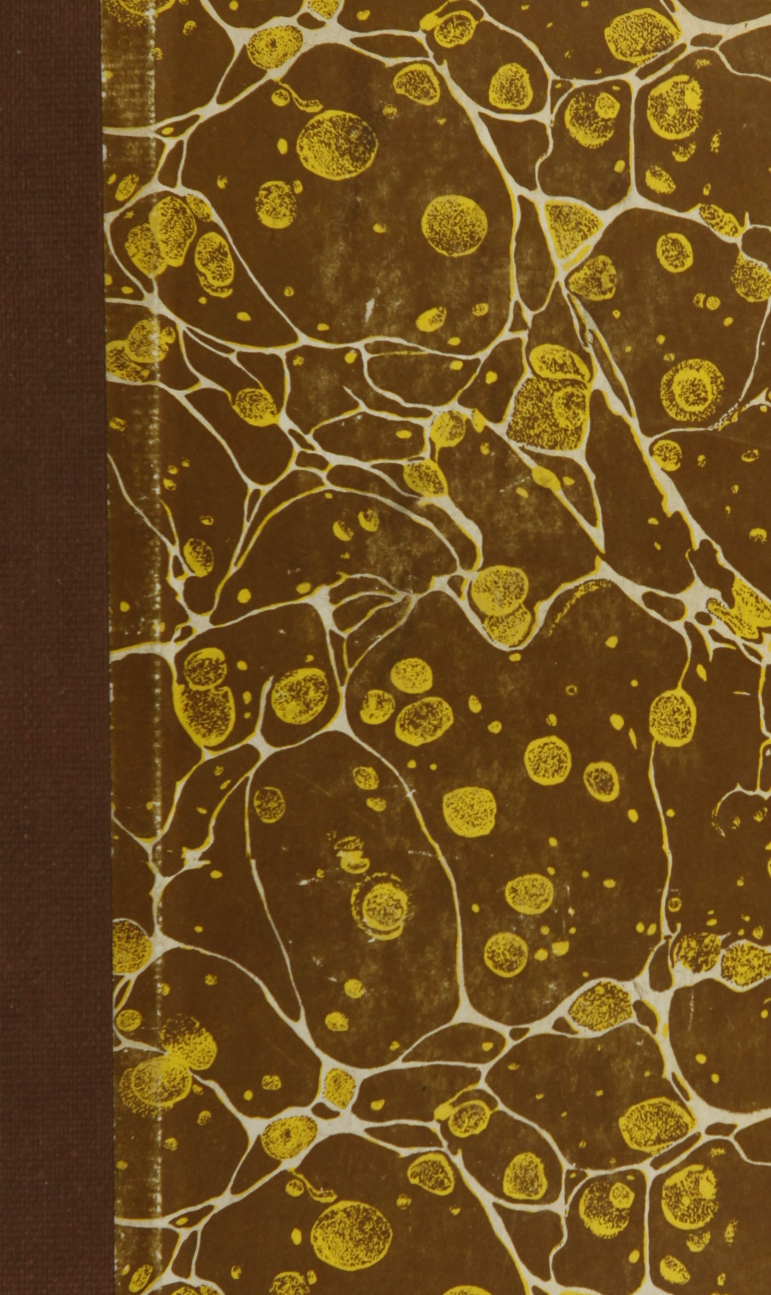

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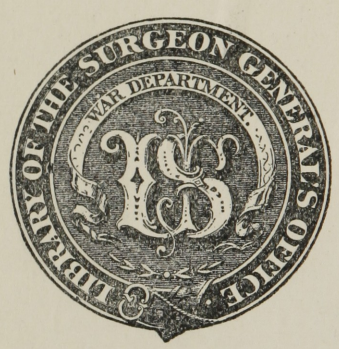

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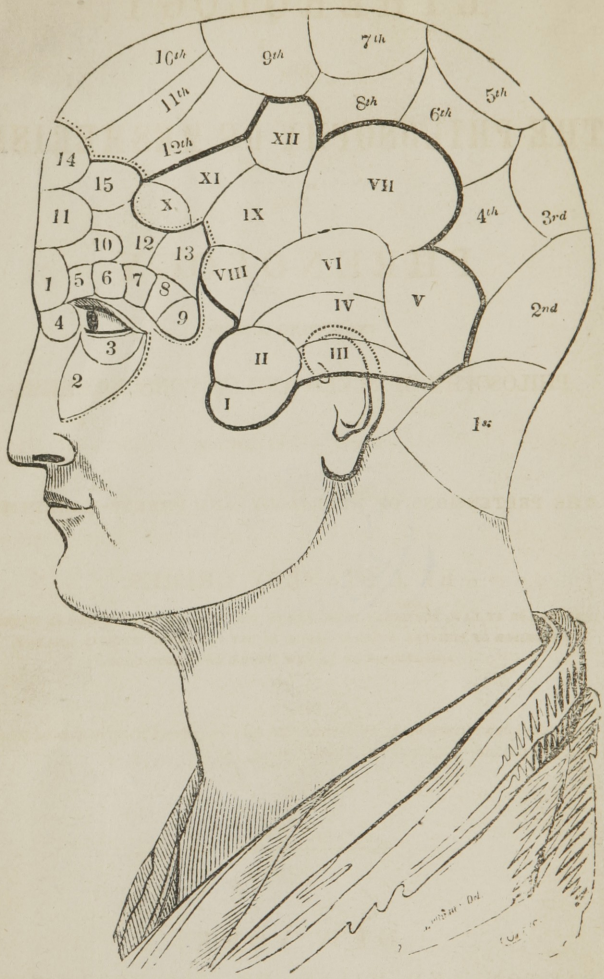

PHRENOLOGICAL BUST.

See Page 164.

ETHEROLOGY;

OR,

THE PHILOSOPHY OF MESMERISM

AND

PHRENOLOGY:

INCLUDING A NEW

PHILOSOPHY OF SLEEP AND OF CONSCIOUSNESS,

WITH A REVIEW OF

THE PRETENSIONS OF NEUROLOGY AND PHRENO-MAGNETISM.

BY J. STANLEY GRIMES,

COUNSELLOR AT LAW, FORMERLY PRESIDENT OF THE WESTERN PHRENOLOGICAL SOCIETY, PROFESSOR OF MEDICAL JURISPRUDENCE IN THE CASTLETON MEDICAL COLLEGE, AND AUTHOR OF 'A NEW SYSTEM OF PHRENOLOGY.'

All the known phenomena of the universe may be referred to three general principles, viz.: *Matter*, *Motion*, and *Consciousness*.—p. 17.

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CONTENTS.

SECTION I.

PAGE.

SYNOPSIS OF ETHEROLOGY 17

SECTION II.

HISTORY OF ETHERIUM 39

Ignorance of the Ancients concerning the causes of Etherean Phenomena — Witchcraft — Divination — Magic — Discoveries which led to a Scientific Knowledge of Etheropathy—Van Helmot—Mesmer—His Career—D'Eslon —Adverse Report of the French Commissioners—Foissac and the Academy of Medicine—Their favorable report —Gall—La Place.

SECTION III.

NATURE OF ETHERIUM 75

Theory of Light—Of Heat—Of Electricity—Of Magnetism—Of Gravitation—Newton's Conjecture—Rev. Mr. Townshend on the Mesmeric Medium—Sunderland's Notions —Animal Electricity—Experiments of Crosse—Electric Fishes.

SECTION IV.

OXYGEN 127

SECTION V.

PHILOSOPHY OF SLEEP 130

Liebig's Error.

SECTION VI.

ORGAN OF CONSCIOUSNESS 136

Infusoria—Immortality—Rationalism.

SECTION VII.

INTER-PHRENO SENSES 149

External Senses—Internal Corporeal Senses—Cousin's Criticism upon Locke.

SECTION VIII.

MOTION 155

All motion communicated—Nothing originates motion but God—Sympathy is *same motion.*

SECTION IX.

TRIUNE SYSTEM OF PHRENOLOGY 164

Temperaments—Engraving and bust to show the location of the Organs—Summary of the Principles of Phrenology.

SECTION X.

ETHEROPATHY 181

Credencive Induction—Imitativeness—Credenciveness.

SECTION XI.

ETHEROPATHY, CONTINUED 210

Clairvoyance.

SECTION XII.

ETHEROPATHY, CONTINUED 219

Abnormal Sleep—Manifestations of Uncommon Strength—Conferring Power on Medicine, Water, &c.—Reading Character—Discoveries in Phrenology and Physiology by Fowler, Buchanan and Sunderland.

SECTION XIII.

NEUROLOGY 248

Buchanan—Caldwell's Letter—Buchanan's Discoveries—His "Catalogue of Organs."

SECTION XIV.

PHRENO-MAGNETISM, PATHETISM AND HYPNOTISM . 271

Polarity of Organs—Sunderland's Experiments and Discoveries—London Phrenological Society Meeting—Elliotson's Address—Gardiner's Experiments—The Doctrines Denied—Reasons—Elliotson's Experiments—Lang—Braid.

SECTION XV.

COMMUNION WITH SPIRITS 304

SECTION XVI.

ABUSES OF ETHEROPATHY 309

Immoral Induction—Local Induction.

SECTION XVII.

RULES FOR EXPERIMENTS 314

Credencive Experiments—Experiments during Somnambulism—Upon Diseased Persons.

SECTION XVIII.

INDUCTION OF BRUTE ANIMALS 322

The "Charm" of Serpents—Dr. Wilson's Experiments upon Animals.

APPENDIX.

EXPRESSIONS OF OPINION 331

Resolutions passed at Union College—Horsford's Report adopted by the Albany Phrenological Society—Lectures at Albany—Resolutions adopted, &c.—Lectures in Hudson—Resolutions adopted.

ERRATA.

Page 5, Contents, Section II., for *Van Helmot* read *Van Helmont*
Page 6, Contents, Section VI., for *Rationalism* read *Materialism.*
In page 1 of Preface, 10th line from bottom, for *credulity* read *incredulity.*
Page 40, 15th line from top, for *sensation* read *veneration.*
Page 40, 19th line from top, for *principals* read *priestesses.*
I have sometimes used the word *etherium* when I meant *motions of etherium.*

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PREFACE.

WHILE hundreds, and perhaps thousands, are engaged in repeating old experiments, and trying new ones in Mesmerism and Clairvoyance, no successful attempt has hitherto been made to explain the phenomena upon scientific principles, and to show their consistency with previously known truth.

In philosophy *facts* are useful only as far as they lead to a true *theory*, and a *theory* is only a method of showing the true *relation* which exists among the facts.

When a theory is, or seems to be, well established, any fact which appears to militate against it is apt to be disputed, or received with caution and credulity. For this reason mankind have been disposed to oppose new discoveries and innovations which render a change necessary in their theories, creeds, opinions or habits. It is not because they are unfriendly to improvement, but because they doubt the reality of the discovery, or the real practical importance and utility of the proposed change. It rather demonstrates their love of truth, for they, like St. Paul, verily believe that they are doing their duty by resisting the introduction of error. But if the new truth can be made to harmonise with the old opinions, it is then cordially received into the

family of admitted facts, which go to constitute our favorite theories. The facts of a science may be compared to the scattered and broken bones of a skeleton, while a theory is the method by which they can be put together and proved to belong all of them to one animal.

The facts in mesmerism call to mind a collection of strange bones once found in England, which apparently belonged to animals of a different kind from any that had ever been known to exist on earth. Some very learned and sagacious men at first denied the existence of the bones; but when they were dragged to light, and protruded before them so that they could no longer avoid acknowledging their existence, they declared that such enormous limbs must have a supernatural origin, and that they were undoubtedly the bones of fallen angels! Upon further examination by scientific men, it was found that they were bones of whales, and other marine animals, that had been ages ago "in the deep bosom of the ocean buried," and that the place had been afterwards raised to eminence, like classic Delos, upon the shoulders of an ambitious and aspiring volcano.

The facts in mesmerism are exceedingly numerous, and some of them of a most wonderful and monstrous character. They have been denied again and again, even by those who have witnessed them; and when admitted to be true they have also been accounted for by referring them to a supernatural origin; but the

time has come when these facts should, like the facts in Geology, Chemistry and Astronomy, be wrested from the hands of superstition, mystery and quackery, and moulded into symmetrical forms of scientific beauty. This is a most difficult and laborious task, and any one who undertakes it may fairly claim some indulgence for the imperfections of his performance. I am desirous to do for mesmerism what my friends claim that I have done for phrenology—to reduce it to a scientific system.

In the year 1834 I commenced lecturing upon Phrenology, but did not otherwise publish my peculiar views of this science until 1839, when my "New System of Phrenology" was laid before the public. That work contained a new classification and arrangement of the Phreno-organs, a new system of Phreno-Physiognomy, a new doctrine of hereditary resemblance, and several newly discovered Phreno-Organs. That these things were not essentially new no one has attempted to show, but their truth was denied by every author who had previously committed himself by advocating different doctrines upon these subjects.

Mr. George Combe had just arrived in this country at the time when the work was issued. It was generally understood that the mantle of the illustrious Spurzheim had fallen in an especial manner upon him; and I was therefore desirous to receive his sanction of the new doctrines which I had advanced. But before I had an opportunity to make his acquaintance,

I learned that he considered the New System as dangerous to his own personal ambition, and that on this ground he opposed it, not by fact or argument, but by his influence with his friends. He avoided mentioning it in his lectures and writings, and when the subject was urged upon his attention by some one who thought my doctrines correct, he seemed to be exceedingly annoyed and irritated. Under these circumstances I declined his acquaintance, and determined to appeal to the scientific public. I was then engaged in lecturing in Pittsburg, Penn.; and being informed by a correspondent that Mr. Combe was to lecture in Albany, I immediately proceeded to that city and gave a course of lectures, in which I stated to the highly respectable audience that attended, the grounds of the difference between the two systems. At the conclusion of my course I was gratified to find my system had made a favorable impression, the evidence of which may be found in the proceedings and resolutions recorded in the appendix to this work.

I then proceeded to the city of New-York, where I delivered a very successful course of lectures. In the meantime Mr. Combe gave his lectures in Albany, and at their conclusion a Phrenological Society was formed, and Mr. Combe's collection of plaster casts of heads purchased for illustrations. The relative merits of the two systems became the subject of much discussion, and I was invited to return to Albany and repeat my lectures. I consented, and finding that the

influence of Combe, Caldwell and Fowler was all united to create a state of public opinion unfavorable to what I deemed the cause of truth, I was desirous to provoke a discussion which would give me an opportunity to vindicate myself. I therefore addressed a letter to the President of the Phrenological Society, requesting the appointment of a committee composed of their most competent members, to investigate and determine the relative merits of the two systems. The committee seemed to be actuated only by the spirit of truth; and accordingly, after a laborious investigation, and after corresponding with Combe, Caldwell, Haskins, and other distinguished authors, they made a unanimous report in my favor. This report produced a very powerful sensation. It consists of twenty-eight pages, drawn up in a masterly manner by the chairman, Professor E. N. Horsford, and laid before the Society for their consideration. Professor Dean, (author of several very able works on Phrenology,) read an argument of thirty pages in opposition to the report. One of his adherents read another of about equal length. At the same time the American Phrenological Journal arrived in the city, thirteen pages of which were occupied with a very hostile review of my book, written by Dr. Caldwell, of Kentucky, a gentleman of great ability, and the author of several works upon this subject.

