiments, before we were driven to this conclusion—different persons have different susceptibilities.—The following will illustrate our meaning: A relative of ours was so affected with the smell of onions, as to be unable to remain in the house whey they were; and, it is said, Henry the Third, of France, could not endure the presence of a cat; Lord Chancellor Bacon fell down in fits whenever there was an eclipse of the moon; the philosopher Boyle could not endure the sound of water drawn from a cock; Erasmus trembled at the smell or sight of fish; Marshall d'Albert fainted at the sight of a sucking pig; La Mollie la Vayer could not endure the sound of music, and Shakspeare speaks of some persons in his day who could not endure the sound of the bagpipe. The celebrated astronomer Brahe, was totally paralyzed in his limbs at the sight of a live hare; and we have known in-

tell gent persons who could not endure the sight of a rat. Some persons are peculiarly affected on touching certain kinds of metals, and others are affected in the same way if they touch them only in their imaginations. Dr. B. tests the susceptibility of persons, by grasping any metallic substance, which he directs them to hold in the hand. If they feel a sensation of numbness, or the like, he thinks they are more or less susceptible. But we know of individuals who are affected in precisely the same way, when no other person takes hold of the crowbar! But of this phenomenon Dr. B.'s neurology affords no satisfactory solution.

The Doctor's remarks on phrenology, in our opinion not only did that subject some injustice, but they were inconsistent with himself; and lest we may be thought uncharitable in these remarks, we will here give an extract from the reports of his lectures, which appeared in the New-York Express:—

"The comparison of external form, in different heads, could not be relied upon, and fall far short of the truth. These observations were entirely inadequte to explain the elements of character. By no process of examining the different contours of different skulls, could the truth be arrived at. By mere size, the structure and form of no organ could be judged, any more than could the muscular strength of the arm by the size. In matters of vitality, size was not at all to be relied on. If any portion of the brain had been exercised, it would be active without any more development than might be seen in the persons of those whose corresponding organs had not been thus active. There might be ninety-nine heads picked out, exhibiting the same forms as were seen in the head of Lord Byron, and some of these ninety-nine might have the same genius as Byron, while others would be of moderate talents, and others of the number even stupid. You could not rely even upon the comparative development of the power of these organs.

"These, said Dr. Buchanan, are not theories, but facts. I will, said he, undertake to pick out forty or fifty convicts from the State Prison, whose heads shall exhibit all the moral qualities as strongly as the heads of the most virtuous in the community. Nature, it was argued, had not been so unkind as to put a mark upon the creatures of Providence—nature had given us good and sure propensities. If we cultivated the moral propensities, they would be active; if we neglect them, the evil ones would be in force.

"I have, said Dr. B., more than 300 skulls, most of them of criminals. In all these, the organs about the base of the brain were active. The higher organs were not active. By mere craniology, it was obvious the moral or criminal character could not be determined. Dr. Buchanan here spoke of the relative activity of the moral powers in man and woman. His experience went to show, that the moral power of women was much stronger than that of men, and for the obvious reason that woman, moving in her natural sphere of action, cultivated the moral character more than the man. In all the experiments of the two sexes, phrenology was found to be quite inaccurate."

Those who heard the Doctor will agree with us, we think, that the above sketch is not so severe as in the delivery. In his last lecture, he had much to say against the practice heretofore adopted of 'mapping off the head,' and giving different lines to the different organs; and, before he got through with his lecture, he admitted that he himself did the same thing, in substance. That is—he first found the location of one organ, and them from that centre he calculated and easily found all the rest; because each one held a position and definite relation to each of the others.

But we find ourselves straitened for room, and must defer further remarks for the present.

QUERIES ANSWERED.

The following Queries have been submitted to us by a correspondent, as will be seen by an article in our present number:—

1. *Is it proper to wake up a person from the magnetic sleep, when he is under any excitement?*

Certainly not. All excitement should always be removed, before the patient is waked up; and great care should always be taken to remove the excitement from each organ in which it may have been produced. We have known mischievous results to follow these excitements, and have before suggested, that they should be attempted with great caution, and only for good and justifiable purposes.

2. *Is it proper to let the somnipathist eat when alimentativeness is magnetically excited?*

No, not to any considerable extent. These excitements of course are morbid, or beyond the demands of nature, and should be continued but a few moments at a time.—It must be plain, that the stomach should not be unnaturally excited, nor, when so excited, should it be overloaded with food.

3. *How long, in certain complaints, should the magnetic slumber be continued?*

No definite rule can be given—the operator should use his own judgment A few hours, daily, may be sufficient; but where persons are indisposed, of course no experiments like those referred to by our correspondent should be attempted.

4. *Why is one more susceptible to the magnetic influence than another?*

We could no more answer this question in a few lines, than we could tell why one mineral substance is a better conductor of the natural magnetic forces than another.—All we know is, that persons of one temperament are more easily affected by others, of another peculiar temperament; but why it is so, who can tell? We have our own conjectures about it, but it would be hardly worth the while to state them at length. If the assumptions with regard to *positive* and *negative* electricity, or magnetism, are true, it may be that one person, whose state is positive, may operate with greater facility on another, whose state is negative, or vice versa However, we know that this rule does not seem to hold good in human magnetism; for these states do not attract or operate reciprocally, which they would do if they perfectly corresponded with the laws which govern the natural magnetic forces. For instance: the north pole of the magnet attracts the south pole, and the south pole equally attracts the north. But the patient who is easily put into the magnetic sleep, cannot as easily affect the operator, nor, indeed, any other person. Nor can the same person, at all times, be as easily affected by the same means.

HUMAN AND TERRESTRIAL MAGNETISM.

We have adduced a number of facts, which go far, as we think, towards demonstrating some identity between

human and terrestrial magnetism. A correspondent has given us the following. He had repeatedly magnetised two persons, in a room where the floor was supported by iron rods, and iron and steel abounded in various parts of it. He noticed, that whenever they walked in a magnetised state within a few feet of a rod, it sensibly drew them towards it; and they were prevented from coming in contact by his placing himself between them and the rod. In one instance, when the magnetiser was a few feet in advance of one of them, she stopped, after passing the rod; suspecting the cause, he hesitated a moment, and she was drawn backward against it, contrary to his wishes; he, not knowing the consequences, wished to avoid the experiment. It produced convulsive motions, and a shudder, as if very cold, with more or less action during the sleep. She said she was not cold, but it was the effect of the iron.

In another instance, while M. P. was sitting in a magnetised state near a table, on which iron wire cloth was fastened, the magnetiser went some paces from her and beckoned her to follow, although she seemed uneasy and made some efforts, she did not follow, as had uniformly been the case before, at a less distance. Suspecting there was something to destroy the attraction, he approached nearer and repeated the beckoning, when she arose while he went to a farther distance; but instead of her following, she turned, stepped toward the table, and placed her hands on the wire before he had time to prevent it. At another time, while sitting with a large knife lying on the table behind with the point towards her, she put her hand behind her, and was in the act of reaching for the point, and was within a few inches of it when discovered. Whether the attracting power of the magnetiser was less while advancing towards the patient, was not ascertained; but in the instances named, they were approaching the objects before any advance was made, but had not reached them.

We have a patient, whose hands and muscles are severely paralyzed, whenever we touch her with any metallic substance.

CORRESPONDENCE.

We have received some further accounts of the case of surgery, described by our friend L. N. Fowler, in our fourth number. The following letter is from him:

Haverhill, Mass., Sept. 16, 1842.

Dear Sir,—The insane person I wrote to you about is getting better, and she says she knows she should get well if I magnetised her daily. The arm of the lady from whom the tumour was taken out, healed up in two weeks without any inflammation or discharge of matter. In regard to her appetite, which had always been poor up to the first of August: since then it has been very good. I waked her up on the 5th of August, after I had excited alimentiveness, and willed her to have a good appetite. A month after I visited her, and was informed by her and her husband, that she never had a better appetite, that she had not missed a meal since I last saw her, and that she had no desire for tea, coffee, or cucumbers, of which, before I had put her mind against them, she was very fond. Her husband added, that she now eats more in one day, than in three before she was magnetised. Formerly she had a great passion for reading, so much so, that it amounted to dissipation, and injured her health. I willed her in the magnetic sleep not to read but little; if she did, I should cause her to be confused and sleepy. From that time she lost about two-thirds of her relish for reading. After reading a few minutes she becomes tired and sleepy, and is unable to finish the article she commenced.

In writing to me upon the subject, she says it has taken her a week to read the history of Columbus, which before she would have done in half a day. I magnetised a young lady with small veneration, which organ I excited, and willed her to say her prayers every night before retiring. She informed me, afterwards, that she was unable to go to bed until she had said her prayers. I excited time and tune in another person, and the influence was apparent three days afterwards.

These and many other facts which I might mention, satisfy me, that character and health can be materially affected for weeks and months after being magnetised

Your friend, L. N. FOWLER.