Professor Horsford replied to the objections and arguments which had been adduced, and in the face of

the whole array of eloquence, authorities and prejudice, succeeded in obtaining for his report the sanction of a large majority of the Society, after it had been six months under their inspection, and the ingenuity of the most able critics in the country exhausted upon it. It is worthy of remark that when the investigation commenced not one of the committee approved of my views.

This Report was all that I could wish. Two thousand copies were printed, and it was widely circulated. It was sent to every one who was supposed to take especial interest in the subject—but up to the present time no one has attempted to controvert its positions, or deny the correctness of its conclusions.

If any one inquires why all phrenological authors and lecturers did not at once adopt this system, or else show its imperfections, I can only answer by referring to the history of other improvements. Human nature always exhibits the same traits under similar circumstances.

When the Albany Report was sent by the Chairman to a periodical which professed to be a Phrenological Journal, the editor was not *permitted* to notice it, such was the hostility of the proprietor to the new system. I will not comment upon these facts, but content myself by making them known. In the meantime, the public generally, and all those who (not being themselves authors, nor the dependents

of authors), were disinterested and independent, without a single exception within my knowledge, have admitted the correctness of the Report, and the superiority of the new system.

When the doctrines of Phreno-Magnetism and Neurology were announced, and were making converts by thousands, and multitudes of new organs were daily discovered by these means, so that my favorite science was threatened with an overwhelming inundation, I was forced to take up this subject in earnest. Almost every friend I met asked my opinion of the new doctrines and new organs, and seemed surprised at my skepticism. This has led me to the determination of publishing this volume, that I may thus at once justify myself, and vindicate what seem to me the true principles of phrenology. If I am mistaken in any of the positions which I have assumed, there will doubtless be enough to correct me, and I shall acknowledge the correction with gratitude. I have several times given the substance of this work in public lectures—and the approbation with which it has been received, especially at West Point and at Union College* far surpassed my most sanguine hopes.

The plan which I have adopted for this work is, to present first a brief outline or summary of the whole, comprised in a few pages, and then to take up each important topic and treat it separately. It appears to

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* See Appendix, p. 331, 348.

me that this method will assist both the understanding and the memory of the reader.

In regard to other authors, I have made use of their language wherever I adopted their ideas, provided I found them suitably expressed, and in such cases I have given all due credit. Wherever I differ from others, I have quoted their expressions sufficiently to do justice to their real meaning, and then freely and frankly given my own opinion, and exposed what appeared to me to be their errors. There has been so many new doctrines advanced within a short time, both on the subject of Phrenology and Mesmerism, that I must necessarily assume the office of a critic in speaking of the performances of others. I am aware that I shall be liable to the charge of arrogance; but at the present time, scarcely two Phrenologians nor Mesmerologists can be found who agree; any one, therefore, who treats upon both these subjects at once, with the design of producing an harmonious system, must seem to assume that he is wiser than all others, and capable of filling the chair of grand-master of the fraternity. No modesty of expression, nor respectfulness of style can shield him from this imputation. Under these circumstances I have deemed it best to "speak right straight on," regardless of the apparent egotism, and to "utter my thoughts" with entire independence of every thing but truth and justice.

J. STANLEY GRIMES.

Lansingburgh, Rensselaer Co., N. Y.

ETHEROLOGY;

OR,

THE PHILOSOPHY OF MESMERISM.

SECTION I.

SYNOPSIS OF ETHEROLOGY.

1. All the known phenomena of the universe may be referred to three general principles, viz.: *matter*, *motion*, and *consciousness*. Every thing that we know is a modification of one or all of these three.

2. One portion of matter cannot influence another, nor can one mind influence another, but through the instrumentality of motion.

3. One thing cannot influence another with which it is not in contact, unless there is some material substance existing or passing between every portion of the space which separates them;—that is, no motion can be communicated from one body, nor from one mind to another, unless there is a material connection;—therefore, when one *does* influence another, there *is* necessarily a material connection, through the medium of which motion is communicated.

4. *Fact.* The planets influence each other and the earth.

Fact. Philosophers agree that the (so called) *ponderable* matter of the atmosphere does not extend more than eighty miles above the earth's surface.

Fact. Heat, light, electricity, magnetism, and gravitation, operate in an exhausted receiver, as well as elsewhere.

Fact. One mind sometimes influences another independently of ordinary sensation or muscular motion, without contact or perceptible connection.

Inference. There is a material substance occupying space, which connects the planets and the earth, and which communicates light, heat, electricity, gravitation, and mental emotion, from one body to another, and from one mind to another.

Name. I shall denominate this substance *Etherium.*

5. *Definition.* Etherium is an exceedingly subtile and elastic substance. Its constituent atoms are inconceivably small. It sometimes exists in a separate state, and sometimes it exists in combination with ponderable substances; sometimes it is comparatively at rest, and sometimes in motion. When it comes in contact with ponderable matter, it is capable of receiving or of communicating motion.

The phenomena of heat, light, gravitation, electricity, magnetism, muscular motion, and mesmerism, are only the results of different motions and *modus operandi* of etherium.

6. Motion has but two attributes, viz: *quantity* and *direction.* The origin of motion, like the origin of matter, is beyond the sphere of human knowledge. We see motion communicated from one thing to another, but we know not "whence it cometh nor whither it goeth;" and we can never know, unless we can "by searching find out God." We only know motion by its effects upon matter, and, from observing these effects, philosophers have discovered certain general rules which they denominate the *laws of motion.*

7. It is a law of motion, that when two bodies are both perfectly elastic, and both move in the same direction, in the same right line,—if one moves more rapidly, and overtakes and strikes the other, both will continue afterwards to move in the same direction with *equal* rapidity, the sum of the two motions being the same that it was before; for what is lost by one is gained by the other.

If they move with equal force from opposite directions, and come in contact, they will rebound, and both move in contrary directions with equal velocities. If one of the opposing bodies is of inferior force, it will, after contact, tend to conform in its direction to that of the superior force, to a degree equal to its inferiority.

8. If two bodies come in contact which are both destitute of elasticity, neither will rebound; if the forces are unequal, the motion after contact will be equal to the difference; but if they are equal, both will lose all tendency to continue their former motion. These laws of motion apply to all known bodies, and aid us in solving many of the operations of etherium; since this substance is composed of atoms, or exceedingly minute elastic bodies, which move in right lines to produce the phenomena of light, heat, elasticity, gravitation, and mesmerism.

9. There are two equal and antagonistic forces in nature, the origin of both of which is unknown. They are sometimes denominated centripetal and centrifugal forces, sometimes attraction and repulsion, and sometimes positive and negative forces. These two forces being equal, balance each other continually, except when other forces interfere to destroy the balance;—then both these forces move, though in opposite directions, until both are again antagonized and balanced.

These two forces are communicated by means of etherium,

and all the positive and negative phenomena are produced by the disturbance of the balance of antagonistic columns of etherium. There are many reasons for concluding that even muscular motion and sensation are referable to this cause.

10. The phenomena of sensation and muscular motion, both voluntary and involuntary, are produced by the motions of etherium, communicated from certain external objects to certain internal organs or points in the nervous system, and from these points back again to the external objects.

11. There are two distinct classes of motions in man and all other animals, viz.: Voluntary and Involuntary. The involuntary motions are produced by currents of etherium communicated from the surfaces of the heart, stomach, and other involuntary muscular organs, to certain different points in the nervous system, denominated *ganglions*, and from these ganglionic points back again to the heart, stomach, etc.; thus completing a circuit which exactly resembles that of a galvanic apparatus.

12. The voluntary motions are produced by currents of etherium, communicated from different external objects to *one* point in the medulla oblongata, which point may be denominated *the organ of Consciousness;* and, from that conscious point, back again, through the nerves, to external objects, completing another circuit, which, in every essential, is precisely like those of the involuntary system, with this exception, that the central point of the voluntary system is endowed with Consciousness, but the central points of the involuntary system are not so endowed.

13. The external senses are avenues through which etherium is permitted, constitutionally, to pass to the phreno-or-

gans of the brain; and the phreno-organs are avenues through which the etherium from the senses and from the blood is modified and transmitted to the organ of Consciousness, and from thence, through the motor nerves, to the muscles; and, as the muscles make some resistance, motion is the consequence. After the etherium has produced motion, it passes to the external world, and mingles with the general mass of etherium.

14. The organ of consciousness is thus the central head-quarters, where all external impressions terminate, and whence all voluntary movements emanate. It is the starting point and termination of the circuit.

15. In performing this circuit the motions of the etherium are peculiarly modified in each successive avenue or stage through which it is obliged to pass, and this modification is undoubtedly regulated by the laws of motion already mentioned.

First. Etherium is modified by each external object from which it emanates; for there is no doubt that every object imparts its own peculiar characters, in some degree at least, to the etherium which it is continually receiving and emitting: this doctrine is a part of the modern theory of heat, light, and magnetism, and it applies equally to those emanations which produce sound, odor, savor, &c.

Second. Etherium is modified again by the intervening medium through which it passes from external objects to the external organs of sense; thus, *light* is refracted and otherwise modified in passing through air, vapor, water, glass, &c., so also is *sound* modified by the varying density, rarity or elasticity of the medium through which its etherium is propagated; and the same is true of odors and savors,—for all these sensations unquestionably depend upon currents of etherium.

Third. It is modified also by the structure and condition of the external organs of the senses through which it enters, —as the external eye, ear, and nose.

Fourth. Etherium is modified by the structure and size and condition of the *nerves* through which it passes from the external organs of sense to the phreno-organs,—as the optic, the auditory, the gustatory, &c.

Fifth. It is modified by the phreno-organs.

Sixth. By the organ of consciousness.

Seventh. By the nerves of motion through which it passes from consciousness to the muscles.

Eighth. By the muscles.

Ninth. By the surrounding objects to which it passes after it has been expended upon the muscles. All these different and successive avenues constitute the circuit.

16. The phreno-organs not only modify and transmit the etherium which they receive from the nerves of sensation, but they also receive a large quantity of etherium from the blood, and transmit it, through consciousness, to the muscles. It would seem, indeed, that the senses merely admit as much etherium as will serve to excite the phreno-organs to discharge their accumulations through the motor nerves and muscles.

17. The modification of motion which each phreno-organ produces in the etherium which passes through it, is peculiar to itself and different in each one from that of every other. This is proved by the fact that the consciousness produced by each organ is peculiar to itself, so that we can distinguish between the consciousness produced by any one organ, and that produced by any other. Thus, Destructiveness and Cautiousness, and Kindness and Color, produce greatly different states of consciousness, and such as are easily distinguished from each other.

18. Consciousness is produced in the same manner in all other animals as in man. All animals have a central organ of Consciousness, but some classes of animals have a greater number of modifying avenues; that is, they have a greater number of senses and phreno-organs, through which etherium enters to effect consciousness. Some classes of animals also, have a greater number of avenues, (nerves of motion,) through which etherium passes from the central organ of Consciousness. It is this difference in the number and kind of avenues to and from Consciousness which is at the foundation of the science of Comparative Phrenology.

19. In animals of the same class,—in man, for instance—the number and kind of avenues, to and from consciousness, is the same in every individual, except in cases of deformity. But even in the same class, whether we compare different men, or different avenues in the same man, there is an essential difference in the size, the capacity, the calibre, the condition, the strength and perfection, of the avenues to and from Consciousness. It is the difference in these respects which is the basis of Practical Phrenology, as applied to mankind.

20. There is a class of organs or fibres, which may be denominated *inter-phreno senses;* the office of which is to convey currents of etherium from the organ of consciousness to the several phreno-organs; so that each phreno-organ may act or not, in any given case, according to the condition of Consciousness.

When any phreno-organ acts, it necessarily produces consciousness before it produces muscular motion; and, as every phreno-organ is in communication with Consciousness, by means of the inter-phreno senses, each organ will, of course, be excited according to the impression it receives from Consciousness. The idea may be expressed thus: Whenever Con-

sciousness is impressed by one phreno-organ, it radiates the impression to all the other phreno-organs. I do not, however, pretend that the inter-phreno-senses have been demonstrated by experiment, or anatomy; (unless the diverging fibres discovered by Spurzheim perform this office;) my notions on this subject are founded on reason rather than observation. I consider them as legitimate inferences from admitted facts.

21. The quantity of etherium evolved from the blood to carry on the operations of the constitution, is in proportion to the quantity of oxygen which combines in the lungs with the food from the stomach. The quantity of the action of any animal is in proportion to the amount of oxygen consumed.

22. As a general proposition, the larger the lungs, compared with the stomach, in man, or any animal, *ceteris paribus*, the more concentrated is the food chosen, and the more rapid is the digestion and secretion. On the contrary, the smaller the lungs, compared with the stomach, the coarser and less concentrated is the food, and the slower it is digested. The reason is this: the oxygen unites with the food in definite proportions, so that when the lungs are small and the stomach large, the lungs must work rapidly to supply oxygen to the food, or else the digestion will be slow. When the lungs are large and the stomach small, the stomach must work rapidly to supply food to the oxygen.

23. If an ordinary sized stomach and lungs be supplied with a moderate quantity of rather coarse and unconcentrated food, the etherium will be generated slowly, and the operations of mind and body will be moderate. But if, with the same lungs and stomach, a concentrated and stimulating kind of food be used which saturates all the oxygen which

the lungs can supply, the quantity of etherium generated in a given time will be much greater, and the operations of body and mind will be proportionably vigorous and energetic.

24. The blood goes from the lungs to the heart charged with oxygen, and from the heart to the innumerable arterial extremities or capillaries; and it is in passing through these minute capilliary tubes that the chemical process takes place, which produces the motions of etherium on which life and thought depend.

25. Etherium, evolved by the decomposition of the blood in the capillaries of the brain, passes through the voluntary motor nerves to the voluntary muscles, producing voluntary motion. It enters the ganglions and passes to the involuntary muscles, and produces involuntary motion. The blood also furnishes etherium to the muscular and other tissues to enable them to transmit sensations to the ganglions and brain, and thus to solicit motion in return for sensation.

26. The perfection and energy with which etherium is evolved from the blood in the capillaries, and imparted to the nerves, depends upon the health and condition of the minute structure of the capillaries in which the operation is performed. This again depends upon the climate, habits, food, health and appetite of the individual. These are circumstances difficult to define, and still more difficult to estimate.

27. All the etherium evolved by the blood is divided between the voluntary and involuntary organs; or, in other words, it is divided between the brain and its dependencies, and the ganglions and their dependencies. The share allot-

ted to each is in proportion to their relative quantities of muscular motion and functional action.

28. The involuntary motions are continued without interruption from the commencement of life until its termination; in fact, they constitute life. But the voluntary motions are suspended in man about one third of the time: in some classes of animals more, in others less. During this regular suspension of voluntary motion we are said to *sleep*.