Rev. La Roy Sunderland.

MEDICINAL.

CASES.

XIV. INTEMPERANCE.

Some of our readers, probably, will smile, on our representing *intemperance* as a *disease*. That it produces disease, misery, and death, all will admit; but in what sense, it will be asked, may intemperance itself be considered a disease; and what can phrenology or magnetism have to do with its cure?

Without entering upon a philosophical inquiry into the nature and effects of alcohol when taken into the stomach, or detailing the different physical remedies which have been used for preventing the use of this poison, it may be sufficient for us now to state, how far it may seem that phreno-magnetism may contribute something, at least, towards lessening the hold which this dreadful scourge has gained over the minds of men.

There can be no doubt, we think, but that there is an organ which gives a love for *stimulants*, just as another gives a love for food, and another for drink, &c. We have excited it in a number of persons, and the results have invariably been the same—a strong desire for stimulants, such as vinegar, spices, *brandy*, &c.; and accordingly, in all the cases of intemperate drinking we have examined, we have found that region of the head quite full.

The following case is in point. A gentleman called on us, who appeared to be in great trouble; and on inquiring the cause, he with some reluctance stated, that his wife (otherwise an amiable woman) had long been addicted to habits of intoxication. On our informing him that we thought it *possible* we might help her, either by advice, or by the influence of magnetism, or both, he brought her to see us. As we anticipated, those organs in her head were quite large. The second sitting she went into a sound magnetic sleep; and by *suppressing* the activity of those portions of the brain, and *exciting* their negative organs, she declared that she had no conceivable disposition to taste or touch stimulating drink of any kind. It is now three months since, and she has remained thus far perfectly cured.

XV. RHEUMATISM.

We were invited by Mr. W. Green, formerly of this city, to see an elderly lady some time since, living at No.

18 Mulberry street. On examination, we found that she had for years been able to thread her needle, sew, &c. while asleep, and her eyes fast closed. At these times she will converse with her family, and may be easily made to believe that she is holding a conversation with one of her neighbors.

On being magnetised only a few minutes, she was so much attracted by the mere touch of our hand, that she could not get away, even when exerting her strength to the utmost.

Her left ancle had been stiff, and her foot turned up in a peculiar manner, as she and her friends declared, for about twenty years. We only made a few passes over it, accompanied by an excitement of the corresponding portion of the brain, and like the man we read of in the Scriptures, she leaped up and down the room, shouting for joy. She was enabled to straighten it out more naturally than for twenty years before.

ANTHROPOLOGY.

THE NATURE OF MAN.

The following is from a German work, entitled "Theory of Pneumatology," by Dr. Jung Stilling. It proposes to show what ought to be believed concerning "Presentations, Visions, and Apparitions, according to Nature, Reason, and Scripture," and contains many interesting facts,—though we could not subscribe, by any means, to all the views of its author.

Now, as these are all of them acknowledged truths, it is astonishing and almost incomprehensible to me, how it is possible hat so many great and thinking men have not deduced from these experiments the most weighty and pregnant truths; for, from hence, just and logical inferences may be drawn, which are of the highest importance to the science of souls and spirits, and to religion likewise. We will pursue our path, and then see whither it will lead us.

It is indispensably necessary, that the rational spirit of man which is immortal, and proceeded forth from God, should have an organ by which it can act upon other beings, and they in return upon it; without this, it would have no knowledge of any thing out of itself, and would be itself a pure nonentity to every other being. Now this organ is ether, which is indestructible by any natural power, and is eternal and unchangeable. The spirit, during its sensible existence upon earth, forms to itself a spiritual luminous body, with which it continues eternally united.

The magnetic facts and experiments above stated prove to a demonstration, the existence of this spiritual luminous body, or the human soul: they further prove that this human soul has need of its gross and animal body, solely with reference to its earthly life, in which man must necessarily stand in reciprocal operation with the sensible or material world, but that it is able without it to think and feel, and to act upon others, both near and at a distance, in a much more perfect manner, and is also more susceptible of suffering and enjoyment. This conclusion must unquestionably arise in the mind of the impartial observer, when he assembles all the various exhibitions which magnetism produces, and then calmly and rationally reflects upon them.

If the human soul during its existence in the material body, from which it is not entirely detached, be capable of such wonderful things; what will its capability be when totally separated from it by death! Let the reader reflect upon this. In dying, the person loses his consciousness, he falls into a perfect trance or profound sleep. As long as the mass of blood is warm and not congealed, all the members of the body continue pliant; as long as this is the case, the soul remains in it; but as soon as the brain and nerves lose their warmth and become frigid, they can no longer attract the ethereal part of the soul, nor retain it any longer; it therefore disengages itself, divests itself of its earthly bonds, and awakes. It is now in the state of a clearseeing magnetic sleeper, but being entirely separated from the body, its state is much more perfect: it has a complete recollection of its earthly existence from beginning to end; it remembers those it has left behind, and can form to itself a very clear idea of the visible world, of which it is now no longer susceptible, whilst on the contrary, it is conscious of the invisible world and its objects: namely, that part of it to which it belongs, or to which it has here adapted itself. The candid inquirer will easily find that all this follows logically and justly from magnetic experiments, if he be acquainted with them, and duly considers them.

The objection may, and doubtless will be made, that it is still not altogether certain that the somnambulist, in a state of clear-sightedness, makes no use whatever of the brain and nerves in the ideas he forms. The answer to this is, that he certainly does not use his eyes for the purposes of vision, and that he makes just as little use of the other organs of sense for the purpose of feeling: now, as the brain is excited merely by the impressions of the outward senses, it is impossible that this can be the case here. However, in the following pages facts will be stated, which undeniably confirm my assertion.

The somnambulist has no perception of any thing in the visible world, with the exception of the souls of those individuals that are brought into a corresponding connexion, or into rapport with him: through these he learns what passes in the visible world. The soul after death, enters into connexion with those that bear the greatest affinity to its own nature: if it enter into this kind of contact with others, it feels a pain, the extent of which corresponds with the degree of difference. O happy they that have approached so near to the Redeemer, as to come into connexion with him, that is, attain to the felicity of beholding him; they will then be in communion also with all his saints! In this manner also, those friends, who much resemble each other in their moral character, will there abide together, in eternal connexion and harmonious union. From the preceding observations, we may therefore comprehend what will be the nature of communication in the world to come. The somnambulist reads in the soul of him with whom he is placed in rapport; there is no need of language for the purpose, and such also is the case after death, that one reads in the soul of the other.

We have to thank animal magnetism, which was discovered about thirty years ago, for all these important developements; but the following are not less important and instructive.

Those persons in particular, who have very irritable nerves and a lively imagination, are very soon translated by animal magnetism, into this state of somnambulism and clearness of vision, by a regular and gentle stroking of the body. By means of this discovery, it is now ascertained, that all the hysteric fits of woman, as well as hypochondriachism in men, are nothing more or less than a species of somnambulism, only that it does not arise from artificial

manipulation, but from a debilitated constitution.

Therefore when a person falls in fits, either with or without convulsions, so that he loses his consciousness, and sees visions, associates with spirits, and utters the sublimest things, which far surpass her natural sphere of knowledge, it must not on no account be regarded as any thing divine, but as a real disease, and as an aberration of nature from her regular and prescribed path. All that he says and does must be rationally examined, according to the word of God; seasonable warnings and admonitions should be attended to, but they are never, and by no means divine revelations; not even then, when such a person predicts future things, which come to pass, for he stands in connexion with the invisible world; but, as his soul is still attached to the body, the connexion is not perfect; he cannot distinguish the images of his own imagination from spirits; he knows and sees much that he did not know and see in his natural state, but it is not all real, much less divine; no regard should be paid to it, but rather every suitable means used to cure him of his disorder; for these aberrations have generally a distressing termination. Instances of this will be subsequently adduced.

The causes from which a natural magnetic sleep may proceed, are chiefly the following:—

First—a lively and very irritable nervous system, and a vivid imagination appertaining to it, both of which are generally found united.

Secondly—an incessant occupation of the soul with supernatural objects; for instance, when superstitious and ill-formed simple people are constantly thinking on bewitchments and apparations. Even if they be, at the same time, vile and reprobate characters, they may at length be brought, by this means, into a real connexion with evil spirits, and then sorcery is no longer an idle tale.

Sensual love, particularly in the female sex, is the most fertile source of magnetic fits, and hence arise horrible deceptions, particularly when religious feelings are intermixed with them. I am acquainted with many melancholy instances of this kind, to which I will not now give publicity, for the sake of persons still living.