29. The reason of this suspension, or sleep, is founded upon economy. It is not necessary for us to keep awake twenty-four hours, for we can perform all our duties in less time; accordingly, there is not sufficient etherium evolved during twenty-fourhours to supply both the voluntary and involuntary systems during the whole of that time.

30. If the involuntary motions are suspended, we die. If the voluntary, we sleep. If both continue till the etherium is exhausted, we die; as there is not sufficient etherium generated to supply both systems continually.

31. The material, (carbon and hydrogen,) which combines with oxygen to produce motions of etherium, is all generated and secreted by the involuntary organs, and as much is used by them as they need; the surplus is expended through the voluntary organs, the intercommunication which exists between the voluntary and involuntary systems allowing of this arrangement.

32. The predominant influence of the involuntary system which enables it thus to monopolize all the etherium during sleep, doubtless depends upon the superior energy of the *impressions* upon the involuntary senses compared with those of the voluntary senses; or, in other words, upon the superior force

of the currents of etherium which the involuntary senses send to the *ganglions* to excite them to send motions in return. For if the voluntary senses are impressed in an extraordinary manner, sleep is delayed and the voluntary system gains a temporary triumph.

33. There is an accumulation of nutritious substance in certain reservoirs during sleep, which is ready to combine with oxygen and evolve etherium when we awake. This surplus, accumulated during sleep, is generally equal to the deficit produced while awake.

34. In order to illustrate this subject, let us consider the voluntary and involuntary muscles of man as two machines, A and B, moved by one galvanic battery (which is supplied with acid, made from alcohol combined with oxygen—let the oxygen enter by one passage, and the alcohol by another, and let them meet in a common passage, just as the air in the lungs meets the food from the stomach—so let them meet and unite, and form acid). Let the size and number of plates to the battery, and the amount of alcohol, be limited to generate an amount of etherium equal in force to 8 lbs. per hour. Now let A use 6 and B 3 lbs. per hour. Let A go continually, and B only when there is a spare surplus. Have the connection of A and B such, that B cannot start unless there is an accumulated surplus of acid, equal to 16 lbs. of force. Now set it in operation, and A will go continually, but B will alternately rest (sleep) 8 hours and move 16. A separate contrivance might be made to carry away the oxide and replace it by an equivalent of metalic paste, thus representing absorption and assimilation. Another contrivance could, by means of several magnets influencing B and causing it to increase or diminish its motion, represent the influence of the external world upon man. Here, then, we should have the representation of a galvanic animal,

without Consciousness; one that sleeps regularly 8 hours out of 24, because there is not etherium enough generated to keep both its systems in operation a longer time.

35. The manner in which one man can induct or mesmerise another, and the principles of Etherology involved, may be well illustrated by the following statement:

If two galvanic batteries are put in operation, and brought into contact, they will not interfere with each other while their *isolation* is unimpaired. But if they are brought into communication and made to interfere, by the removal of the isolation, then the more powerful will overcome and neutralise the weaker, and send a current of etherium around the nerves and through both batteries.

36. If two batteries of equal force are brought into communication, the effect will depend upon the direction of the two forces. If the direction is the same in both, no effect is observed except an increased energy of the same motion, but if the direction is contrary they neutralize each other. If the two forces are unequal, so that one (C) is equal to ten, and another (D) to fifteen, and the directions are contrary when they come into collision, the ten of (C) will neutralise ten of (D), and the remaining five of (D) will produce a current through both batteries with a force equal to five.

If the two forces are unequal, and both moving in the *same* direction, when brought into communication the two forces will unite and compromise so as to be equal, the inferior gaining, and the superior losing in the same degree, but the sum of the two forces remains the same. These laws of motion, applicable to galvanic batteries, are doubtless equally operative in mesmerism and all other etherean manifestations.

37. The knowledge of the laws which govern etherium under all circumstances, and in all its manifestations, I shall

venture to denominate *Etherology*. The doctrines concerning the agency of etherium in producing the motions of body and mind, in the healthful and normal state, I shall denominate *Ethero-physiology*. ETHEROPATHY is a term which I shall use to include all the phenomena which are known to the public under the various names of Mesmerism, Animal Magnetism, Neurology, Pathetism, Hypnotism, Catalepsy, Somnambulism, Clairvoyance, &c. &c.

They are all produced by motions of etherium in a deranged and abnormal state of the constitution.

38. The organs of man may be in a normal or in an abnormal condition. When their operations are healthful and regular they are said to be *normal;* when deranged or irregular they are said to be *abnormal*. This is more precise and correct than to use the words *natural* and *unnatural*, or healthful and diseased, to express the same ideas.

39. Etheropathy is the result of an abnormal condition of the constitution, a degenerated or morbid state which is inconsistent with a constitution sound and perfect in all its parts. Any rational explanation of Etheropathy or mesmerism must be based upon this principle, that it is in every case a departure from, and violation of, the ordinary laws of man and the designs of the Creator. In this explanation the distinction between the normal and abnormal conditions must be borne in mind continually; the two states must not be confounded; for, to explain any extraordinary pathological phenomena, we must first know what is the normal or physiological operation the derangement of which constitutes the abnormal operation.

40. The diversion of etherium, from its normal and constitutional avenues, is the cause of all the phenomena of Etheropathy, or mesmerism; in explaining each case, therefore, we may consider,

First, From what point is the etherium normally evolved?

Second, Through what avenues does it normally pass, and what is the state of their isolation?

Third, To what point does it normally tend?

Fourth, With what force is it normally evolved?

Fifth, With what counter force does it normally contend?

Sixth, When diverted from its legitimate avenues by abnormal forces, what other avenues does it find?

Seventh, What extraordinary effects are produced by the derangement?

41. Etheropathy may be divided into Spontaneous and Artificial.

Spontaneous Etheropathy is of frequent occurrence in medical practice, and many interesting cases of this kind are recorded in medical books, in which somnambulism, trance, clairvoyance, and, in short, all the mesmeric phenomena, have been produced by disease, and without the design of any human operator.

The case of Jane C. Rider, of Springfield, in Massachusetts, occurred while I was a temporary resident in that place. She spontaneously manifested all the powers of clairvoyance, in a community where no such thing had ever been witnessed before, and where mesmerism was unknown. There are many other similar cases which establish the fact that no human operator is necessary, but that the subject contains within himself all the essential elements required to produce the result. Those, therefore, who attribute so much potency to the *will* of the operator, or to sympathy with him, are obviously mistaken, since the same effects may be produced without any human operator. All that is necessary is, that currents of etherium should enter and pass through abnormal avenues; but whether those cur-

rents proceed from a human operator, or from inanimate objects, is evidently immaterial.

42. There are many instances of spontaneous Etheropathy, in which the peculiar condition of the subject predisposed him to be thus affected, in such a way that he became inducted when in the company of some person who was utterly ignorant of his own power and agency in the operation. The extraordinary cases of witchcraft which occurred in Salem were undoubtedly of this character.

43. Many of the phenomena of Etheropathy have been produced by design, after the spontaneous predisposition had been discovered and manifested accidentally, though neither the operator nor the subject was aware of the real agency used. This was the case of some of the Salem witches, and the priestesses of some of the ancient oracles; it was true, also, of some of the ancient modes of healing the sick; and, perhaps, we may, under this enumeration, include the cases (if they may be believed) of one animal charming another by this agency.

44. In most instances among the ancients, when men have been aware of the existence of this power, it has been attributed to the agency of supernatural beings: sometimes good, but generally evil, spirits have been charged with being the principal operators. When men have been thus spontaneously affected, to such a degree as to become insane, they were often said to be "possessed of a devil;" and the process of curing them by exorcism, or the will and influence and prayers of some powerful and good man, was called "casting out devils."

45. Since the time of Van Helmont and Mesmer, the operator and subject have both generally understood that a

natural and controlable agent was employed, though they have not been able to explain its nature. It is from these modern operators that it has received the names of Mesmerism, Animal Magnetism, Neurology, and Pathetism. There are many of these persons at present in this country, who believe, though I think without reason, that there is something supernatural in many of the phenomena.

46. Artificial Etheropathy is caused by currents of etherium being artificially and intentionally forced by the operator to act in opposition to the normal currents of the subject: this process has been called mesmerising, magnetising, willing, charming, &c. I call it *inducting* or etherising.

47. The constitution of the organs of man is such as to isolate them from the influence of external currents of etherium, and to prevent impressions being made upon them, excepting through certain avenues denominated *senses;* and even through these avenues the etherium can only pass in a prescribed manner, which is different and peculiar in each of the different senses. This isolation is somewhat analogous to the isolation which is necessary in galvanic and electric machinery.

Etheropathy is always in opposition to this organic isolation, and can only be produced by an induction sufficiently powerful to break through the barrier which was intended by the Creator to prevent the internal organs and functions from improper external influences.

48. Susceptibility to mesmeric induction depends upon three causes.

First, The imperfect condition of that peculiar structure of the organs which constitutes their isolation and protection from the influence of external currents of etherium.

Second, The imperfect manner in which the etherium is evolved from the organs of the subject, especially from the capillaries of minute blood vessels.

Third, The conformity of the subject, and the development of the conforming social organs of the brain, particularly the organ of Credenciveness.

49. One of the causes of susceptibility may exist in a subject when the others do not, and some of the numberless organs in the constitution may be in a susceptible condition and others not. This enables us to understand why there is such a variety among subjects that scarcely two can be found who are affected alike. And when we consider that the organs are, from various causes, in a different condition at different times, we can perceive why subjects are more susceptible at one time than at another, and why they exhibit different results at different times.

50. The inducting power of the operator depends upon a sound and vigorous body and mind, with a good development of the governing organs, and good judgment. Some have asserted that a full development of the organ of Concentrativeness is necessary; but although concentrated attention is useful, it is not necessary; and, besides, I deny that there is any especial organ of concentration. This notion is exploded.

It requires no more exertion of the will nor concentrated attention to induct a subject, than it does to do any thing else; and it is questionable whether it is more exhausting than any other labor in which continued attention is required.

51. In explaining etherean or mesmeric induction I compared the operator and subject to two galvanic batteries, which, even though in contact, would not interfere with each other's operations while perfectly isolated; but in fact

each man is a *compound* galvanic battery. He is composed of an immense number of galvanic batteries. Each organ of man is strictly an independent galvanic battery. This being so, each organ must be isolated from the others to prevent interference and confusion in the operations of so many and such complicated apparatuses. The importance of the principle of isolation will now be appreciated.

52. Sometimes one organ of man breaks through the isolating barriers, inducts other organs, and subjects them unduly to its influence. Monomania is generally produced in this manner, by one phreno-organ being excited to such a degree as to overcome the isolating boundaries and inducting and modifying the functions of the other organs in an abnormal degree. Just as one man may induct another, so may one organ induct another organ in the same man; but in order to do this, it must first overcome the isolation by the intensity of its own operations.

53. An operator, when he attempts to induct a subject, will, of course, be likely to induct first those organs which are most susceptible; that is, those organs that are least isolated; and as he proceeds he will induct others; but it seldom or never happens that he succeeds in inducting all the voluntary organs, and he never succeeds in inducting the involuntary.

54. The involuntary organs are so perfectly isolated as to be very little affected; though, in some extraordinary cases, the motion of the heart has been temporarily suspended. In most cases, the circulation is accelerated or retarded; but it is doubtful whether this is not an indirect effect, produced in consequence of the induction of the voluntary organs.

55. The isolation being overcome by the operator, and the subject being inducted, the effects produced are various.

The normal currents are accelerated or retarded; the functions excited to a wonderful degree, producing astonishing and incredible effects; or else are depressed, and almost, or even quite, suspended. The reason of this difference is, that the currents of the operator's etherium may unite with those of the subject, and add to their intensity, power, and energy; (and if the currents of the operator are uncommonly vigorous, while those of the subject are weak, the effect of the induction may be such as to greatly invigorate the powers of the subject, and rouse his nearly dormant energies to a high degree;) or, on the other hand, the currents of etherium from the operator may oppose the currents in the organs of the subject, and neutralize their effects, so as to cause sleep, paralysis, and insensibility.

56. There are certain organs of man which naturally tend, and were designed, to make him conform to others, and submit to their influence. As a general fact, the first effects of induction are upon those conforming social organs, to accelerate their action, and to cause them to act as auxiliaries in inducting the other susceptible organs. The conforming, social propensities, (Submissiveness, Kindness, Imitativeness, and Credenciveness,) perform a part in producing Etheropathic phenomena, which has never heretofore been understood, even by phrenologians themselves. In truth, they do not seem to have understood the real nature of these important organs.

57. Among the conforming socials, *Credenciveness* is the one which is most concerned and involved in producing Etheropathic effects.

It is because this organ has been so little understood, that experimenters have made so many ridiculous errors, while they asserted and believed that they were making important discoveries.

58. Not only has man certain organs which cause him

to be influenced by others, but there is a kind of influence, or stimulus, by which those organs are specifically affected. Every man has in his possession this stimulating influence, by means of which to excite the conforming socials. The specific stimulus which naturally influences Credenciveness, is *assertion;* and accordingly, when a subject is inducted, an assertion has an influence upon him which is almost incredible. He is generally disposed to oblige, to submit, to imitate, and sympathize; and to believe anything, however absurd, even against the evidence of his senses. Tell him that he cannot move or speak, and he cannot; tell him that ice will burn him, and it will do so. The *assertion* will excite the *organ* of Credenciveness, and that will induct, or aid in inducting, the other organs.

These experiments may be performed when the subject is inducted in the lowest degree.

59. The tremulousness and twitchings of subjects, when first affected by the process of induction, are caused by the struggles of two opposing currents, one from the organs of the subject, and the other from the operator; just as the sails of a ship tremble when the wind changes.

60. *Sympathy* is when an active organ in the operator communicates its own motions to the corresponding organ in the subject, so as to make it act in a similar manner.

61. *Will*, in this science, is the voluntary effort of the operator, which causes a motion of the etherium, and thus produces an effect upon the subject.

62. *Normal, or natural sleep*, is caused by the currents of etherium between the brain and the muscles being stopped by the involuntary ganglionic influence.

63. *Dreaming, or partial sleep*, is caused by currents of etherium passing in the usual way from *some* of the phre-

no-organs to Consciousness, while in others it is prevented by sleep.

64. *Somnambulism, or sleep walking*, is the same as dreaming, with this addition—that the etherium which passes to Consciousness continues onward to the muscles, (particularly those of locomotion,) with force sufficient to cause them to contract, and produce walking. This is often the result of disease, and is sometimes, (as in the case of Jane Rider,) accompanied with clairvoyance.

65. *Etheropathic or Mesmeric Sleep* is caused by the etherium, on its way from external objects to Consciousness, being obstructed by the counter currents of the operator; and thus consciousness is prevented, except at the pleasure of the operator.

66. *Paralysis* may be partial or general. It is caused by normal currents of etherium from Consciousness to the muscles being diverted or obstructed.

67. *Trance* is paralysis accompanied with sensation and sometimes with clairvoyance. It is a suspension of the powers of voluntary motion, without a suspension of sensasation.