A pious young woman visited the religious meetings, which a pious, but handsome and *married* man held in his house. By degrees she fell in love with him, and as insuperable difficulties stood in the way of her attachment, her nerves at length succumbed in the conflict, and the poor unfortunate girl became a somnambulist. At the commencement, she uttered the most sublime and glorious truths in her fits; and she generally entered the crisis when present at these religious meetings. She predicted many things that were to happen in future, several of which were accomplished. She gained a number of followers; and the most sensible and well-informed regarded her as one that was inspired by the Spirit of God, in a word, as a prophetess.

In her fits, she received information by degrees, that the wife of the object of her affections was an abomination in the sight of God and his angels. This was gradually insinuated with such Satanic cunning and hypocrisy, that the whole company, which consisted of several hundred persons, most devoutly believed it. The poor woman was therefore confined in a remote place, *by orders from the invisible world;* she lost her reason, died raving mad, and the widower then married the young woman, also by order from the invisible world. The two principal actors, and the whole of their adherents, might be innocently mistaken previous to the cruel treatment of the man's first wife. The horrid crimes of this female and her followers are known to the world, and substantiated by official documents.

A common servant girl in the North of Germany, received in a trance, the commission that she should bring forth the prince, who should bear rule under Christ in his approaching kingdom. A married clergyman, and in other respects a pious man, let himself be deceived by her; he believed her, and she really bore a son; but my readers may judge whether he will become that to which his mother had destined him. A similar event took place a few years ago in the South of Germany.

I knew a lady of sincere piety, who fell daily of herself, into a perfect magnetic sleep. In this state, she was extremely sublimely disposed, she saw Christ, associated entirely with angels, heard them sing, sang with them, and said things which were astonishing. At length, the spirit whom she took for Christ, or perhaps a creature of her own imagination, which she took for him, announced to her that she should die at six o'clock the next morning. The good woman passed the night in a state of painful conflict: in the morning, those that were about her stopped the clock, spoke with her on a variety of subjects, and thus the time passed over. She was afterwards easily convinced, that all she had seen were delusive appearances, and her fits also ceased.

Finally—a person that is holy and devout, by long exercising himself in walking in the divine presence, may fall into this state of magnetic sleep. But the case is very different then: it is immediately evident from what source his expressions flow; and yet even here it is necessary to be extremely cautious, and not regard every thing as a divine communication or revelation. Experience teaches, that persons far advanced in piety may fall into this state of natural magnetic sleep, and enter into connexion with good spirits and even angels; but even good spirits do not know every thing, particularly whilst they continue in Hades, and have merely learnt what they know from others. Vain and false spirits frequently interfere on these occasions, and seek to deceive and mislead the seer. These study his inclinations and wishes, and then arrange the communications, imagery, and ideas, in such a manner as to gratify his favorite inclinations. Now if he regards all this as a divine revelation, he will be satisfied that his wishes are agreeable to God, and thus he may fall into the most dangerous errors. The truth and importance of this observation cannot be too pressingly urged; for if a man, or even a child, fall into a trance, or any other state of supernatural elevation, and then begin to preach repentance, predict future things, and speaking in a style to which he is naturally incompetent, the common spectator, especially if he is religiously inclined, regards it all as divine influence and revelation: and the poor somnambulist himself believes it also, rejoices at it, is deeply affected by it, thanks God for it, and now the thought secretly arises in his mind, that he is something particular, and that God has some great object in view with him; he comes into connexion with false spirits of light, who strengthen him in such ideas by a variety of delusive imagery, and then the arch-enthusiast is completed. The entrance to this erroneous path has not been sufficiently guarded, the reason of which is, because philosophers and divines either do not understand how to guard it at all, or else not in a proper manner. Attend, my dear readers, as you value your eternal salvation, to the following infallible truths, which are of such importance in the present day:—

The whole organization of human nature, and both reason and holy writ, testify, loudly and incon-

testibly, that we mortals on this side the grave are referred solely to the visible world, and by no means to the world of spirits; he, therefore, who from curiosity seeks to learn either that which is concealed, or that which is future, commits a very heinous sin. Genuine faith and constant intercourse with God in Jesus Christ, unceasing watchfulness and prayer, and willingness to know nothing but Christ the crucified, places the human soul in rapport with God and Christ, through the medium of the Holy Spirit; and when we neither wish nor seek any thing else whatever, we are secure against every error and aberration: and should any thing supernatural manifest itself, we must continue calm, tranquil, and dispassionate, and examine minutely what the appearance is, and what is its object: but, in other respects, take no further notice of it: if it be of God, it will know how to legitimate itself, in such a manner as to make it impossible to be deceived; and if it be from the world of spirits, the Christian should know how to act on the occasion: I will lay down, in the sequel, the most proper rules of conduct for his government, in all cases of this kind.

I return to the object I had in view, which was the investigation of human nature, and its relation to the sensible world. There are a variety of diseases, which are ascribed to the nerves, and which act upon the etherial part, or luminous body of the human soul; and when such an individual possesses a lively imagination, incomprehensible things frequently occur. It often happens that such persons do not feel themselves ill; all the vital functions pursue their course unhindered and without pain; and yet these appearances result from a disordered organization of the body, and consequently form a disease.

These individuals see such appearances, either in a waking state, so that they are fully conscious of every object, and of themselves also, or else they are out of themselves, fall into a trance, and thus into magnetic somnambulism, in which state they see those appearances. But here arises the difficult question, where do those appearances cease, which are merely founded in the nature of man, and where do those commence which have their origin in the invisible world?

It is possible for a person in the state above mentioned to see angels and spirits; he may have intercourse even with God and Christ, and yet all this be a mere delusion of the imagination, for they are only images, which were previously formed in it, except that, by disease, they a.e become equally as lively, as those which we receive through the outward senses. I knew a pious female, who, in her trance, was surrounded with angels and conversed with them too. At length the angels began to sing, the pious soul sung with them, and what was it? A miserable ballad-singer, and a common national air. Persons in this diseased state often speak, with so much wisdom and understanding, upon subjects of which they were thought to possess scarcely the initial knowledge, that is really astonishing; and if they be pious and awakened people they often preach, and that better too, than many a right reverend divine. We have instances on record, of men having travelled about the country, preached repentance, and awakened many from a sleep of sin; and yet all this was the result of a nervous disorder, and of a natural elevation, produced by magnetic sleep.*

I willingly allow, that eternal love can make use, even of this means, to bring sinners to repentance; but it must not be regarded as any thing divine, nor as the inspiration of the Holy Ghost; for in this case, the greatest errors may result from it. It is to be lamented, that these extraordinary preachers, from want of sufficient self-knowledge themselves, believe that the Holy Spirit speaks through them; and when their hearers believe it likewise, however many erroneous things the preacher may say, they are all regarded as the word of God, and therefore as true. On such occasions, every thing should be minutely and rigidly examined by the Word of God and sound reason; but, in other respects, no value should be attached to these things, much less ought they to be declared divine; we ought rather to seek to cure such persons in a regular manner.

The highest species of apparitions, which have their foundation in human nature is, incontestibly, when a person still living can show himself in some distant place. However much this may have been ridiculed as the most absurd superstition, yet so certain and positive are the facts narrated, that the matter is placed beyond a doubt; and many of my readers will probably remember some incident or other of this kind. I do not speak here of such apparitions as have shewn themselves, immediately after death, to some particular friend, but of those that have made such a visit, whilst the individual still animated a living body. Instances are known to me, in which persons who were sick were seized with an indescribable longing to see a certain friend; they soon after fell into a swoon, and during the time, they appeared to the distant object of their longing. But the following narrative exceeds all I ever read or heard upon this subject; it comes from a credible source, and possesses all the characteristics of historic veracity.

About sixty or seventy years ago, a man of piety and integrity arrived in Germany from Philadelphia, in North America, to visit his poor old parents, and with his well-earned wealth to place them beyond the reach of care. He went out to America whilst he was still young, and had succeeded so far as to become overlooker of various mills on the Delaware river, in which situation he had honourably laid up a considerable sum. This respectable individual related to one of my friends, upon whose veracity I can depend, the following wonderful tale.

In the neighborhood of Philadelphia, not far from the mills above mentioned, there dwelt a solitary man in a lonely house. He was very benevolent, but extremely retired and reserved, and strange things were told of him, amongst which were his being able to tell things that were unknown to any one else. Now it happened, that the captain of a vessel belonging to Philadelphia was about to sail to Africa and Europe. He promised his wife that he would return again in a certain time, and also that he would write to her frequently. She waited long, but no letters arrived: the time appointed passed over, but her beloved husband did not return. She was now deeply distressed, and knew not where to look for counsel or consolation. At length, a friend advised her for once to go to the pious solitary, and tell him her griefs. The woman followed his advice, and went to him. After she had told him all her troubles, he desired her to wait awhile there, until he returned and brought her an answer. She sat down to wait, and the man opening a door, went into his closet. But the woman thinking he stayed a long time, rose up, went to the window in the door, lifted up the little curtain, and looking in, saw him lying on the couch or sofa like a corpse: she then immediately went back to her place. At length he came and told her that her husband was in Lon-

* Our author gives a remarkable example of this in his "Theobald, or the Enthusiasts," inserted in No. 1 of the "Instructive Narrations," page 131—recently published.

don, in a coffee-house which he named and that he would return very soon: he then told her also the reason why he had been unable to write. The woman went home pretty much at ease.