68. *Clairvoyance, or vicarious sensation*, is caused by currents of etherium forcing their way from external objects to Consciousness, through extraordinary and vicarious avenues, in opposition to the isolating preventives.

69. *Sympathetic Clairvoyance* is a perception by the subject of the state of the operators mind, caused by motions of etherium communicated from the Consciousness of the operator to the Consciousness of the subject.

70. *The Transfer* of communication and of power from one operator to another is accomplished at the pleasure of the

first operator, and afterwards, at the pleasure of any other person who has been put into communication with the subject. If the subject is sympathetically clairvoyant, the transfer can be made by the mere will of the operator; if not, then it must be done by his language, or some sign which the subject would understand in his ordinary condition. In the latter case, the will of the subject aids the will of the operator, and the conforming organs of the subject act as auxiliaries to the will of the operator.

71. *Induction* is the communication of motion or influence from one thing to another by means of etherium.

72. *Self-induction* is the induction of organs which is produced by other organs in the same individual. It is when one organ inducts another in the self-same person. This happens spontaneously in many cases of monomania, but it is easily produced artificially, thus;—let the operator, by will, overcome the isolation, and then, by *assertion*, excite Credenciveness to an abnormal degree, and Credenciveness will induct any part which the operator pleases, or even any part which the subject believes or suspects that the operator desires to induct. This principle of self-induction has never before, to my knowledge, been announced.

73. Most of the pretended wonderful discoveries, published under the names of neurology, phreno-mesmerism and pathetism, have originated in the ignorance of the operators concerning this important principle of self-induction, or rather of Credencive induction; and while they have supposed that the fingers of the operators communicated excitement to the phreno-organs, it was in reality the organ of Credenciveness in the subject himself which communicated the excitement to the other phreno-organs of his own brain, and thus produced any effect, however ludicrous, which the honest but misguided operator expected, and supposed to proceed from his fingers.

SECTION II.

HISTORY OF ETHERIUM.

It is extremely curious as well as instructive, to trace the history and progress of the human mind in relation to etherium and its various effects and manifestations. The existence of light and heat, and their obvious emanation from the sun and other bodies, naturally led philosophers to inquire into their nature and laws; but nothing definite was discovered, more than every savage would naturally know without investigation, until the inductive sciences commenced their triumphant career in the 16th century. Before this time the very existence of electricity, magnetism and galvanism, was unknown. It is true that the fact of the attraction of certain kinds of iron ore for small particles of iron had been noticed. It had also been discovered that a needle possessing the magnetic property, when left free to move, pointed north and south; but this did not necessarily lead to the conclusion that an etherean fluid was concerned in producing the phenomenon. "Thales, one of the wisest of the ancient Greek sages, believed that the loadstone had a soul, because it had the power to move itself and other things." It is found, upon a careful reading of ancient history, that most of the phenomena of etherium which were observed, were ascribed to the agency of gods and demons; thunder was the voice of Jupiter, and the dread lightning was his resistless bolt; the aurora borealis was construed into a terrible manifestation of the wrath of

an offended deity; sometimes it was said to be a sword of the color of blood, suspended over a doomed nation; and, again, it assumed to their terrified imaginations the form of a destroying angel, threatening the earth with famine, pestilence and sword.

The celebrated delphian oracle, doubtless, had its origin in some circumstances connected with Etheropathy or mesmerism; for we are informed by historians that certain females having drank from a spring, the water of which had peculiar properties, they were immediately possessed with a kind of hallucination, during which they manifested wonderful powers of prophesy and gifts of far-sightedness. The numbers that consulted them were so great that a temple was built which became the object of universal sensation; kings and generals were guided by its counsels, and the fates of distant nations were decided within its sacred portals. To one familiarly acquainted with the experiment in Etheropathy, there can be no doubt that as far as the principals of this far-famed temple possessed any extraordinary knowledge or power, they were dependant upon the same principle that is concerned in the modern experiments in clairvoyance. It is questionable whether they understood the nature of the agent which they employed. The managers of the institution were, perhaps, themselves sincere in the belief that they were aided by a supernatural power, especially during the earliest and most successful period of their authority. It is certain that the multitude ascribed their knowledge to celestial inspiration, and paid their homage and tribute to the shrine with profound adoration. In every age and nation we can trace evidences of the unknown power of etherium. Witchcraft and sorcery and divination were undoubtedly different *modi operandi* of this agent. We read in Genesis of the *divining cup* being put into the sack of Benjamin. I do not know that we have any precise information as to the manner in which

this cup was used by the Egyptians; but if we may be allowed to conjecture from the other practices of the Magi of that land of mystery and magic, it is easy to refer it to etherean principles. Their power of charming and subduing serpents, and of deluding the senses of spectators, as in the case recorded in Exodus of their turning rods into serpents, can only be explained in this manner: and though the superior power of Aaron in causing his rod to swallow up all their rods, may be ascribed to miraculous aid, it cannot be pretended that the power of the magicians was derived from Divine assistance, when they were acting in opposition to Aaron upon the same occasion.

Witchcraft can easily be explained upon the principles of Etheropathy; and all the effects produced by the witches of ancient or modern times can be reproduced, on any occasion, by an accomplished experimenter upon etherium. The history of king Saul renders it probable that he was highly susceptible to the etherean influence. The prophets whom he met in one of his journeys, by means of music and dancing, and by other means not mentioned, succeeded in operating upon him so far as to make him beside himself; and the influence of David's harp, in driving away the evil spirit that troubled him, was of the same character. Who that compares the ancient seers with modern clairvoyants, and possessors of second-sight, can doubt that they all belong to the same class.

The practice of laying hands upon the sick to heal them, referred to in the New Testament, is precisely the etheropathic practice.

The practice among some of the American Indians, when the medicine man, or physician, performs certain fantastic tricks and evolutions, to operate upon the imagination of the patient, and then takes the medicine himself, and actually produces the same effect upon the patient as though the patient himself took the medicine, may seem in-

credible ; but in some cases the same thing can be done by ethereans, or mesmerizers ; and the same principle is indeed often brought into operation in their ordinary sympathetic experiments. The practice of laying a piece of steel under the pillow to prevent nightmare, though often treated with contempt, is but an instance of etherean practice, by those who are ignorant of the agency employed. It is highly probable that the practice of finding springs of water by the witch-hazel, which, though much ridiculed, is notwithstanding very generally practiced, and believed in by some intelligent men, may, in some instances, be successful, in consequence of an etherean influence, the existence of which has not been heretofore suspected.

Etherium, under various forms and in various modes, has doubtless, in all times, excited the astonishment of men, by producing phenomena which (though by the lights of modern science easily explained, by being referred to electricity, magnetism and mesmerism,) were once utterly inexplicable and mysterious. It is by no means surprising that men ascribed them to supernatural agency ; nor is it strange, that those men who had acquired some knowledge of the arts and practices by which the phenomena could be produced, were regarded with veneration, and were supposed to be endowed with celestial wisdom, and favored with especial aid from the dread powers of the invisible world. It was quite natural for the Roman soldiers, when they saw electric fire upon the points of their spears, during a thunder-storm, to believe that the gods were giving them the most unequivocal tokens of their approbation and determination to assist them. If, in those times, a man became acquainted with the method by which similar electric phenomena could be at any time produced, he could easily make this knowledge a means of establishing his authority and influence as a favorite of the gods, who could, at his pleasure, "call spirits from the vasty deep."

I have no doubt that, in most cases, the priests and prophets and seers and soothsayers of ancient times, were themselves under a delusion, and actually believed themselves to possess the power which was ascribed to them by the multitude; though, from the promptings of natural depravity, they may have added some impostures, to enable them to render their profession more influential, as well as more lucrative. If we admit that some of the ancient priests understood the art of clairvoyance and mesmerism, though much adulterated by superstition, we can readily understand the immense effect upon their own minds which it would produce, in swelling their self-importance, and inspiring them with a high notion of the dignity, sacredness and exclusiveness of their profession. We can also conceive that the apparent miracles which they could perform by its means, would give them unbounded sway over the minds of the ignorant masses.

The effects produced in our own day, by the exciting modes of religious worship, adopted by some sects, and which are undoubtedly believed by them to be the work of the Holy Ghost, can easily be imitated, and the same effects produced by ethereans upon persons who are notoriously irreligious. I refer to the merely corporeal effects, such as "falling down in a trance," "losing their strength," "becoming insensible and rigid," &c. How far the effects upon their *minds* can be supposed to be due to the same cause, or how far it is the work of God, it is not becoming in me to decide; but I would respectfully suggest, that we may often and easily be led into the most egregious errors, by overlooking those laws of the human mind, through the operation of which one person may be subjected to the etherean influence of others.

The Science of Etherology is the legitimate offspring of modern discoveries. Before the time of Galileo it was supposed that the atmosphere of the earth was unlimited in ex-

tent, and the fact of the pressure of the atmosphere was unknown. Before the discoveries of Priestly, Lavoisier and Dr. Black, the compound nature of atmospheric air was not suspected; and the true theory of combustion and various other phenomena produced by the combinations of oxygen, were wrapped in profound mystery. Before the experiments of Gray and Wheeler, the electric fluid was unknown; and when its existence was proved, it remained for Franklin to show that it produces lightning; for Davy, Oersted, Ampere, Seebeck, Faraday and others, to prove that it produces chemical attraction and decomposition, Terrestrial Magnetism, Galvanism, Voltaism and the Aurora Borealis.

The effects of galvanism upon the dead body could not previously have been known, nor could we previously have had satisfactory analogies, by which to explain the possibility that the organic functions depend upon the same principle as the electric and magnetic phenomena. In addition to those already mentioned, the experiments and discoveries of Mesmer and Peseygur, of Gall and Spurzheim, of Cuvier, Bell, Marshall Hall, Reil, Humbolt, Ehrenburg, Young, Arago and many others, have combined to shed light upon this subject, as far as it relates to the nature of man and animals, and all have tended to lead modern scientific minds to the opinion that there is a subtile, all pervading and universal fluid, or etherium, which is concerned in producing all phenomena; in moving and connecting all material bodies, from the vast planets, seen through the telescope, to the most minute infusoria that can be perceived by the microscope.

The ancient poets and philosophers frequently spoke of the ether, but they evidently referred to the atmosphere, which, before the sixteenth century, was supposed to be illimitable; or, if by ether they meant anything else, it was certainly nothing analogous to the etherium which produces light, magnetism, &c. This is evident, from the fact, that

they called it the blue ether, and supposed that it produced the blue color of the sky. We must remember also, that they were utterly ignorant of electricity and galvanism, of chemistry, and of the laws of gravitation; their ideas, therefore, concerning the nature of etherium were necessarily vague and superstitious.

Van Helmont, a German philosopher, born in 1577,* was

* The following extract is from the History of Mesmerism in the Mesmeric Magazine.

"Among the Oriental Asiatics, mesmerism seems never to have been totally forgotten, and even yet there lingers among them a faint and dubious perception of its existence and use.

"The Jesuit missionaries relate that in the empire of China, mesmerism has been practiced for many centuries, but they communicate no particulars of the mode or of the extent of its employment.

"It is a fact, long and well known in India, that many of the fanatic devotees with whom that country abounds, are accustomed to obtain what they consider an ecstatic communion with the Deity, by fixing themselves in a particular position, and steadfastly gazing at the end of the nose. They assert that if they persevere for a considerable time in this singular practice, they will suddenly perceive a beatific light, and be favored with direct and colloquial intercourse with God, though their conversation is tacit and inaudible to any but themselves. Mesmerisees, when clairvoyant, almost invariably mention a bright light, which they perceive before their foreheads, just above the eyebrows: and a very singular discovery made in the year 1841 by a surgeon named Braid, of Manchester, England, affords convincing proof of the possibility of somnambulism being voluntarily induced, even in the manner of the Hindoo fakirs.

"This man found that by making a person in a sitting posture gaze steadfastly upon an object situated at an angle of forty-five degrees above the common axis of vision, congestion of the nerves and vessels of the eye was produced, which extended to the brain and threw the subject into the mesmeric condition, so far at least that total insensibility to external impressions was induced. We have repeatedly tried this experiment with perfect success, but could never cause clairvoyance in this manner, except in our habitual mesmerisees.

"In Europe, however, after the overthrow of the Western Empire, we perceive but few traces of mesmerism, until the dawn of the new civilization in the fifteenth and sixteenth centuries. Two or three remarkable cases seem nevertheless to have occurred during the dark ages, some of which fell under the observation of the learned and pious St. Augustine, who in his 'City of God' mentions a man who could perspire when he wished, and also a priest who, whenever he pleased, could throw himself into a peculiar kind of trance, during which he was as insensible as a corpse.

"The famous Arabian philosopher and physician, Ebn-Sina or Avi

the first to advance distinctly the ideas, and introduce the practice, the discovery of which has since been attributed to Mesmer. He taught that there is a universal fluid

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cenna, who lived in the tenth and eleventh centuries, relates the case of a man who could at pleasure, by an exertion of his will, paralyze his whole frame, or throw it into what we should now term a mesmeric condition.

"Jerome Cardan, of the sixteenth century, a man of genius and discrimination, and one of the first scholars of his day, states of himself that he possessed a capacity of abandoning his body in a sort of ecstacy whenever he pleased. He felt in these cases a sort of splitting of the heart, as if his soul was about to withdraw, the sensation spreading over his whole frame, like the opening of a door for the dismissal of its guest. His apprehension was that he was out of his body, and that by an energetic exertion he still retained a small hold of his corporeal figure. He also could see, when he pleased, whatever he desired to see, not through the force of imagination, but with his material organs: he saw groves, animals and orbs, as he willed. When he was a child he saw these things as they occurred, without any previous volition or anticipation that such a thing was about to happen. But after he had arrived at years of maturity he saw them only when he desired, and such things as he desired. These images were in perpetual succession one after another.

"It is, however, in the sixteenth and seventeenth centuries, that we find the existence of mesmerism first acknowledged and distinctly announced. Many writers, the most eminent of whom were Kircher, Pomponatius, Van Helmont, and Sir Kenelm Digby, assumed the existence of an universal magnetic power, by which they attempted to explain the dependence and reciprocal action of bodies, in general, upon each other, and, in particular, the phenomena of the vital organization. They also broadly and distinctly maintained the proposition that the will or imagination of man, when energetically called into action, is capable of producing certain perceptible effects upon the organism of other living beings, even at a considerable distance.

"Pomponatius, a native of Mantua, and professor of Philosophy at the celebrated university of Padua, assumes it as a fact generally acknowledged, that there are men endowed with the faculty of curing certain diseases, by means of an effluence or emanation, which the force of their imagination directs towards the patient. 'When those,' says he 'who are endowed with this faculty, operate by employing the force of the imagination and the will, this force affects their blood and their spirits, which produce the intended effects by means of an evaporation thrown outwards.' He afterwards observes, that it is by no means inconceivable, that health may be communicated to a sick person, by the force of the imagination and the will so directed; and he compares this susceptibility of health to the opposite susceptibility of the infection of disease.