What the solitary had told her was minutely fulfilled, her husband returned, and the reasons of his delay and his not writing were just the same as the man had stated. The woman was now curious to know what would be the result, if she visited the friendly solitary in company with her husband. The visit was arranged, but when the captain saw the man, he was struck with amazement; he afterwards told his wife that he had seen this very man, on such a day, (it was the very day that the woman had been with him), in a coffee-house in London; and that he had told him that his wife was much distressed about him; and that he had then stated the reason why his return was delayed, and of his not writing, and that he would shortly come back, on which he lost sight of the man among the company.

This most singular narrative, which is totally inexplicable and incredible, according to the common system of materialism, can be explained only according to my theory of human nature, and its possibility demonstrated. For this purpose, I must refer to the indubitable facts, for which we are indebted to animal magnetism.

It is now an evident and established truth, that there is, in the human frame, a subtle luminous body, an ethereal covering of the immortal rational spirit, which has undeniably manifested itself in magnetism, galvanism, electricity, and in sympathy and antipathy, and shewn itself operative in a variety of ways: with this body the rational spirit is eternally and inseparably connected. In the foregoing pages, I have denominated this eternal luminous body, the human soul.

This human soul, by an artificial stroking or magnetizing, can be detached from the nervous system in a numberless variety of degrees, and become a free agent, according to the extent of the degree of detachment; certain diseases, and likewise certain medicines, or rather poisonous plants, are capable of producing the same effect.

In the inferior degrees of this detachment, consciousness remains, but the imagination is more lively, so that the man believes he really sees and hears what he merely imagines.

Natural sleep is also one species of detachment. When the organic machine of the body or rather the nerves, become wearied to a certain extent, the human soul forsakes these organs, in so far as they belong to the senses; for, from the latter alone proceeds our consciousness of the visible world; the soul, however, continues to act of itself; and if this take place in so lively a manner, as to make an impression on the inward organs of sense, we then remember it on awaking, and call it a dream.

This detachment is some degrees more complete in the common sleep-walkers, and has a similarity to magnetic somnambulism: in this case the human soul acts more freely, it dreams more connectedly and distinctly, and to such a degree, that the nervous system, and consequently the body also, is set in motion, although the senses are all at rest; and as the man in this state is not actuated by the sensible world, but by the connexion of ideas in the soul, actions ensue which do not belong to the natural order of things: but these very actions, as every one knows, are much more perfect in themselves, than when performed in a wakeful state; from whence it is again evident, that the human soul, when delivered from the bonds of the body, can act much more freely, perfectly, and actively; it then neither sleeps nor slumbers, nor is wearied any more for ever.

In the common fits of hypochondriacal and hysterical persons, as also of those who are afflicted with worms, the degrees of detachment are likewise very various, consequently the exhibitions and actions also which proceed from them; but at death it is complete. Of this I will treat at large in the chapter on apparitions.

It is, therefore, an incontestible experimental truth, that the human soul can be detached in an infinite number and variety of degrees, even to entire separation from the body, and is able to act freely of itself, according to the degree of this detachment.

There may be those to whom this detachment is a very easy matter, and assisted by secret means, may even be carried so far, that the human soul leaves the body for a short time, performs something at a distance, and returns to the body again: but this, however, must take place in a very short time, before the blood loses its fluidity. We have several instances of the occurrence of this in diseased persons. I will now explain, according to my theory, this rare and most remarkable phenomenon, with reference to the American instance above related, which is the most perfect of its kind.

When the soul is in a state of detachment from its sensitive organs, whilst still in the body, consciousness of the visible world ceases, so long as the detachment lasts; the soul, however, lives and acts in the sphere of its knowledge, and enters, at length, by frequent repetition of this state, into connexion with the world of spirits; it is no longer sensible of any thing in the visible world; it sees and hears no one except those with whom it is placed in rapport, which is accomplished by bringing the physical atmospheres of both into contact with each other, according to certain laws. With such persons the soul can have intercourse and converse, and from them it learns what is passing around it in the visible world at the time.

Now, supposing the American above-mentioned, possessed the capability, either from nature or by some secret means, or by both, to detach his soul at pleasure, entirely from the body, and unite it again with the body. he could therefore place himself in a state of the most perfect somnambulism; by the phenomena and experiments of which, every thing must now be explained. His soul, therefore, forsook its body, with the will to ask the captain of his protracted stay and of his not writing. As soon as it left the body, it was no longer sensible of any thing in the material world, and was in the world of spirits, where no space can separate. The moment, therefore, the soul forsook the body, it was already in London with the captain of the vessel: and if he had been in China, or any where else, its magic will would have carried it thither.

The human soul, abstractedly considered, is invisible, it is not obvious to the senses, but it can make itself visible in two ways: 1st, by attracting atmospheric substances, and forming out of them a body like its own; and 2dly, by placing itself in rapport with the person to whom it wishes to appear. In the former case, it may be seen by many persons; but then every one perceives that the apparition is no human being, but a spirit; in the latter case, it is only visible to him, with whom it stands in rapport, by acting in such a lively manner on his soul and organs of sense, that he sees the person before him as clearly, as if he were present in his own body. This remark I shall also subsequently elucidate, very clearly and completely, in the chapter on the apparition of spirits.

THE NERVOUS INFLUENCE.

EFFECTS OF THE NERVOUS INFLUENCE ON THE CHARACTER OF THE ANIMAL CREATION.

The part of our nature which is most especially the object of the present hypothesis, may be called the *animal* character of man, for it consists of all the natural passions, feelings, and inclinations, and of the faculties which operate chiefly by means of the nervous action. These, in a greater or less number, are also possessed by animals, to whom we cannot deny some of our feelings and faculties without opposing the evidence of our senses, nor refuse the possession of an immaterial principle, without incurring so far the charge of materialism. Their mental powers are certainly much fewer in number, and the highest faculties, such as the imagination, the reasoning faculty, and also the capability of forming abstract ideas, are in my belief, totally wanting, as well as the moral sense. But we must allow them the faculties of perception, memory, and even judgment, as far as it can be formed by personal experience; and indeed many brutes are more particular than their superiors in profiting by their own experience.

The influence of the nervous action on the character, is more plainly discernable in the animal, than in the human subject, because in their case it is not counteracted by the operations of the intellect.—This influence, however, is greatly moderated by domestication, for rational control changes the violence of the ardent temperament to a disposition at once generous and docile, and the sullen obstinacy of the phlegmatic temperament into a mild and patient tractability: a wise education has a similar influence on man, and when he is afterwards left to the control of his own reason, he finds his animal character as obedient as a generous courser to the direction of a steady and temperate master.

GENERAL CLASSIFICATION OF THE BRUTE CHARACTER.

In the animal creation, each temperament prevails through a whole species, excepting in the higher orders, as the horse and the dog. Generally speaking, birds are of the ardent temperament, fishes of the phlegmatic. and quadrupeds of both. Among the latter, I believe we shall find that the ardent temperament includes the whole feline tribe, the ape kind, the deer, the hare, the fox. The horse is of two distinct temperaments as well as man, shewn in the Arabian and Flanders breed, and it is to be remarked, that this animal bears a striking resemblance to him, in point of nervous constitution. The phlegmatic temperament includes the ass, the sheep kind, bovine tribe, the boar kind, the sloth, hippopotamus, rhinoceros, camel, etc., and I believe all amphibious animals. The elephant must be added, though endowed with a degree of acuteness that seems to entitle him to a place in the opposite constitution, but this results, I should suppose, from the possession of the highest degree of judgment that is compatible with the brute nature. In this I consider him as far superior to the ape, whose talent chiefly consists in the power of imitation.

GENERAL ADVANTAGES OF THE ARDENT TEMPERAMENT.

In the brute creation, the ardent temperament is distinguished by more beauty in the form, more generosity in the feelings and more acuteness in the senses and faculties, the brilliancy of the eye, the slenderness of the figure, and the grace and even elegance in the form and movements, with which their natural agility is frequently combined, places the finest animals in this class. With respect to men, many circumstances which I shall presently notice, serve to balance the advantages of the two temperaments.

EFFECTS OF THE NERVOUS INFLUENCE ON THE CHARACTER OF MAN.

It might be supposed that the natural character would be best exemplified in *uncivilized* man, for civilization diminishes the violence of the mental feelings, and often gives them an artificial direction; but I do not look upon a savage as a being in a natural state, but rather as one sunk *below* it, whose mind is clouded by error, which I apprehend is the invariable consequence of ignorance: the errors of the mind have the effect of perverting the natural feelings.—I therefore prefer examining the particular effects produced by the nervous influence upon the character of civilized man. It will only be necessary to describe the very marked characters which form the extremes in each class: the gradations may easily be supplied by the imagination.