"In another passage, he enumerates the conditions of the exercise of this faculty, in nearly the same terms as are employed by the modern

which pervades all bodies, and by means of which certain effects can be produced by the will of one person upon the

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mesmerisers; and he adds, that the confidence of the patient contributes to the efficacy of the remedy. 'It is necessary,' says he, 'that he who exercises this sort of enchantment should have great faith, a strong imagination, and a firm desire to cure the sickness. But these dispositions are not to be found equally in all men.'

"Henry Cornelius Agrippa, the famous astrologer, chemist, and magician, asserted that it is possible for a man to communicate his thoughts to another, even at a great distance, and appeals to his own experience, as well as to that of others, for the truth of the fact.

"But there is no author of that age,—observes Colquhoun, in treating of this subject, who appears to have so fully anticipated the modern discovery of mesmerism, as Van Helmont.

"He defines mesmerism, or as he styles it, magnetism, to be 'that occult influence, which bodies exert over each other at a distance, whether by attraction or by impulsion.' The medium or vehicle of this influence, he designates by the name of the *magnale magnum*, which he seems to consider as an universal fluid pervading all nature. It is not, he continues, a corporeal substance, capable of being condensed, measured, or weighed; but an ethereal, pure, vital spirit, or essence, which penetrates all bodies, and acts upon the mass of the universe. With regard to the human frame, he conceives that the seat of the magnetic force is in the blood, and that it is called forth and directed by the will. Van Helmont occasionally gives to this influence the epithets of ecstatic and magical, using the latter word in its more favorable signification.

"In the same treatise, the author proceeds to say that there resides in man a peculiar energy, which enables him by the mere force of his will and imagination to act at a distance, and to impress a virtue, to exercise an influence upon a very remote object. This power, he admits, is incomprehensible; but there are other powers and agents in nature, which we are equally incapable of comprehending—such as the power of volition over the corporeal organs. The union of the soul and the body, too, and their reciprocal influence upon each other, depend upon causes which we are unable to discover.

"But one of the most remarkable passages in this treatise is that in which the author explains the conditions necessary to the success of the magnetic treatment. 'We have already observed,' says he, 'that all magical power lies dormant in man, and that it requires to be excited. This is invariably the case, if the subject upon whom we wish to operate, is not in the most favorable disposition; if his internal imagination does not abandon itself entirely to the impression which we wish to produce upon him; or if he towards whom the action is directed, possesses more energy than he who operates. But when the patient is well disposed, or weak, he readily yields to the magnetic influence of him who operates upon him through the medium of his imagination. In order to operate powerfully, it is necessary to employ some medium; but this medium is nothing unless accompanied by the internal action.' All this—at least in its essential

organization and mind of another; but he combined this doctrine with others relating to magic, alchemy and astro-

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points—is quite coincident with the modern doctrine of animal magnetism, introduced by Mesmer, and established by the numerous experiments and observations of his successors.

"Van Helmont, and indeed most of the early writers on the subject of magnetism, ascribed a vast and mysterious influence to the power of energetic and concentrated volition.

"The will, according to Van Helmont, is the first of powers. It was by the will of the Almighty that the universe was created; it was by volition that motion was originally impressed upon all objects; it is the will existing in man, which is the principle of all his actions. Volition belongs to all spiritual beings; it is the more active and powerful in them, in proportion as they are disengaged from matter; and the energy with which it operates without the assistance of organs, is the essential characteristic of pure spirits. He also remarks that those who exert the magnetic influence, operate more or less powerfully, according to the energy of the will; and that the effects of their operation may be impeded by the resistance of that which is operated upon. A magnetiser will operate with much more certainty upon weak than upon robust beings; because the power of operating effectually by means of volition has its limits, and he who possesses energy of mind can easily resist it.

"It is quite evident, indeed, from the whole works of Van Helmont, that he was not only perfectly well acquainted with the magnetic influence, but that he made use of it professionally, and placed great confidence in its effects. He himself, indeed, informs us, that when the plague was raging in the town of Brussels, he thought it his duty to seize the opportunity of instructing himself and of being useful to others. He accordingly offered his services to attend the sick; neither the fatigue, nor the fear of infection, could abate his zeal, or extinguish his charity. 'Perceiving,' says he, 'that most of the physicians deserted the sick, I devoted myself to their service, and God preserved me from the contagion. All, when they saw me, seemed to be refreshed with hope and joy; whilst I, supported by faith and confidence, persuaded myself that God would at length confer upon me the science of an adept.'

"There appeared in England, about the middle of the seventeenth century, three persons, who seem to have possessed considerable mesmeric power, which they employed, however, only for the cure of diseases. These were a gardener named Levret, an Irish gentleman, Valentine Greatrakes, and a Dr. Streper. Their method of cure was altogether by manipulations, and their success was wonderful, and indeed almost incredible.

"In the course of the next century, there appeared in Germany, a still more extraordinary character than either of the three who performed such wonders in England. This was John Joseph Gassner, who was born at Bratz, in Suabia, in 1727, and who became a Catholic priest. His curative powers were most amazing, especially in spasmodic and epileptic complaints, and were authenticated in the most

logy, which had the effect to bring both himself and his opinions, on this subject, into discredit with philosophers.

The following brief glance at the history of mesmerism, is principally derived from the recent work of Lang.

About the middle of the seventeenth century, there appeared in England a certain gardener of the name of Levret, an Irish gentleman, Valentine Greatrakes, and a Dr. Streper, who professed to cure various diseases by stroking with the hand. The cures performed in this manner by Greatrakes are authenticated by the Lord Bishop of Derry, and many other highly respectable individuals. The Royal Society accounted for them by the supposition, that there existed a "sanative contagion in Mr. Greatrakes' body, which had an antipathy to some particular diseases, and not to others." At a still later period, Gassner, a Catholic minister, a native of Suabia, having taken up a notion that many diseases arose from demoniacal possession, and could be cured by exorcism, performed a number of astonishing cures, especially among patients affected with spasmodic and epileptic complaints. Many other instances of a like character might be adduced, exhibiting traces of this curious agency; but we come, without farther preface, to the individual who, in modern times, was the reviver of the science to which his name has been given.

Frederick Anthony Mesmer was born in Switzerland, on the 23d day of May, 1734. He studied medicine at Vienna, where he obtained the degree of doctor, and settled as a physician. A marriage with a lady of fortune soon afterwards raised him above some of the cares which attach to the young medical practitioner.

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ample and irrefragable manner, by persons of high rank and irreproachable character.

"But it was reserved for Mesmer, one of the most remarkable men on record, to deduce and form from these scattered facts and instances, and from his own personal experience, the rudiments of that mighty and marvellous science which now bears his name, and will perpetuate his remembrance to the latest ages."

From an early age, Mesmer is said to have manifested a love of the marvellous; and, in the year 1776, he published a dissertation, *On the Influence of the Planets upon the Human Body.* He assumed, that the influence operated by electricity; but finding that agent inadequate to the solution of all the phenomena, he afterwards abandoned it for magnetism. In 1773, upon the suggestion of Maximilian Hell, professor of astronomy at Vienna, he resorted to the use of the magnet, which he applied in the cure of various diseases. Ultimately he discovered that the magnetic rods employed by him were powerless, and that the healing power, whatever it might be, was resident in himself. The rods were accordingly abandoned, the effects being produced by certain passes.

Mesmer now began to assume a mysterious demeanor; and, in no small degree through his own folly, so great a prejudice was created against him, that in 1777 he departed from Vienna, and early in the following year made his appearance in Paris. There, besides making a convert of Dr. D'Eslon, he performed many remarkable cures in the class of distinguished persons, and his fame accordingly spread with great rapidity throughout the gay circles of that city. The members of the medical profession, however, set themselves in resolute opposition to Mesmer, and for a time he retired to Spa, but afterwards, upon the persuasion of his friends, returned to Paris.

A negotiation was attempted for the purchase of Mesmer's secret by the French Government; but this having failed, the sale was carried on to private individuals at the rate of one hundred louis a head. It was a condition of each sale that secrecy should be maintained; but this was broken through, and the knowledge of the facts propagated by Mesmer was soon widely diffused, with the disadvantage of having many corruptions grafted upon them according to the fancies of various individuals. The practice of Mesmer

savored in itself sufficiently of quackery, and some of his disciples seem to have followed it up in a still more foolish manner.

In 1784, the French Government issued a royal mandate to the medical faculty of Paris, requiring them to investigate the facts and the pretensions of the new doctrine. The bulk of the members of this famous commission had prejudged the question, and, like too many of the medical men of our own time, were resolved that they would not be convinced. The name of the celebrated Franklin is attached to the unfavorable Report that was issued, although it should not have been there, as he is said to have been indisposed at the time, and to have given little attention to what took place.

There was one commissioner who refused to concur in the Report adopted by his brethren. Jussieu, a physician of the highest eminence, who devoted great attention to the investigation, published a special report of his own, presenting an entirely different view, and conveying an infinitely more favorable impression of the subject.

The blow struck by the French Commissioners did not entirely answer the expected purpose. The question still continued to excite a high degree of interest in that country, but the breaking out of the Revolution, and the wars which followed that event, turned the public attention in other directions.

The Marquis de Puysegur, one of the most intelligent of Mesmer's disciples, to whom the science is under deep obligations, was the first to describe the state of somnambulism.* The Marquis, both at Paris and on his estate in the country, devoted himself with the utmost zeal to the propagation of the science; and the system, as improved by him, was introduced into Germany in 1787, through the in-

* I believe that he was the first who discovered clairvoyance.

strumentality of the celebrated physiognomist Lavater. Journals devoted to animal magnetism were established in France and Germany; and in those countries, as well as in Switzerland, the magnetic treatment has prevailed, more or less, for the last fifty years.

Meanwhile, Mesmer had retired to his native country, Switzerland, and his death took place on the 5th of March, 1815, at Meersburg, on the Lake of Constance. His last years were devoted to the practice of the magnetic treatment or the benefit of the poor, and he exhibited his own belief in its efficacy as a remedy, by submitting to the treatment in his last illness, and is said to have experienced from it great relief.

Many men of the highest eminence on the Continent of Europe, despite the din of war around them, devoted a considerable degree of attention to Mesmerism, and in progress of time it began to be heard of in the works of the great German physiologists, Sprengel, Reil, Authenrieth and others—names as well known on the Continent as those of Harvey or Hunter in Britain. In 1817, the practice of Mesmerism was by law ordered to be confined to the medical profession in the Prussian dominions; and in 1818 the Academy of Sciences at Berlin offered a prize of 3340 francs for the best treatise on Mesmerism. In Denmark, and even in Russia, about the same period, the subject was brought under investigation, and in the latter country a committee, appointed by the Emperor, declared it to be a most important agent. These things could not go on without challenging investigation in France, from whence the first report of a commission had emanated.

In 1825, M. Foissac proposed to the Académie de Médicine, to produce a somnambulist, in whom the members of that body might witness the extraordinary phenomena caused by animal magnetism. The proposition gave rise to violent debates, which terminated in the appointment of a

committee, to determine as to whether the Académie ought or ought not to take cognizance in the subject. The committee decided in the affirmative, upon the following grounds: First, that the judgment pronounced by the Académie in 1784, was not founded upon reasons sufficiently conclusive; and secondly, that the magnetism now proposed for examination, differed from the Mesmerian magnetism, inasmuch as its effects were producible without actual contact between the magnetiser and the magnetised, and without the employment of metallic rods, magnetic chairs, and other similar means. After strong opposition, a commission was appointed, composed of twelve members, to examine into and report upon the experiments about to be made. The commission pursued its investigations till 1831, when it presented a report to the Académie, containing an exposition of its labors, with the inferences deduced from them, arranged under the following heads:

1. The effects ascribed to magnetism are null in most healthy individuals, and in some invalids.

2. They are but little apparent in others.

3. They are often produced by ennui, monotony, and the power of the imagination.

4. Lastly, they are developed independently of these causes, very probably by the influence of magnetism alone.

The somnambulist proposed to be presented to the Académie by M. Foissac, who, he stated, would remove all doubt as to the power of magnetism, was the first person subjected to its operation before the commission. It appears, however, that the experiment was a failure, for the commissioners say, in the report—

"We must confess, our inexperience, our impatience, our mistrust, perhaps too strongly manifested, did not permit us to observe any of the phenomena of somnambulism."

It is unnecessary that I should follow the report in the

enumeration of instances illustrative of the two first heads. The following cases will serve to illustrate the third position; it being sufficient to place the persons in situations in which they believed themselves magnetised, to produce similar phenomena:*

"Mad'lle. L. was magnetised eleven times at the Hotel Dieu, within the period of a month. At the fourth sitting, somnolency, convulsive movements of the neck and face, with other symptoms, occurred. At the eleventh sitting, the magnetiser placed himself behind her chair, without making any signs, and without the intention of magnetising; nevertheless, she experienced more decided effects than on the preceding trials.

"An hysterical girl was magnetised several times; at each time there occurred somnolency with strong convulsive actions. Being placed one day in the same chair, in the same place, at the same hour, and in the presence of the same persons, the accustomed phenomena presented themselves, though the magnetiser was absent."

A like experiment was made on an epileptic patient with a similar result.

The following is an abstract of some of the cases, from which the commissioners inferred, that the phenomena was produced by the action of magnetism alone:

A child aged twenty-eight months, subject to epileptic attacks, was magnetised by M. Foissac. Almost immediately after the beginning of the passes, it rubbed its eyes, leaned its head upon one of the cushions, yawned, was agitated, scratched its head and ears, and seemed to struggle against the tendency to sleep.

A deaf and dumb boy, aged eighteen years, subject to epileptic attacks from a long period, was magnetised fifteen times; the epileptic attacks were suspended, and only returned after an interval of eight months, which was unprecedented in the history of his disease; he experienced be-

* See my remarks on Credencive Induction.

sides, during the experiments, heaviness of the eye-lids, general torpor, the inclination to sleep, and sometimes vertigo.

M. Itard, one of the members of the commission, who had previously been magnetised without any effect resulting, again subjected himself to the experiment, after nearly a year's interval, and experienced languor without sleep, a marked excitation of the nerves of the face, convulsive movements in the nose, the muscles of the face and jaws, an accumulation in the mouth of saliva, having a metallic taste—a sensation similar to that which he had experienced from galvanism. This phenomenon recurred on subsequent occasions, when he was magnetised ; the two first sittings produced headache, which lasted several hours, at the same time his habitual pains had diminished.

After stating some instances of insensibility, during somnambulism, to noises, pinching, pricking, ammonia applied to the nose, &c., the commissioners relate two or three cases where the somnambulists failed to execute the orders transmitted to them mentally by the magnetiser, of which I shall merely quote one.

In Madame C., residing in the same house as the magnetiser, it was proposed to exhibit the mental power possessed by the magnetiser over the magnetised ; as also the communication of thoughts between them, without the intervention of speech or gesture. The proposal was accepted by the commissioners, who repaired to the house, and when the somnambulist was produced, gave directions in writing to the magnetiser, indicating the actions which they desired to see performed, which were to be signified mentally to the somnambulist. Thus she is first ordered to go and sit on a stool before the piano ; she rises and looks at the clock ; on being apprised of her mistake, she goes into another room, and on being again informed of her error she sits down. She is next desired to raise her hand at the

same time as her magnetiser, and to lower it at the same time; the two hands are raised simultaneously, but that of Madame C. is not raised at the same time as the magnetiser's. The back of a watch is presented to her; she mistakes the hour and the number of hands; she is told to rub her forehead, but she merely extends her hands.

The result of this and one or two other cases, rendered the commissioners somewhat suspicious of a previous understanding between the magnetisers and the somnambulists. M. Dupotet offered to remove their doubts, and engaged to produce at will, and out of the sphere of the sight of those whom he would throw into somnambulism, convulsive movements in any part of their body, by the mere action of pointing towards the part which the commissioners should indicate. A man who had already been magnetised several times, was consequently thrown into somnambulism, and after some trials upon his obedience, M. Dupotet announced that the commissioners might produce the promised effects. M. Marc, one of them, accordingly placed himself behind the somnambulist, and made a sign to M. Dupotet, to produce movements in the forefinger of the right hand, and afterwards in the toes; the somnambulist performed some movements, but not in the parts indicated. Similar movements, though more feeble, were subsequently made without magnetization, and the experiment was declared to be inconclusive.

Mademoiselle Lemaitre, who has been already mentioned, when it was a question of the imagination in the production of magnetic phenomena, also presented this convulsive mobility, but these movements, resembling in their rapidity those which are felt on the approach of an electrical point, sometimes took place in a part to which the fingers were pointed, and sometimes also without the pointing of the fingers. They also occurred at a longer or shorter period after the attempt which was made to produce them; some-

times this phenomenon was exhibited at one sitting, and did not appear at all in another ; the approach of the fingers to one part was likewise sometimes followed by convulsive movements in a different part.

It was chiefly upon M. Petit, a teacher, aged thirty-two, that the convulsive movements have been determined with the greatest degree of precision, by the approach of the magnetiser's fingers.

"M. Dupotet, presented him to the commissioners, the 10th of August, 1826, stating to them that the man was very susceptible to somnambulic phenomena, and that while in this state, he, M. Dupotet, could at his pleasure, and without expressing it by word, produce in the parts indicated by the commissioners, evident convulsive movements, by the mere approach of his fingers to the parts. He was quickly somnambulised, and it was then that the commissioners, to obviate any suspicion of a concerted plan, placed in the hands of M. Dupotet, a note composed in silence, and at the moment in which they had stated, in writing, the parts which they wished to see convulsed.

"Following these instructions, he first directed his hand towards the right wrist, which became affected with convulsions : he afterwards placed himself behind the patient, and directed his finger in the first instance towards the left thigh, then towards the left elbow, and then to the head. These three parts were almost immediately seized with convulsive movements. M. Dupotet next directed his left leg towards that of the patient, who became agitated in such a manner as to be near falling ; M. Dupotet then brought his foot near the right elbow of M. Petit, and the elbow became agitated ; he then carried his foot towards the left elbow and hand, and very strong convulsive actions took place in the whole limb. One of the commissioners, M. Marc, with the intention of obviating the slightest possibility of trickery, placed a bandage over the patient's eyes, and the preceding experiments were repeated, with but slight difference in the result. Upon the combined and instantaneous indication of several of us, M. Dupotet directed his finger towards the patient's left hand ; on its approach both hands were agitated. We desired that the action should be directed at the same time to

both the inferior extremities; at first the fingers were approached without any results; soon, however, the somnambulist moved his hands, retreated, and then agitated his feet. MM. Thillaye and Marc directed their fingers towards various parts of the body, and provoked some convulsive movements. Thus M. Petit always had, on the approach of the fingers, convulsive movements, whether his eyes were bandaged or not, and these movements were more decided when a metallic rod, such as a key, or the branches of spectacles, was directed towards the parts. In conclusion, the commission, although witnesses of several cases in which this contractile faculty has been excited by the approach of the fingers, or of metallic rods, require further facts, in order to appreciate the phenomenon, of the constancy and value of which they do not consider themselves sufficiently enlightened to pronounce an opinion."

M. Petit likewise presented the phenomena of clairvoyance, or sight with the closed eyelids, though he was wrong in some of his statements. Thus, M. Dupotet had announced to the commissioners that the somnambulist would be able to pick out from twelve coins, that which he had held in his hand. A five-franc piece was selected, and mixed with twelve others, but M. Petit took the wrong one; a watch, of which the direction of the hands was altered from the actual hour of the day, was presented to him, and he was twice wrong in mentioning the time which they indicated. This was accounted for by saying that M. Petit had lost some of his lucidity since he had not been so frequently magnetized; nevertheless, in the same sitting, the reporter to the commission played a game of piquet with him, and often tried to deceive him by announcing a card of one color for another, but in vain; M. Petit played correctly, and knew the color of his adversary's cards. Every time, however, that a substance, as a sheet of paper or parchment was placed between the eyes and the object to be distinguished, M. Petit could not distinguish it.

"If these trials had been the only ones by which we had sought to recognize *clairvoyance*, we should have concluded that the som-

nambulist did not possess it; but in the following experiment this faculty appeared in full evidence, and this time the success completely verified that which M. Dupotet had announced to us.

"After the patient had been thrown into somnambulism, and had exhibited some of the phenomena of muscular contraction and agitation on the approach of the fingers or foot of the magnetizer, a bandage was placed over the eyes. Having declared, however, that he could not see with the bandage, it was removed, but then constant attention was directed to the eyelids to verify that they were exactly closed. For this purpose a light was held at a little distance from the eyes during the experiment, and several persons were watching him closely; one of them, M. Ribes, even remarked, that the edges of the eyelids were so close, that the lashes of the upper and lower lids crossed each other. The same gentleman, a member of the Academie, then presented a catalogue which he took out of his pocket; the somnambulist, after some efforts which appeared to fatigue him, read very distinctly the words—*Lavater, il est bien difficile de connoitre les hommes*—these last words were in very small type. He next recognized a passport and a *porte-d'armes*, which is very like a passport: after a few instants' attention he read, *De par le roi* and *Porte d'armes*. An open letter was next shown him: he said he could not read it, as he did not understand English—the letter was in fact written in English. He afterwards distinguished the representation of a dog before an altar, on a snuff-box; and on a closed letter being presented to him, though he could not read it, he pointed out the direction of the lines of writing. On subsequently playing piquet, he handled the cards with the greatest exactness, and, without ever being mistaken, notwithstanding attempts to deceive him were frequently made, by withdrawing or changing the cards; he counted with surprising facility the number of points marked upon his adversary's marking-card.

"Whilst M. Petit was playing a second game, M. Dupotet, at the suggestion of M. Ribes, directed from behind, his hand towards the patient's elbow, and the contraction formerly observed recurred. Then, on the proposition of M. Bourdois, he magnetised him from behind, at the distance of a foot, with the intention of awakening him. The ardor with which the somnambulist was playing, op-

posed this action, which seemed to annoy and vex him. He several times carried his hand to the back of his head, as if he were suffering; he afterwards fell into a stupor, which seemed to be a light natural sleep, and on some one speaking to him in this state, he waked up with a start.

"Shortly afterwards he was again magnetised, and M. Dupotet, desirous that not the shadow of a doubt should remain on the nature of a physical action, exerted at will on the somnambulist, proposed to put on him as many bandages as the commissioners pleased, and then to act upon him. In consequence, his face down to the nostrils was covered with several handkerchiefs; the cavity formed by the prominence of the nose being filled up with gloves, and a black handkerchief covered the whole, falling down to his neck like a veil. The experiments were then repeated in various ways, and the same kind of movements manifested themselves in the parts towards which the hand or the foot were directed. After a game at ecarte, which the somnambulist pursued with such ardor that he remained insensible to the action of M. Bourdois, who vainly endeavored to act upon him from behind, he rose, walked across the room, putting aside the chairs which were in his way, and went to sit down at a distance from the experimenters, when he was awakened by M. Dupotet. When awakened, he said that he retained no recollection of what had occurred during his somnambulism."

I will now refer to the cases in which the commissioners witnessed, besides clairvoyance, the proofs of intuition, and of a foresight very remarkable, as regards themselves and others.

Paul Villagrand, a law student, was attacked, 25th December, 1825, by apoplexy, with paralysis of the whole left side of the body; after seventeen months of varied treatment pursued at home, and in a Maison de Santé, in the course of which period he had two fresh attacks, he was admitted, 8th April, 1827, in the hospital La Charité. Although he had experienced marked relief from the means employed before his admission, he still walked with crutches without being able to lean upon the left leg. The arm of

the same side could execute some under movements, but he could not raise it to the head. He could hardly see with the right eye, and his hearing was very bad on both sides. In this state he was placed under the care of M. Fouquier. During five months, he was bled, purged, or blistered, from time to time, and took the extract of nux vomica. The left arm acquired a little strength, the headaches to which he was subject subsided, and his condition remained stationary till 29th August, 1827, on which day he was magnetised by M. Poissac, according to the order and under the direction of M. Fouquier. In this first sitting he experienced a sensation of general heat and muscular twitchings. He was astonished at the inclination to sleep, rubbed his eyes and made useless efforts to keep them open. From this period the deafness and the headache disappeared. It was only at the ninth sitting that the sleep became complete ; on the tenth he answered by inarticulate signs to questions which were addressed to him. On a subsequent occasion he announced that he could only be cured with the assistance of magnetism, and prescribed himself sinapisms, baths of Barèges, and the continued use of pills of extract of nux vomica. The 25th September the commission repaired to La Charité, caused the patient to undress, and verified the circumstance that the left inferior extremity was much thinner than the other ; that the left hand pressed much less strongly than the right ; that the tongue, when protruded from the mouth, was drawn towards the right commissure. On being magnetised, he again prescribed for himself, and added, that by pursuing the treatment for three days, and on being magnetised, he would be able, on awaking, to walk without crutches. The treatment was accordingly followed up, and on the stated day, the 25th, the commissioners arrived at the hospital. Paul entered the room supporting himself on his crutches, and was magnetised as usual. When in somnambulism, he

stated that he would return to his bed without crutches or support. When awakened, he asked for his crutches, but was answered that he did not require them,—in fact, he arose, supported himself upon the paralysed leg, passed through the crowd, which followed him, descended the steps of the conference-room, crossed the court-yard to the foot of the staircase, which, after resting himself a minute or two, he ascended with the assistance of an arm and the bannister, went to his bed without support, to the great astonishment of all the patients, who till then had only seen him fixed to his bed. From that day he did not resume his crutches.

When again magnetised, on the 11th October, he announced that he should be completely cured if a seton were established below the region of the heart. On being pricked with a pin on the eyelids, he evinced no sign of sensibility.

The magnetic experiments in the hospital were at this period put a stop to by the administrative council. The patient, however, said he could not sufficiently praise the efficacy of magnetism, and was consequently removed from the hospital by M. Foissac, who continued the treatment in a private apartment.

On the 29th of the same month, the commissioners went to his apartment to ascertain the progress of the cure, which they found materially advanced. On being somnambulised, he showed increased strength, raised M. Thillaye from the ground, and on being told to descend the staircase, abruptly quitted his chair, took the arm of M. Foissac, whom he left at the door, descended and ascended the steps two at a time with a convulsive rapidity, which, however, became moderated when he was told to ascend only one at a time. When awakened, he lost his surprising increase of strength: his gait was slow but assured; he could not support the weight of his body upon the left leg, and he tried

in vain to raise M. Foissac. It must be observed, that two days before this last experiment he had lost two pounds and a half of blood, had had blisters on his legs, a seton in the nape, and another on the breast.

"You will consequently perceive with us, gentlemen," continues the Report, "what a prodigious increase of power magnetism had developed in the diseased organs, since the whole strength of the body had been more than quadrupled

"Paul afterwards renounced all medical treatment, desiring that the remedial means should be restricted to magnetism; and towards the end of the year, as he expressed the desire to be put and kept in somnambulism during eight days, in order that his cure should be complete on the 1st of January, he was magnetised on the 25th of December, and from that day remained in somnambulism till the 1st of January. During this time he was awakened for twelve hours at unequal intervals; and in these brief moments of the waking state, he was suffered to believe that he had only been asleep for a few hours. During the whole time of his sleep the digestive functions were performed with increased activity.

"He had beena sleep three days, when, still in somnambulism, accompanied by M. Foissac, he set off on foot, the 28th of December, from the Rue Mondovi, and went to find M. Fouquier at the hospital, where he arrived at nine o'clock. He there recognized the patients near whom he had slept before leaving, as also the pupils on service, and he read with closed eyes, while a finger was held on each eyelid, some words which M. Fouquier showed him.

"The 12th of January, the commissioners once more assembled at the house of M. Foissac, where were present M. E. De Las Cases, deputy; the Count De Rumigny, aide-de-camp to the king; and M. Segalas, member of the Academy. M. Foissac stated to us, that when Paul was in the state of somnambulism, a finger might be held on each of his closed eyes, and that notwithstanding the complete occlusion of the lids, he would distinguish the color of cards, would read the title of a book, and some lines in any part which might be opened. After a couple of minutes of magnetic gestures, Paul is asleep. The eyelids being held closed constantly and alternately by MM. Fouquier, Itard, Marc and the reporter; a new pack of cards is brought, and the stamped envelope of the

government torn off; the cards are shuffled, and Paul recognizes, easily and successively, the king of spades, the ace of clubs, queen of spades, nine of clubs, seven of diamonds, queen of diamonds, and eight of diamonds."

He also reads lines from a History of France, which the reporter had brought with him, as likewise a paper on which two words had been written. In all these experiments the fingers were applied on the whole of the commissure of the eyes, pressing the lid from above downwards, and the commissioners remarked that the globe of the eye had been in a constant movement of rotation, and seemed to direct itself towards the object submitted to vision.

Analogous effects were repeated on subsequent occasions, and the commissioners remarked that—

"The conclusions to be drawn from this long and curious case are easy; they flow naturally from the simple exposition of the facts which we have related, and we enumerate them in the following manner:—1st. A patient whom a rational medication by one of the first practitioners of the capital was not able to cure of paralysis, finds his cure in the employment of magnetism, and in the exactness with which the treatment is pursued, which he prescribes for himself while in somnambulism. 2d. In this state his strength is notably increased. 3rd. He gives us the most undeniable proof that he reads with the eyes closed. 4th. He foresees the period of his cure, and is cured at the time which he announced."