CLASSIFICATION.

In enumerating the various combinations of the mental and physical qualifications with the two temperaments, I shall class them under the four following heads: 1st, the strong intellect combined with the ardent temperament; 2d, the same united to the phlegmatic temperament; 3d, the weak intellect combined with the ardent temperament; 4th, the same united to the phlegmatic. I shall name the talents, virtues and vices that seem to be the most usual attendants of each temperament, but it must be observed that I do not consider any quality of the heart as *necessarily* belonging to either: we may discover, by the general appearance of the feelings and faculties, to which temperament an individual belongs, but we cannot decide which qualities he actually possesses from a knowledge of his *temperament*, for if his disposition is good, he will have the virtues which most naturally belong to it: and if his disposition is bad, he will have its vices; with regard to the talents, however, we can draw more certain inferences.

ARDENT TEMPERAMENT.—GENERAL MENTAL AND PHYSICAL CHARACTERISTICS.

In marked characters this temperament is generally distinguished by darker hair and complexion than usually belong to the phlegmatic temperament. The shape of the head being dependent upon the degree of intelligence, and not on the temperament, we shall find that the developement of the pure intellectual faculties give an *oval form* by enlarging the upper part of the brain, while, on the contrary, the increased action of its inferior portion give a *round form* to the skull. But the former is more frequently met with in the ardent than in the phlegmatic temperament; and the lofty brow, combined with the dark and brilliant eye, and sensible and animated countenance, oftener give external indication of talent. United to the firm fibre, the form is generally undersized, compact, vigorous, and active. With a lax fibre it runs into heighth, but never into breadth. The best singers, musicians and dancers are found in this temperament, owing to the strength and perfection of the nervous organization. The senses are more acute and the susceptibility of pain is much stronger, in the ardent than in the phlegmatic temperament.

TALENT.

Before I mention the *mental* qualifications that belong to the temperament, I must define my notions respecting talent: when the mental powers are above the ordinary standard, we give the name of ta-

lent to this superiority: in examining the mental phenomena resulting from the difference of the temperaments, I have found that talent is of two kinds: the one has its source in the strength of the *pure intellect:* the other in the vigour and energy of its agent the *brain.* The first is general in its effects, and displays itself in every operation of the mind: the other shews itself more in some faculties than in others, and is considerably influenced by the peculiarities of the physical constitution.* The union of the two kinds of talent increases the perfection of each, owing to the assistence which one derives from the other. It is, in my apprehension, the combination of a strong intellectual power with a vigorous cerebral action that produces *genius.* Strength of intellect may be found in any constitution, but the talents that result from the activity of the nervous system must be sought in the ardent temperament.

MENTAL POWERS.

The energy of a well constituted brain gives quickness to the perception, liveliness to the imagination, and facility to the operations of the memory: it is therefore the ardent temperament that exhibits these powers in the greatest perfection.

With respect to the feelings, their distinguishing character is warmth and generosity, usually accompanied by irascibility of temper, which is greatly increased by every morbid affection of the nervous system.

THE ARDENT TEMPERAMENT COMBINED WITH A WEAK INTELLECT—INTELLECTUAL CHARACTERISTICS.

Deficiency of intellect, when combined with the ardent temperament, does not bear the appearance of stupidity, in which it differs totally from the same combination in the phlegmatic constitution. We must even beware of being deceived by the quickness and facility which the perfection of the nervous action gives to the performance of many mental operations, and remember that the test of a good understanding is in the *reasoning faculty.* Sound arguments alone can shew a sound intellect. The power of reasoning well may lie latent, from the want of knowledge, or be overpowered in certain cases by the inordinate action of the feelings: but where it is constitutionally deficient, its absence is observed at all times, for that which has no existence can never be developed.

DISADVANTAGES RESULTING FROM WEAKNESS OF INTELLECT AND STRENGTH OF FEELING.

The distinguishing characteristic of a weak intellect combined with an ardent temperament therefore, is a *natural* want of judgment; which is more injurious in its effects than the stupidity of the phlegmatic character: for in the latter case, the individual often acts with great propriety, by following established usages, and by profiting from experience to a certain degree. Of all mental constitutions that which unites *weakness* in the immaterial principle, and *strength* in the nervous action, is the least calculated for its own happiness, or that of others; for it is subject to the greatest excess and variety of painful sensations, both mental and bodily, with the fewest means of defence, that is, with the smallest share of firmness to control one, and of patience to allay the other. The mutability of the human feelings also, is particularly manifested in this character.—Steadiness depends more upon the regulating power of the immaterial principle, than upon the nature of the feelings themselves—if the impulse of the present moment is habitually obeyed without reference to a settled line of conduct, no dependence can be placed on the principle or affections: changeable in their direction as the waves of the watery element, without solidity, without a fixed foundation, the affections of a weak mind are at the mercy of every gale that blows: if the tide turns it flows perhaps as strongly in an opposite direction, and the bitterest hatred succeeds the tenderest love. In short instability is the characteristic of *mere* feeling. Maternal love alone forms an exception: *this* lies imperturbable in the hidden depths of the human heart, beyond the reach of the warring elements that disturb the surface: some instances may seem to contradict the general assertion, but the character is unnatural, and our subject of analization is the mind in its *natural* state. The strongest minds are not always exempt from mutability, for it is not the *positive* quantity of the intellectual power, that gives it preponderance in the mental government, but its proportion to the strength of the passions. We frequently find therefore that an individual of ardent temperament pursues his object with more eagerness but less perseverance than one of a phlegmatic temper, his opinions are more decided, but more subject to alteration, and his resolutions are more hastily formed and more readily abandoned. With respect to the deficiency of judgment so frequently observed in this constitution. it is hardly necessary to mention that a shallow intellect with strong feelings, is of all characters the most liable to the formation of erroneous opinions, for each defect is a distinct source of error. The errors which result from the weakness of the mind may be traced 1st, to an incapability of taking a general and extended view of things; 2d, to a liability to be deceived by external appearances; 3d, to a limited power of acquiring knowledge and of applying judiciously what *is* acquired. Those which are the consequences of immoderate activity in the sensitive department are to be traced: 1st, to hastiness of decision; 2d, to the formation of strong prejudices; 3d, to the habit of judging of the feelings of others by our own, Knowledge and experience are indispensable to an individual of this temper, so liable to err, so often blind to his own failings, and so exquisitely susceptible of suffering from their evil consequences.

MENTAL POWERS.

The mental qualifications that may be found in conjunction with a moderate intellect and a good nervous organization are, a quick perception and ready memory; and a higher degree of intellect may be accompanied by a lively imagination. From the rapid flow of ideas, result fertility of invention, humour and drollery: from the readiness of the memory, a facility in learning languages: and from the combination of a quick perception with muscular dexterity, result ingenuity, a power of imitation, and an aptitude for the acquisition of brilliant accomplishments.

THE FEELINGS.—GOOD QUALITIES.

The good feelings most frequently found in the ardent temperament, combined with a moderate or inferior intellect, are the following: warmth of the heart, frankness and openness of temper, unsuspiciousness, liberality and disinterestedness, charity, zeal and activity in the service of others, animal courage, an absence of selfishness, a hospitable and friendly nature, strong domestic affections, and frequently an agreeable liveliness of disposition.

* The *acuteness* of animals, which is distinct from the involuntary impulse we call *instinct,* is derived exclusively from this source; and the wonderful sagacity displayed by some brutes may be traced to the perfection of the cerebral action, which gives a certain degree of power, quickness, and correctness to their limited faculties.

EVIL QUALITIES.

Irascibility, impatience, petulance, inequality of temper, fretfulness, imperiousness, caprice, vanity, curiosity, indiscretion, loquacity, credulity, rashness, impetuosity, imprudence, extravagance, levity, irresolution, fickleness, jealousy, a morbid degree of sensibility, and violence of predilection and antipathy. In general the feeble mind displays more irritability of feeling than strength of passion, for great passions indicate a certain portion of energy in the mental power.

THE ARDENT TEMPERAMENT COMBINED WITH A STRONG INTELLECT.

It is in this class that we find the highest degree of *intellectual* perfection, for both the material and immaterial principle contribute to the production of the talents. A high degree of *moral* perfection, though not incompatible with this character, is far from being its natural attendant, because the sensations are as powerful in proportion, as the rational powers, and are therefore as difficult to control as the weaker passions of a weaker mind. Here we must seek for the great virtues and the great vices that belong to our nature.—All is upon a great scale: the passions are impetuous, and the will is determined whether it acts in opposition or in obedience to the sensations. To such a mind sound religious principle is indispensable—secure upon this foundation, it can remain firm and immoveable as a rock; the feelings and passions may assail it with the force and fury of the troubled waves, but they will be broken and dispersed by the shock: while the great intellect that yields to the temptations by which it is beset, presents the melancholy spectacle of a strong and beautiful vessel borne down by the raging billows, and finally overwhelmed in the deep abyss.

PHYSICAL CHARACTERISTICS.

The physical character is usually very strongly marked, for it receives additional expression from the energy of the mind. The external form may be more or less influenced; but the air, the manner, and the countenance are always illuminated by the intellectual fire that burns within. The complexion is most frequently pale, and the appearance either interesting or commanding.

THE FEELINGS.—PASSIONS.

The passions of anger, love, hatred, jealousy, and vindictiveness are, when felt, more violent and impetuous in this character than in the former. Wrath and vindictiveness, though more terrific in their effects, are more temporary in their duration, if the understanding be sound. Of all passions ambition, in some shape or other, is the most deeply rooted, and the most natural to this constitution of mind.

EVIL QUALITIES.

Irascibility, impatience, irritability, variableness, and violence of temper, want of prudence and moderation: in some cases eccentricity, fastidiousness, discontent, ardour of pursuit, followed by weariness and disgust.

GOOD QUALITIES.

Magnanimity, generosity, courage, and intrepidity, candour, liberality, sensibility, true dignity, elevation, refinement, and delicacy of sentiment, determined resolution, heroic self-devotion, a high sense of honour and spirit of independence, noble enthusiasm, love of glory, ambition of excellence, charity, and piety, pure and ardent, and exempt from superstition and bigotry.

INTELLECTUAL CHARACTERISTICS.

Strength of intellect combined with vigour in the cerebral action, gives the quickest perception, the strongest memory, and the highest power of the imagination. From the rapid flow of ideas compared, combined, and analysed by the mind with quickness and extraordinary facility, result wit, originality, and readiness of invention; keenness of observation, and a restless spirit of investigation usually attend it. To this class belong the greatest poets, wits, and orators; some of the most valiant heroes and mighty conquerors, and many of those whose crimes and splendid actions fill the pages of history: in short all the extremes of the human character are found in this temperament. As the power of judging correctly does not only depend upon the strength of the understanding, but also on the capability of taking a cool and dispassionate view of things, the greatest mental powers when united to the ardent temperament are often insufficient to secure the judgment from failure in points that deeply interest the feelings. Strong minds are therefore liable to error and prejudice when their sensations are equally strong; but their prejudices, unlike those of weaker intellects, are *removeable*: for when the feelings are hushed, the reason resumes her empire. A change of opinions in this case does not therefore shew the fickleness of a volatile temper, but the candour of an enlarged understanding; while the tenacity of weak minds is a mark, not of firmness, but of obstinacy.

FORMATION OF OPINIONS IN THE TWO TEMPERAMENTS.

With respect to opinions, the ardent temperament in combination with every degree of mental power is apt to run into extremes: thus the weak mind is given to bigotry and superstition, while the strong intellect, though susceptible of the most exalted sentiments of piety, sometimes displays the coldest scepticism. This difference in the effect is partly attributable to the natural timidity of a weak mind, and the natural fearlessness of a strong one; the martyr and infidel must both possess mental courage; the trembling bigot yields to feeling, without venturing to consult the reason. The scepticism of a *phlegmatic* temper often arises from indifference, which prevents all examination of a subject, or from pride, which will not allow us to believe what we do not comprehend. The doubts of the opposite temper frequently spring from a morbid fear of being deceived, and these are more easily dispelled, because they are attended by a spirit of investigation.

SPECULATIONS OF PHILOSOPHERS.

It seems strange that the noblest powers of the mind should give birth to the most extravagant notions, and yet it is the kind of intellect now described that produces the wildest hypotheses, and most irrational systems. This is also attributable to the want of moderation that naturally drives a brilliant intellect to the extreme point in every theory. Indeed, the energy of the nervous action sometimes gives such a force to the imaginative faculty that it entirely overrules the judgment, and in such constitutions a morbid state of the brain not unfrequently brings on insanity.

PHLEGMATIC TEMPERAMENT—GENERAL MENTAL AND PHYSICAL CHARACTERISTICS.—MENTAL POWERS.

The distinguishing characteristic of the temperaments, considered independently of the influence of the pure intellect is, talent in the ardent, and dullness in the phlegmatic temperament. Whatever share of talent is possessed by the latter must be derived entirely from the active powers of the intellect;

for it obtains little or no assistance from *nervous energy*. A deficiency of intellect in the phlegmatic temperament must therefore produce absolute stupidity. The first gradation above stupidity displays a plain, straight forward understanding, entirely destitute of imagination: this forms the class of the *ennuyants*. The next degree shews good sense, with a quicker perception, and a more lively imagination; but still the operations of the intellect are slow, and performed with difficulty, owing to the sluggishness of the brain, and the weakness of the memory. As we advance, the feebleness of the mechanical action is compensated by the increase of the intellectual power: its highest degree of perfection shews a clear understanding, a sound judgment, an acute discernment, strong powers of reasoning, and a mind vast and comprehensive, noble and elevated. Here the habit of methodizing and analyzing assists the memory; the systematic arrangement of the ideas aids the reasoning faculty; the absence of passion gives correctness to the judgment; and the coolness and deliberation with which all the mental operations are performed give clearness to the discernment. Nevertheless the brilliancy of talent displayed in the ardent temperament cannot be attained in the phlegmatic; for, supposing the powers of the intellect to be equal, the latter must always lack the fire and energy which give force and rapidity to the operations of the former.

FEELINGS.

As the two temperaments are characterized by *quickness* in the one and *dulness* in the other, in the department of the talents, so they are distinguished by *warmth* and *coldness* in the department of the feelings. This only refers to the animal character; the operation of the intellect restrains the one, and rouses the other. In the phlegmatic character the sensations are more under the control and direction of the intelligent power, and the conduct is more easily regulated than in the ardent temperament; consequently the most *faultless* characters generally belong to this class. Nevertheless I consider the balance of moral evil as laying on this side; for though the errors are fewer, they are more excusable, not only because the faults do not admit of such palliation from the natural violence of the sensations, but also because they are derived from a worse origin, viz *selfishness*; and from this foul source proceed the most evil feelings of which our nature is susceptible. Let us examine in what manner it forms part of the animal character of man, how far it is innate, and why it is more usually the attendant of the phlegmatic than of the ardent temperament.

ELECTRO MAGNETISM.

ATTRACTION AND REPULSION.

BY P. CUNNINGHAM, ESQ.

REFLECTION AND REFRACTION.

It may be inferred that the particles of nitrogen and oxygen constituting the atmosphere have, like other bodies, electricity or magnetism occupying their upper or their lower poles, according to the hemisphere in which they are situated. Thus in the northern or electric hemisphere, magnetism will occupy their lower poles and electricity their upper, while in the southern or magnetic hemisphere the reverse will be the case: an atomic polarity which the attractions and repulsions of the above hemispheres must necessarily tend to sustain through every varying atmospheric change. Supposing the atmosphere at rest, the particles thereof would, by the position of their attractive and repulsive poles, become united to each other in a longitudinal line, extending like radii from the earth toward the heavens, with the magnetic pole of one particle in attraction with the electric pole of the other; and by the circumference of the circle described by them toward the heavens being the *largest*, the atmosphere would thus be progressively diminished in density as this *outer* circle was approached. The progressive diminution of atmospheric density as we recede from the earth, as well as the phenomena of atmospheric refraction, favour this view of atmospheric arrangement, the rays of light and heat radiated at an angle from the sun to the earth being bent *inwards* towards the perpendicular, while those radiated from the earth toward the heavens are bent *outwards* from the perpendicular, a course that naturally would be given them on coming in contact with any of these atmospheric lines, to be deflected thereby and pass between two of them *to* or *from* the earth. There is nothing in this view militating against the passage of these rays in a tranverse direction between the atmospheric lines, or even between the particles composing them, which they evidently do: the above view only applying to those radiating particles of heat and light striking against the atmospheric particles instead of passing between, and being thereby deflected along the lines which they form.

The only visible difference between reflection and refraction is, that the former is applied to the effect produced upon the rays of light and heat by the particles of bodies which they *cannot* pass between, and the latter to the same effect produced by the particles of bodies which they *can* pass between; the angles of both reflection and refraction being the same, and the cause of both the same also, viz. the coming in contact with a substance they cannot penetrate, and which consequently alters their course. The usual zig-zag course of lightning in the atmosphere, when attracted by bodies, while showing its affinity to light and heat by its angular refractions, illustrates also in a visible way the refractions of the above bodies, when meeting with other bodies sufficiently powerful to obstruct their course toward the body which attracts them.