The case of another patient, a journeyman hatter, aged twenty, born of an epileptic mother, and subject to fits of epilepsy five or six times a week, for ten years, is next given in the report. This individual predicted, while in somnambulism, the periods of his attacks, and when he would be cured; the former predictions were verified, but before the term which he had fixed for his cure arrived he was knocked down by a cabriolet and killed. The commissioners observe upon this case,—

"We see in this instance, a young man, subject, during ten

years, to attacks of epilepsy, for which he had been successively treated at two hospitals, and exempted from military service. Magnetism acts upon him, although he is completely ignorant of what is done to him: he becomes a somnambulist. The symptoms of his disease are ameliorated, the attacks diminish in frequency, his headaches and oppression disappear beneath the influence of magnetism; he prescribes himself a treatment appropriated to the nature of his disease, and from which he promises himself a cure. Being magnetised without his knowing it, and from afar, he falls into somnambulism, and is awakened from it with the same quickness as when the magnetiser is near him. Lastly, he indicates, with a rare precision, one and two months before-hand, the day and hour at which he is to have an attack of epilepsy; nevertheless, although endowed with a foresight for attacks at so distant a period, as well as for those which are never to take place, he does not foresee that in two days he will meet with a fatal accident."

On this last circumstance the commissioners remark, that the previsions of the patient relate only to his attacks, that they are reduced to the consciousness of the organic modifications which prepare themselves and happen to him, as the necessary result of interior functions; that these previsions, though more extended, are similar to those of certain epileptics, who know from several precursory symptoms that they will have an attack. They continue—

"Let us add, that his prevision is not absolute; that it is conditional; since, when foretelling an attack, he stated that it would not take place if he were magnetised; and, in fact, it does not take place, it is altogether organic—internal. Thus we can conceive why he did not foresee an event altogether external, viz: that chance should lead him in the way of a fiery horse, and that, in attempting to stop it, he should receive a mortal wound."

In the next case, the somnambulist, a female, besides the ordinary phenomena of somnambulism, exhibits that of ascertaining the symptoms of persons presented to her. One of these was M. Marc, one of the commissioners; another was a dropsical young woman, with some peculiari-

ties, which were indicated by the somnambulist, on touching her, with tolerable precision :

" It results from these observations," says the report, " 1st. That while in the state of somnambulism, Mademoiselle C. has pointed out the diseases of three persons with whom she was placed in relation (*communication*). 2d. That the declaration of the one, the examination which was made of the other, after thrice tapping, and the autopsic examination of the third, were found to accord with what the somnambulist had advanced. 3d. That the different modes of treatment which she prescribed are not beyond the circle of remedies which she might know, nor beyond that of the order of things which she might reasonably recommend; and 4th. That she applied them with a kind of discernment."

The report terminates by saying, " The commission has reported with impartiality that which it had seen with distrust; it has exposed methodically that which it has observed under different circumstances, and which it has followed up with an attention as close as continued. It has the consciousness that the statements which it presents to you are the faithful expression of that which it has observed. The obstacles which it has met with are known to you; they are partly the cause of the delay which has occurred in presenting the report, although it has long been in possession of the materials. We are, however, far from excusing ourselves, or from complaining of this delay, since it gives to our observations a character of maturity and reserve which should lead you to confide in the facts which we have related, without the charge of prepossession and enthusiasm, with which you might have reproached us if we had only recently collected them. We add, that we are far from thinking that we have seen all that is to be seen, and we do not pretend to lead you to admit as an axiom, that there is nothing positive in magnetism beyond what we mention in our report. Far from placing limits to this part of physiological science, we entertain, on the contrary, the hope that a new field is opened to it; and, warranting our own observations, presenting them with confidence to those who, after us, will occupy themselves with magnetism, we restrict ourselves to drawing the following conclusions, which are the necessary consequence of the facts, the totality of which constitutes our report.

"CONCLUSIONS.

"1. Contact of the thumbs or the hands, frictions or certain gestures termed *passes* made at a little distance from the body, are the means employed to place in relation, or, in other words, to transmit the action from the magnetiser to the magnetised.

"2. The actions, which are external and visible, are not always necessary, since on many occasions the will, the fixed look of the magnetiser, have sufficed to produce magnetic phenomena, even when unknown to the magnetised.

"3. Magnetism has acted on persons of different sex and age.

"4. Magnetism does not generally act upon healthy persons, nor does it act upon all invalids.

"5. Whilst persons are being magnetised, insignificant and transient effects sometimes occur, which, we do not ascribe to magnetism alone, but which may be accounted for without the intervention of a particular agent, viz. by hope or fear, expectation from a something new and unknown, the ennui resulting from the monotony of the gestures, the silence and repose observed in the experiments: lastly, by the imagination, which exercises so powerful an influence over some minds.

"6. A certain number of the effects observed have appeared to us to result from magnetism alone, and were not reproduced without it. These are well authenticated physiological and therapeutical phenomena.

"7. The real effects produced by magnetism are very varied; it agitates some, calms others, it usually accelerates the respiration and circulation, causes transient convulsive movements similar to electric shocks, a lassitude and torpor more or less profound, somnolency, and, in a small number of instances, what the magnetisers term somnambulism.

"8. The existence of a special character proper to make known in all cases the reality of the state of somnambulism, has not been proved.

"9. It may, however, be inferred with certainty that this state exists, when it gives rise to the development of new faculties which have been designated by the name of *clairvoyance*, intuition, internal prevision; or when it produces great changes in the physiological state, as *insensibility, a sudden and considerable increase*

of strength, and when this state cannot be referred to another cause.

"10. As among the effects ascribed to somnambulism there are some which may be simulated, so may somnambulism itself be simulated, and furnish charlatanism with means of deception.

"11. Sleep, produced more or less speedily, and established in a degree more or less profound, is a real, but not a constant, effect of magnetism.

"12. It has been demonstrated to us, that sleep may be produced under circumstances in which the magnetised have not been able to perceive, and have been ignorant of, the means employed to occasion it.

"13. When a person has been already magnetised, it is not always necessary to have recourse to contact, or to the passes, in order to magnetise afresh. The look of the magnetiser, his will alone, has often the same influence. In this case, one cannot only act upon the magnetised, but throw him completely into somnambulism, and awaken him from this state without his being aware of it, out of his sight, at a certain distance, and through closed doors.

"14. There usually take place changes more or less remarkable in the perceptions and the faculties of individuals in whom somnambulism is produced by magnetism.

"15. We have not seen any person fall into somnambulism on being magnetised for the first time. It has sometimes been not until the eighth or tenth sitting that somnambulism has become manifest.

"16. We have constantly seen ordinary sleep, which is the repose of the organs of the senses, of the intellectual faculties and voluntary movements, precede and terminate the state of somnambulism.

"17. When awakened, somnambulists declare that they do not recollect any of the circumstances of the state of somnambulism.*

"18. We have seen two somnambulists distinguish with closed eyes the objects placed before them; they have designated, without touching them, the color and name of cards; they have read

* They will recollect, if requested to do so before they are awakened.

words written, or lines from a book. This phenomenon has occurred even when the eyelids were kept closed by the fingers.

"19. We have met with two somnambulists, with the faculty of foreseeing acts of the organism, more or less distinct, more or less complicated.

"20. We have only met with one somnambulist who could indicate the symptoms of the disease of three persons with whom she was placed in relation. We had, however, made researches on a considerable number.

"21. In order to determine with justness the relation of magnetism with therapeutics,* the effects must have been observed on a great number of individuals, and experiments should have been made for a long period and daily on the same diseases. This not having been done, the commission must restrict itself to saying that it has seen too few cases to be able to pronounce an opinion on this point.

"22. Some of the patients magnetised have derived no advantage, others have experienced more or less marked benefit; viz: one patient, the relief of habitual pains; another, the return of strength; a third, a suspension of several months of epileptic attacks; and a fourth, the complete cure of serious and long-standing paralysis.

"23. Considered as an agent of physiological phenomena, or as a therapeutical means, magnetism ought to find a place within the sphere of medical knowledge, and consequently only medical practitioners ought to employ it, or to superintend its employment, as is practiced in the countries of the north.

"24. The commission could not verify, because it had no opportunity, the other faculties which magnetism had stated to exist in somnambulists. But it has collected, and communicates to the Academie, facts sufficiently important to induce it to think thatt he Academie ought to encourage researches on magnetism as a very curious branch of psychology and natural history.

"Certainly we dare not flatter ourselves that we shall make you share entirely our conviction of the reality of the phenomena which we have observed, and which you have neither seen, nor followed, nor studied with, or in opposition to us. We do not, therefore,

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* The cure of diseases.

exact from you a blind belief in all which we have reported. We conceive that a great part of the facts are so extraordinary, that you cannot grant it to us: perhaps we ourselves should have refused you our belief, if, changing places, you had come to announce them before this tribunal to us, who, like you at present, had seen nothing, observed nothing, studied nothing, followed nothing of them.

"We only require that you judge us as we should have judged you, that is to say, that you remain perfectly convinced that neither the love of the wonderful, nor the desire of celebrity, nor any interest whatever, has influenced us in our labors. We were animated by motives more elevated, more worthy of you—by the love of science, and by the wish to justify the hopes which the Academie had conceived of our zeal and devotedness.

"(Signed) BOURDOIS DE LA MOTTE, President; FOUQUIER, GUENEAU DE MUSSY, GUERSENT ITARD, LEROUX, MARC, THILLAYE, HUSSON, Reporter."

Various theories have been from time to time promulgated in explanation of the extraordinary phenomena of mesmerism. It was assumed by Mesmer that there was a reciprocal influence continually subsisting between the heavenly bodies, the earth and animated nature, through the medium of a certain very subtile fluid pervading the whole universe, and capable of receiving, propagating and communicating every impulse of motion.

"The properties of matter, and of organised bodies," says Mesmer, "depend upon this operative principle. The animal body experiences the alternative effects of this agent, which, by insinuating itself into the substance of the nerves, affects them immediately. The human body exhibits properties analogous to those of the magnet, such as polarity and inclination. The property of the animal body, which renders it susceptible of this influence, occasioned its denomination of Animal Magnetism."

Mr. Colquhoun, after remarking that the profound and interesting researches of those eminent physiologists, Reil,

Authenreith, and Humboldt, have gone far, not only to demonstrate the existence of a nervous circulation, but even to render probable the external expansion of this circulating fluid, goes on to say,—

"Were we, then, to admit the existence of this nervous fluid, of its sensible atmosphere, and its analogy in other respects to electricity, it does not seem to be a very violent or unphilosophical hypothesis to presume that, in certain circumstances, and under certain conditions, it may be capable of being directed outwards, by the volition of one individual, with such energy as to produce a peculiar effect upon the organization of another. This hypothesis, too, appears to be supported by the fact, that individuals possessing sound health and great nervous energy, operate, in general, most effectually in the magnetic treatment; and that weak and diseased persons are most susceptible of the magnetic influence, and manifest the most extraordinary phenomena.* Almost all the practitioners of Animal Magnetism, indeed, seem to agree in this, that the magnetic treatment operates principally, if not entirely, upon the nervous system, and particularly upon those nerves which are situated in the abdominal region."

The decision of the French Commissioners of 1784, which is generally supposed to have been utterly hostile to mesmerism, was in reality principally directed against Mesmer's theory of a fluid. The facts, or at least a numerous portion of them, were admitted, the theory being the main point of attack. The commissioners tell us—

"That which we have learned, or at least that which has been proved to us, in a clear and satisfactory manner, by our inquiry into the phenomena of mesmerism, is, that man can act upon man at all times, and almost at will, by striking his imagination; that signs and gestures the most simple may produce the most powerful effects; that the action of man upon the imagination may be reduced to an art, and conducted after a certain method, when exercised upon patients who have faith in the proceedings."

* I have frequently succeeded with persons of great strength and vigor.

The French Commissioners explained the whole phenomena by attributing them to the power of imagination.* The celebrated Cuvier, who fully admits the truth of mesmerism, writes on this point, as quoted by Dr. Elliotson in his Human Physiology,—

"We must confess that it is very difficult, in the experiments which have for their object the action which the nervous systems of two different individuals can exercise one upon another, to distinguish the effects of the imagination of the individual upon whom the experiment is tried, from the physical result produced by the person who acts for him. The effects, however, on persons ignorant of the agency, and upon individuals whom the operation itself has deprived of consciousness, and those which animals present, do not permit us to doubt that the proximity of two animated bodies in certain positions, combined with certain movements, have a real effect, independently of all participation of the fancy. It appears also clearly, that these effects arise from some nervous communication which is established between their nervous systems."

Dr. Gall admits this power, and even does not reject the hypothesis of its connection with a fluid.

"How often," says he, "in intoxication, hysterical and hypochondriacal attacks, convulsions, fever, and insanity, under violent emotions, after long fasting, through the effect of such poisons as opium, hemlock or belladonna, are we not, in some measure, transferred into perfectly different beings—for instance, into poets, actors, &c.—just as in dreaming, the thoughts frequently have more delicacy, and the sensations are more acute, and we can hear and answer; just as, in ordinary somnambulism, we can rise, walk, see, touch with the hands, &c.; so we allow that similar phenomena may take place in artificial somnambulism, and even in a higher degree. We acknowledge a fluid which has an especial affinity with the nervous system, which can emanate from an individual, pass into another, and accumulate, in virtue of particular affinities, more in certain parts than in others.

* In another part of this work I have shown that even credencive imagination is the result of physical causes.

We admit the existence of a fluid, the subtraction of which lessens, and the accumulation augments, the power of the nerves; which places one part of the nervous system in repose, and heightens the activity of another, which, therefore, may produce an artificial somnambulism."

A rigid mathematician, La Place, observes, that

"Of all the instruments which we can employ, in order to enable us to discover the imperceptible agents of nature, the nerves are the most sensible, especially when their sensibility is exalted by particular causes. It is by means of them that we have discovered the slight electricity which is developed by the contact of two heterogeneous metals. The singular phenomena which result from the external sensibility of the nerves in particular individuals, have given birth to various opinions relative to the existence of a new agent, which has been denominated animal magnetism, to the action of the common magnetism, to the influence of the sun and moon in some nervous affections; and, lastly, to the impressions which may be experienced from the proximity of the metals, or of a running water. It is natural to suppose that the action of these causes is very feeble, and that it may be easily disturbed by accidental circumstances; but, because, in some cases, it has not been manifested at all, we are not to conclude it has no existence. We are so far from being acquainted with all the agents of nature, and their different modes of action, that it would be quite unphilosophical to deny the existence of the phenomena, merely because they are inexplicable in the present state of our knowledge."

Dr. Elliotson gives his own opinion in these words:

"I have no hesitation in declaring my conviction that the facts of mesmerism which I admit, because they are not contrary to established morbid phenomena, result from a specific power. Even they are sometimes unreal and feigned, and, when real, are sometimes the result of emotion—of imagination, to use common language; but, that they may be real and independent of all imagination, I have seen quite sufficient to convince me."

And after giving the particulars of some cases, he thus proceeds:

"These are the phenomena which I have witnessed. To ascribe them to emotion and fancy, to suppose collusion and deception, would be absurd. They must be ascribed to a peculiar power; to a power acting, as I have no doubt, constantly in all living things, vegetable and animal, but shown in a peculiar manner by the processes of mesmerism."

The history of mesmerism in this country is essentially similar to that in Europe, the principal difference being in the names of the persons concerned. There has been the same enthusiasm, credulity and superstition in its favor, and the same haughty contempt or sneering skepticism opposed to its pretensions; while those best qualified for its investigation, have deemed it unworthy of their serious and continued attention.

SECTION III.

NATURE OF ETHERIUM.