The lesser refrangibility of the sun's electric rays than of his magnetic may be owing to the greater *velocity* of the former, caused by the greater repulsion from the sun, or their greater attraction by the bodies toward which they were moving; by which greater velocity they would *more* readily force their way through the atmospheric lines, and be thus *less* readily refracted. This greater velocity from solar repulsion may be easily supposed to exist from the sun evidently containing more electric than magnetic matter, as evinced by his rays uniformly exciting the sensation of heat; while the velocity from attraction by other bodies may be accounted for by all bodies within his sphere containing *less* electric matter than him, and therefore having a greater attraction for this than for his magnetic matter.

MUSIC AND SOUND.

Notes of music seem but mere undulations of sound, so modulated as by the harmonious variety of their changes to keep the animal body in a constant state of pleasing agitation,—now kindling up into a wild delirium of joy, now melted into tears, and now plunged into the abyss of melancholy, according as the exciting or depressing tones predominate That these feelings are produced by the electro-magnetism in the atmospheric undulations seems consonant to reason, from the similar sudden excitements and depressions which electric sparks

produce in the animal body; though by their suddenness, greater intenseness, and want of variety, are necessarily of a disagreable rather than of a pleasing nature.

In excursions indeed to the top of mount Etna, sounds have been heard sometimes meltingly musical, and sometimes hoarse and discordant, doubtless caused by the electro-magnetic currents issuing through the volcanic crevices of the mountain.

People of nervous temperaments, and consequently most excited by electric impressions, are also most excited by music; while those most subject to an overflow of spirits, are also most subject to the greater depressions thereof; as an inanimate substance which receives atomo-electricity quickly, in haste parts with it. Sound varies in its influence upon the feelings, according to the varying magnitude of the atmospheric oscillations, and therefore according to that of the bodies causing these: the musical notes of small strings or small flutes, being as lively and exciting as those from large are mournful and depressing, while the sound of small streams and the notes of small birds afford a similar contrast with those that are large.

The larger indeed the animal, the more discordant in general the voice, with the exception of that of a man, which by a system of judicious training he has been enabled to modulate to every musical cadence.

By analogy with the motion of fluid and gaseous bodies (such as exhibited by the moving water from a pipe, or the moving smoke from a gun barrel,) I would infer that sounds are produced by rotatory oscillations in the air; these oscillations being in all likelihood spiral from wind instruments and axillary from stringed, at least such would be the species of atmospheric motion most likely to be excited by the above different oscillations.

The denser the air, the more powerfully are these oscillations excited; and the stiller it is, the greater the distance to which they are excited throughout it. In the dense moist atmosphere preceding rain, and in that toward the poles, sounds of all kinds are powerfully conducted; while along the beds of woody banked streams, they are sometimes heard echoing throughout their various windings, for miles, in calm evenings, with all the pleasing modulations of a flute.

Similar feelings to the above are experienced by the viewing of large or small objects: the contemplation of vast prospects, however harmonious the groupings, exciting at first glance a sensation of awe, while that of similarly constituted small ones excite sensations of a pleasing exhilarating nature, varying as the prospect varies over which the eye roams.

REVOLUTIONS IN THE EARTH.

The changes effected in the structure of the earth since its formation may, I conceive, be all accounted for by causes operating within itself, without reference to extraordinary external agency. It seems indirectly borne out, by phenomena yearly demonstrated, that the external crust of the earth only is solid, and that the internal part is filled with fluid or gaseous bodies; for how otherwise could even modern earthquakes so easily effect such wonderful change in its surface, heaving up its solid parts at one place from the bottom of the ocean into goodly islands, and at another depressing the dry land beneath the surface thereof? or sinking it down in interior regions, until deep and extensive lakes occupied its former site, while causing the whole superfices influenced by the shocks to quiver and undulate like the waves of the sea.

Such proofs are still frequently witnessed in both hemispheres; but the western coast of South America exhibits on the grandest scale what has been effected in this way during no very distant periods. From Conception (Chili) in 37 South latitude, to Tumbez (Peru) in 3 South latitude, a distance of 2000 miles, the coast for an average of 70 miles interiorly, bears incontestible marks of an elevation comparatively recent, many of these elevations contiguous to the sea having even been effected since the Spanish conquest. The clay soil has the appearance of that burnt in England for manure, and in some of the dry narrow ravines emits an odour like new burnt bricks, while beds of shells are found at intervals of the identical varieties at present existing in the neighboring ocean, in too vast quantities and at too great a height to admit their deposition there by any other cause except sudden elevation along with the bed of the sea. Where they are imbedded in clay or sand they are semi-calcined, frequently crumbling between the fingers like slaked lime; while imbedded in the stony strata, they are more or less vitrified and united firmly with the rock; the solid nature of the latter enabling it to conduct the subterraneous heat more powerfully than the sand or clay, and therefore vitrify the shells with which it was intermingled.

The geological strata in the different hemispheres which I have partially examined, have all indicated by compass a medium N. N. E. and S. S. W. bearing; and in this line nearly I find all the earthquakes of both North and South America to have passed whose routes I have been enabled to trace; the two latest in Peru coming from the South, showing their causes to have been generated near the South Pole. Deeming their causes to be electro-magnetism, I conceive the latter to have been produced at the South Pole, as before exemplified, by the condensation of the fluid waters into solid ice; by which condensation the atomo-gaseous-electro-magnetism, if I may so term it, was converted also into fluid electro-magnetism.

That electro-magnetism is the cause of earthquakes, seems evident from the rapidity of their motion; from the countries in which they are common being composed of bad conducting materials, by which greater violence is produced in their passage; by their being most liable to occur after rain, when the conducting properties of the soil are somewhat improved; and by their resolving of the silver ores into pure metal, known by what is called, "the growing of a mine."

The greater mass, and consequently greater attraction, of the electro-magnetic girdle at the equator, will necessarily tend to draw the under electro-magnetism currents evolved at the poles toward the equatorial neutral line, assisted in this by the earth's rotation directing them upwards towards the earth's centre, while checked in their attempts to force a passage through the latter's superfices by the pressure of the electro-magnetic zone and atmosphere surrounding it.

These currents, when not in sufficient intensity therefore to burst out in shape of new volcanoes, would gain vent partly through the craters of old ones, but chiefly through the equatorial neutral line, out of which they would be whirled in successive streams by the earth's centrifugal force, if not previously forced to commingle with the electro-magnetic hemisphere to supply any loss of volume it might have sustained.

In the calm equatorial latitudes between the trade-winds, where the hemispheric neutral line must necessarily exist, electro-magnetic flashes and electric squalls and showers are almost incessant; corroborating in some respects the idea of the electro-

magnetic under-currents obtaining a passage here; while the idea of the pressure of the electro-magnetic zone and atmosphere enveloping the earth, preventing the egress of these currents from the latter's superfices, seems also borne out by the fact of volcanoes almost uniformly bursting forth from the highest and most peaked mountains, where the resistance opposed by the bodies must consequently be the least.

The idea of the earth's rotation throwing out the electro-magnetism by centrifugal force, is also similarly exemplified in the sparks elicited by the whirling of electro-magnetised bodies in the class room; an experiment demonstrating the *true* cause of the severe bodily injuries so often inflicted by what is called "wind of shot."

The motions of the electro-magnetic under-currents from the pole to the equator, heaving and cracking (even at the present day when sufficiently powerful) the earth in a northerly and southerly direction, give an idea how the geological strata were first formed. At early periods, when by evident proofs the earth was in a state of fusion, the first solidification would naturally take place around the poles, on account of the cooling process going on most rapidly there. This solidification would naturally operate in the same way as we see the solidification of water operate at the present day, by converting a portion of the atomo-electro-magnetism into mass, to be radiated upwards in the shape of aurora borealis, or directed in an under-current towards the equator.

As the cooling process proceeded, and the earth thus progressed toward a state of solidification, the action of the above under-currents, the earth's rotation, and the influence of the sun and moon, would all tend to give, by their joint efforts, a north and south bearing to the first strata in a semi-fluid state, which, solidifying by exposure, would serve as a nucleus for the other strata to incline against. The future electro-magnetic currents would be naturally attracted towards this more solid matter in their course, from containing more matter in less bulk than the fluid matter, as winds are attracted by contiguous shores, following often all the windings of their course; so, in the same way, each successive electro-magnetic current would follow all the windings of the coast of the first solid stratum, making successive additions thereto.

A westerly tendency would naturally be given to the various strata by the action of the sun and moon, by which those emerging on the eastern side of an older stratum would be inclined by a gentle slope against it; while those emerging on the western side would be either thrown up almost perpendicular, or projected into the sea, to be carried off in its current. The gentle sloping of eastern strata and of eastern shores, compared with the abrupt precipitousness of both strata and shores on the western coasts of countries, tend to strengthen the above view, which acquires a farther confirmation by the generally greater amount of land on the eastern than the western sides of the great dividing ranges of countries, more particularly South America, Britain, and Ireland, that have only one great dividing ridge.

As the cooling of the earth proceeded, its matter, thus becoming less and less fluid, would consequently be less and less capable of being projected to the height of the first strata: thus producing a diminution in altitude of the various strata which succeeded, and consequently of the mountains which they might form How the various strata should differ so materially from each other in their appearance, as well as in their chemical constituents, seems referable to the quicker or slower solidification of their matter. Granite, the oldest rock, is constituted of flint (the oxide of the metal silicium), found by Sir Humphry Davy to be the most difficult to deprive of its oxygen of all the metallic earths, and consequently the one having the greatest affinity for it. There being very evident proofs at the present day of the reduction of the metallic earth to pure metal in the earlier periods of the globe, consequently, the metallic silicium having the strongest affinity for oxygen, would, on the cooling of the matter of the globe, be among the first to become solidified by oxygenous absorbation, thereby causing it to be the principal constituent of the *first* formed strata.

The petrifaction of shells, wood, and animal fibre in many of the later strata of the globe, shows clearly the earths have been, partially at least, reduced to the metallic state during even late periods of the world's history. The shells being upon the surface would be less liable to reduction than the deeper-seated earths, like the silex; so that the latter in flowing outwards, by reason of its known great lightness, would in its hot fluid state come in contact with the oxide of calcium composing the shell, and by its greater affinity for oxygen seize that of the calcium, and becoming thus solidified assume the form of the shell, while the calcium flowed off in a liquid metallic state. Wood and animal matter also containing oxygen in their composition, this would be similarly attracted by the hot fluid silicium, and their other gaseous products dissipated thereby.

The above is indeed a process analagous to that exhibited at the present day in some of the copper-mines; where, by placing a bar of iron in the mine water, containing a solution of sulphate of copper, the iron gradually disappears, and a copper bar of similar form occupies its place,—there being only this difference between the two operations, that the *solid* here attracts the oxygen from the *fluid*. Gold also, a metal having a less affinity for oxygen than any of the others, is found principally among the earliest granite strata, and that in a pure metallic state; its weak affinity for oxygen admitting the latter to be easily abstracted from it: thus explaining why it abounds so in the primitive strata; because these solidifying first, on account of their greater affinity for oxygen, would naturally abstract this oxygen from bodies like the oxide of gold, that most easily parted with it.

The effects of the earth's centrifugal force (by reason of its axillary rotation) upon the elevation of the earth's strata, and of the greater intensity of electro-magnetic action in the early eras than now, are exemplified in the highest mountains being situated near the equator, where the earth's rotation, and consequently centrifugal force. is the greatest, and in the earliest strata having the greatest amount of active or extinct volcanoes in them, as well as exhibiting proofs of a greater state of liquefaction by the regularly-crystallized forms which they present.

The progressive extinction of volcanoes over the earth's surface, as well as the progressive imperfection of crystalline arrangement in the strata, according as we descend from older to later eras, pourtray the above progressive diminution of electro-magnetic energy in the earth; the late strata exhibiting in their constitution fragments of nearly all the earlier strata, agglutinated imperfectly together, in the same state of medley arrangement that we find in volcanic tufæ in the late strata of Peru: nodules of granite, quartz, iron-stone, and slate being all mingled in one chaotic mass together.

Are we to ascribe the lesser electro-magnetic intensity of late eras to a diminution of mass-electro-magnetism in the earth; or to such a change in the

solid crust thereof, as to make it a better conductor, and thereby enable the former to be more equalized as well as more easily transmitted throughout it? I conceive the latter to be most probable; otherwise the earth must have in earlier periods been farther from the sun than now, while the progressive addition to the solid parts thereof, since the solidification of the first strata, as well as the progressive amelioration of its soil, for the purposes of vegetable life, imply an easier transmission, and consequently a more general equilibrium of the mass-electro-magnetism throughout it.

We have a singular instance of the improvement of soils, by the sun's atomo-electro-magnetic rays, on turning the former up, and exposing them freely to the latter's salutary influence; and by inference, therefore, may we not conclude that the electro-magnetic currents beneath the earth's surface have long been exerting a similar salutary influence in ameliorating the soils there?

If such be the case, the now sterile unirrigated soil of Lower Peru may eventually become as fertile as it is now sterile, by the electro-magnetic currents gradually making it a better and better electro-magnetic conductor, and consequently a better rain attractor, by which it may be hereafter enabled to furnish food for the maintainance of a population as dense as that of older formed countries.

At the period of a semi-fluid stratum being suddenly raised from under the waters, the water elevated therewith would naturally in its backward descent evacuate hollow courses therein, to be afterwards still further enlarged by the continued action of the rains and winds; the *first* washing and the *second* blowing the loose particles of earth away, when in the latter case dried into dust. In Lower Peru, where rain rarely falls, the wind has been the main modifier of hills and valleys since their projection from the deep; and, judging by appearances, its potency in this way seems no way inferior to that of rain, the hills having sharp ridges, and as sloping outlines, and the valleys being as deep as the generality of those of rainy countries. No one who has travelled in Lower Peru, in windy weather, can indeed for a moment doubt the capability of the wind in effecting the above changes, when contemplating the blinding clouds of dust and sand that every where encounter him, hurled along the plains in showers, and whirled in eddies from the hills into the adjoining ravines, to be eventually blown out at the ends thereof, by the strong gusts rushing at intervals through them.

The land around Bahia (Brazil), presents a fine illustration of the mode by which rain torrents lengthen and widen valleys, and thereby shape out the form of the adjacent hills, the country (a table land of red clay) being moulded thereby into narrow tortuous ridges, with equally narrow and tortuous as well as deep valleys between, all communicating by gradually widening mouths with the sea. At the head of each valley the torrents in the rainy season open a myriad of small water-courses down the face of the declivity, which by successive enlargements gradually merge into each other, and thus continue onward the valley, fresh courses being always formed as the old ones disappear, while the main valleys progress into the country, smaller ones branching out from them to the right and left excavated by a similar process, drain the land out of their reach. None of these main valleys ever communicate with each other, though often approximating very close, ramifying through the interior of the country like an artery through the animal body, for equally beneficial purposes.

The influence of streams upon the modification of land in their vicinity, can, in a literal sense, be only applied to the actual extent of the beds in which their waters run. Where their fall is considerable, and their beds constituted of earthy matter or easily decomposed rocks, they will naturally *deepen* these beds; but where there is little fall, and their stream is consequently sluggish, they will be more disposed to *elevate* them, by the deposition therein of the alluvial washings from the higher grounds above, while the beds of those composed of more difficultly decomposible rocks, are so speedily covered with slimy mosses, as to counteract in a great measure the action of the most rapid torrents upon them.

The remains of tropical vegetation found in many of the European strata, show that the earth either approximated nearer to the sun, or contained more inherent heat formerly, than now, or that its poles have been changed since the existence of the above plants. The first could only have been the case in consequence of the earth containing less mass-electro-magnetism *then*, than *now*,—the second we can readily suppose from the marks of intense ignition which it exhibits; and as the cooling process would be naturally slow, the above tropical plants might have been produced when it contained a sufficiency of internal hot-bed heat to force them forward, while the *third* could only have been brought about by some comet suddenly approximating it.

If the general bearing of all the strata throughout the world is found to be much to the eastward or westward of north, a change of pole may be surmised; but should antediluvian tropical productions be found in the respective antipodean strata corresponding to this change, and more polar productions in those of the tropical latitudes, we may infer such a change to have occurred. Thus we find numerous remains of similar tropical plants (such as gigantic reeds and palms,) in the London clay and coal fields of England, and in the coal fields of her nearly southern antipodes New South Wales; but a more extensive comparison of the vegetable remains of the various latitudes of the earth must take place, before any just conclusion can be drawn. Should a change of pole be proved by the above means, this change was most likely effected by the moon in first approximating the earth as a planet.

On contemplating the various geological strata of our globe, we find that it has been subjected, since its first formation, to numerous overwhelming deluges and volcanic derangements, all increasing the extent of the habitable part thereof, destroying at the same time, and burying the whole of the living creatures occupying the sea and the land at each successive disaster, that a new and more perfect race might supply their place.

We see in each successive series of new animals the progressive aim of the Deity onward perfection, advancing from the most inanimate shell-fish of the early eras, to the more noble mammalia of the later, and thence to the last and greatest era, in which the noblest of all—man, was created. Seeing thus that our earth has undergone so many great changes, are we to conclude that the workings of the Almighty mind towards perfection, as regards us are finite? as the sacred writings warrant us in believing; or that we are to experience a similar annihilation, and a nobler race of beings created in our place,—burying, as it were, in a second Herculaneum all the magnificent structures in literature, science, and art, of which we now so proudly boast, leaving the succeeding new creation to work up hill, and in the dark, as we have done, until a similar magnificent fabric has been created, only to be subjected to the same inevitable catastrophe?