HAVING given a general and brief view of the history of Etherium, as manifested in the form of Etheropathy or mesmerism, it will be perceived that the doctrine of a universal fluid, as the agent concerned in producing the effects, is supported by every distinguished operator and author from the time of Van-Helmont to the present.

The received THEORY of LIGHT is, that it depends upon the undulations of a universal fluid, it is found impossible otherwise to account for the facts which are known upon the subject. The theory of Newton, that "Light is an emanation of particles moving in straight lines with incredible velocity," is now exploded; and the undulatory theory of Huygens receives the sanction of modern philosophers with very few exceptions. Light, is not, by the greatest philosophers, now considered a material substance in itself, but the vibration—the pulsation—the undulation —the peculiar wave-like *motion* of a material ocean of universal etherium, just as sound is a motion of the air. If you suspend a ball in the centre of a pool of water, and then cause the ball to revolve so as to disturb the surface, there will be a regular succession of waves which will, one after the other reach the shore, and each make an impression upon the various objects which constitute the bounds of the pool. In a similar manner, the sun, and every other body from which light emanates, disturbs the ocean of

etherium, and produces a regular succession of waves, which, on striking the optic nerve, communicates or inducts its own peculiar motions, which motions are continued along the nerve to the phreno-organ of color, and from that organ to the organ of Conciousness, thus producing the conciousness which we acquire of the color of different objects.

The different colors of objects are owing to the different degrees of rapidity with which the waves of etherium are propagated.

To prevent my unscientific readers from suspecting the accuracy of these statements in regard to the received theory of light, I will take the liberty to quote, from the Lectures of Dr. Lardner, a few extracts relating to this subject :—

"The sun or a lamp acting on this æther, as it is called, puts it into a state of pulsation ; the vibrations passing through it as those of sound through the air. This pulsation is propagated to the eye—reaches the retina, and puts that delicate membrane into a state of tremulous motion which is the proximate cause of the impression of light produced in the mind, It has been, moreover, discovered by modern science, that the varying rapidity of these vibrations is the cause of the difference in the colors of the spectrum : and what is still more remarkable, these vibrations have been subjected to admeasurement. The various colors, blue, green, &c., are nothing more than the effects of the different rates of pulsation imparted to the retina at the back of the eye-ball. A ray of vibration enters the chamber of the eye through the pupil—a small black spot in the centre of every eye, which is merely an aperture through which a rod might be thrust—and causes the retina to vibrate at different rates. Science has discovered a method of computing the rate at which this membrane pulsates ; and the number of vibrations per second, when the sensation of redness is produced, and so for the other colors. There would be nothing extraordinary in this if this was any ordinary rate, as for instance, fifty times in a second. But when I tell you that the number of vibrations for one color is six hundred millions per second, seven hun-

dred millions each second for another, and that it is never less than six nor more than nine hundred millions—when I tell you that modern science has estimated this with close accuracy, you will admit that it has accomplished what approaches very near to the miraculous.

"These observations have been suggested by reference to the fallacies into which we are led by the senses—and this is especially applicable to the impressions of the different colors; for the truth is, that probably no two persons receive precisely the same impression from the same color. There are numberless instances of different impressions made upon different individuals, and nothing is more common than an inability to distinguish between green and blue. There are hundreds of persons who are never able to distinguish by their colors the cherries upon a tree from its leaves. The celebrated DUGALD STEWART, the well known chemist, DALTON, and many other names, probably familiar to you all, might be mentioned of persons who were unable to distinguish the different colors.

"By a little management we may be able to see bodies that do not exist, and if we take the evidence of the senses on these points, we should be led to believe in all sorts of spectres—the effect of factitious vibrations produced by various causes. It would require weeks to enumerate all the exhibitions of this deception; but I will mention one or two which may amuse, and at the same time be instructive. Take a stick of red sealing wax and place it between the eye and a sheet of white paper; after keeping the eye steadily fixed upon the wax for a short time, look beside it, and you will see a stick of blue wax as distinctly as you perceive the real wax. In this way a succession of spectra may be produced. Thus, by looking steadily at a red wafer for a short time, you will be able to see beside it the *ghost* of a blue wafer; and conversely a blue wafer will give birth to the ghost of a red one—these two colors being correlative to each other; the retina, by the action of the one, is put into a state of morbid vibration by which the effect is produced. It is explicable by supposing that when the retina is put into a state of pulsation, its motions continue for a short time, just as a bell continues to ring for some seconds after it is struck.

"A wish has been expressed that I should explain more fully a circumstance to which I alluded, briefly, in a former lecture; name-

ly—the effect produced on the retina of the eye by light. I explained the principle of light, as established by modern physics, and the impression of the different colors upon the retina. The physical principle on which light depends, was, for a long while, and is still, in dispute among philosophers. One sect maintains that light is a physical emanation from a luminous body, which passes through space at the rate of 200,000 miles in a second, reaches the eye, affects the retina, and produces an impression in the mind. They hold that the white light of the sun is composed of particles of different kinds, each producing the notion of a different color. This theory has been in dispute, and is found to be insufficient for the explanation of certain phenomena, discovered by modern science. This theory, however, was maintained by NEWTON.

"Another theory, which is now generally received, is this: It supposes that the whole universe is filled with a fluid called *æther*, extremely subtile and elastic; and that the luminous body produces the effect, by imparting to this æther a certain pulsation, precisely similar to that of sound, to which I have already referred. These vibrations are supposed to be transmitted to the eye, with the velocity already mentioned. Having entered the eye, it causes the retina to vibrate, just as does the ear-drum in hearing, only these pulsations are infinitely more rapid and delicate than those of sound. This theory maintains that the colors of the spectrum,—as red, orange, blue, &c.,—are nothing more than the effects of greater or less rapidity of vibration. If the retina pulsates at one rate, red will be seen; if at another, blue, &c. This is the general outline of the theory now generally received, in reference to the *Corpuscular* theory, which was held by NEWTON, but which is insufficient to explain many of the phenomena observed, which the undulating theory perfectly accounts for. What all these phenomena are, I cannot explain in full; I will, however, mention one of them, which is among the most remarkable.

"If two beams of light be admitted through small apertures in a screen, and be made to cross each other, under certain circumstances, so that they fall upon the same point, you would naturally expect that that point would be twice as light as if but one beam fell upon it. According to the Corpuscular theory, which holds

light to be a material substance, the more of it there was accumulated upon any point, the greater would be its illumination. But it has been shown by modern science, that, instead of this result, the two beams destroy each other, and a *black spot* is observed at the point of intersection. If either of the beams be intercepted, the spot becomes luminous; but if both be allowed to fall upon it together, it becomes black: either of the two will illuminate it—both together produce darkness. Now the Corpuscular theory fails to account for this phenomenon; but it is clearly explained by the theory of an undulating medium. I can only give the explanation in a general way, as thus: It is necessary to show that it is possible for two systems of waves to obliterate each other, in order to the explanation; for if the presence of waves is essential to illumination, any thing which destroys them must produce darkness. Now if we suppose two systems of waves propagated along the surface of a pond, we may easily imagine that the crests of one system shall fall directly in the hollows of the other—and we should thus have a surface perfectly smooth. This is what happens in this case. The two beams, every time they come together, cause two systems of waves, of which the crests of one fall into the hollows of the other, and the æther is in the same state as if there were no waves at all. Of course, according to this theory, there can be no light. But if we make the slightest change in the beams, so that the crests of one system of waves shall be out of the hollows, the spot will be instantly illuminated.

"Now it is known that light moves at the rate of 200,000 miles in a second of time. During every second, then, a beam of light 200,000 miles in length enters the eye. And, as has just been shown, for every inch of that beam there are 40,000 waves, or pulsations, for red light, and a certain known number for the other colors. And now can you not see how we are able to determine the number of vibrations on the retina? All that is necessary is, to find how many inches there are in the beam which enters the eye in a single second; multiply that number by the number of waves in a single inch for each color, and you have at once the number of vibrations."

HEAT. The received theory of Heat is, that it is but

another peculiar motion of the same etherial ocean, the undulations of which produce light

Mr. Duncan Bradford in his "Wonders of the Heavens," says:—

"It has lately been discovered, that the rays of light, and the rays of heat, or *caloric*, are distinct from each other; for it can be demonstrated that some rays from the sun produce heat which have no power of communicating light or color. The greatest heat is found in the *red* rays, the least in the *violet* rays; and in a space (in the solar spectrum) beyond the red rays, where there is no light, the temperature is the greatest. The rays of the sun have also been found to produce different chemical effects. The white muriate of silver is blackened in the violet ray, in the space of fifteen seconds, though the red ray will not produce the same effect in less than twenty minutes. Phosphorus is kindled in the vicinity of the red ray, and extinguished in the vicinity of the violet. The solar light, therefore, consists of three different orders of rays, one producing *color*, a second producing *heat*, and a third *chemical* effects.

"The sun's rays are the ultimate source of almost every motion which takes place on the surface of the earth. By its heat are produced all winds, and those disturbances in the electric equilibrium of the atmosphere which give rise to the phenomena of terrestrial magnetism. By their vivifying action, vegetables are elaborated from organic matter, and become, in their turn, the support of animals and of man, and the sources of these great deposits of dynamical efficiency which are laid up for human use in our coal strata. By them the waters of the sea are made to circulate in vapor through the air, and irrigate the land, producing springs and rivers. By them are produced all disturbances of the chemical equilibrium of the elements of nature, which, by a series of compositions and decompositions, give rise to new products, and originate a transfer of materials. Even the slow degradation of the solid constituents of the surface in which its chief geological changes consist, and their diffusion among the waters of the ocean are entirely due to the abrasion of the winds and rains, and the alternate action of the season. And when we consider the immense transfer of matter so produced, the increase of pressure over

large spaces in the bed of the ocean, and the diminution over corresponding portions of the land, we are not at a loss to perceive how the elastic power of subterranean fires, thus repressed on the one hand, and relieved on the other, may break forth in points where the resistance is barely adequate to their retention, and thus bring the phenomena of even volcanic electricity under the general law of solar influence. The great mystery, however, is to conceive how so enormous a conflagration (if such it be) can be kept up. Every discovery in chemical science leaves us completely at a loss, or rather seems to remove farther the prospect of probable explanation.

"The opacity of the interior of the globe of the sun is no reason why it may not act a part in the production or preservation of the solar heat; on the contrary, it appears highly probable and consistent with the discoveries, that the dark solid nucleus of the sun is the magazine from which its heat is discharged, while the luminous or phosphorescent mantle which the heat freely pervades is the region where its light is generated. Herschel's own experiments assure us, that invisible rays, which have the power of heating, and which are totally distinct from those which produce light, are actually emitted from the sun; and that luminous rays, incapable of producing heat, are discharged from the same source. These facts, therefore, not only confirm the theory which we have stated, but receive in return from that theory the most satisfactory explanation. The invisible rays which pervade every part of the solar spectrum formed by a prism, and which extend beyond its red extremity are emitted from the *opaque* nucleus, and therefore excite no sensation of light on the human retina; while the colored rays, which form the spectrum itself, are discharged from the luminous matter that encircles the solid nucleus, and are therefore endowed with the properties of illumination. Hence it is easy to assign the reason why the light and heat of the sun are apparently always in a state of combination, and why the one emanation cannot be obtained without the other. The heat projected from the dark body, and the light emitted from the luminous atmosphere, are thrown off in lines diverging in every possible direction; so that the two radiations must be uniformly intermingled, and, as in a stream flowing from two contiguous sources, the heat must always accompany its kindred element. We find the invisible

heat of the sun existing separately from its light, and possessing a degree of refrangibility less than the least refrangible rays of the prismatic spectrum. Light has likewise been found separate from heat, and though it may be imagined that this arises from the extreme tenuity of the light, yet, when the light of the moon is concentrated by powerful burning mirrors, we ought certainly to have expected that the heat, if any did exist, would be appreciable by delicate thermometers. Every attempt, however, to detect heat in the rays of the moon has completely failed, and we are entitled to presume that a greater proportion of heat than of light has been absorbed by that luminary. If light and heat, then, be two different substances, endowed with different chemical and physical properties, is it not unphilosophical to suppose that they are emitted from the same source, when we have actually two different regions in the sun, to which we can, with more propriety, refer their origin ?"

These notions of Mr. Bradford are not inconsistent with the idea that heat, though it may originate in a different part of the sun, is but a different motion of the same substance as light. That motion of etherium which constitutes heat, may proceed from the internal parts of bodies, while that motion which constitutes light may proceed from the surface merely.

Prof. Faraday, in a lecture delivered at the Royal Institute, June 1st, 1844, makes the following interesting remarks, which forcibly illustrate the idea that the motions of etherium may be modified to produce different kinds of heat as well as different kinds of light, and different kinds of electricity. He remarks, (I quote from *The Civil Engineer and Architect's Journal*) :

" When light falls on a polished opaque substance, it is reflected from it, or thrown off in an opposite direction, the angle of reflection being always equal to the angle at which it falls on the surface. If the body is transparent, the greater part of the light passes through it, and if the light falls angular on it, it is refracted, or bent from its course, and when the transparent substance is prism-

shaped, the light is thrown completely in another direction. Such substances as ice and glass allow light to pass through, and refract it, but polished metals reflect, and do not allow it to pass. The same facts have been observed with respect to heat, and although it cannot be seen in its passage, its transfer can be proved. When the hand is held towards a fire, a heat is felt, which is due to its being radiated, or thrown equally, as from a centre, in all directions. The effects of radiated heat may be watched by using a red-hot ball, which will be found to give off heat equally in all directions, and will readily light a piece of phosphorous placed at a great distance below it. A flat mirror, held in the path of the rays of heat, will reflect them, and the rays may thus be thrown on any required spot. If, instead of one mirror, three hundred or four hundred are employed, and so placed that the heat reflected from each should fall on the same spot, the effect of course is greatly augmented. A concave mirror may be considered as such an assemblage of myriads of flat mirrors, and its focus as the spot where their reflected heat is accumulated. With two parabolic reflectors, the effects of radiated and accumulated heat are very striking. A red-hot ball placed in the focus of one will fire combustibles held in the focus of the other, though they may be far apart, and ice produces in a similar manner, cooling effects.

"The rays of heat and light are not hot, and it is an error in thought and word to call them so. The rays of heat are *heating* rays, but not *hot* rays. This is beautifully illustrated by the experiments of Melloni, who found that various transparent substances allowed heat to pass through them in various proportions; that those bodies that allow it to pass freely through them do not become heated, and that those that stop the rays become heated exactly in that proportion. He placed a red-hot ball on a stand, and the two substances he wished to compare on opposite sides of it, and by a frame prevented any heat from passing excepting through the two bodies; beyond these he placed two pieces of metal with phosphorous on them, and by comparing the time it took to fire the phosphorous, he learnt the comparative freedom with which heat passed through the bodies experimented on. Through a piece of rock salt the heat passed with facility, but through glass it scarcely passed at all. Passing through the salt, it leaves it cold, but being stopped by the glass it makes it hot, thereby proving

that when as rays it is not hot, but only when stopped, and then they lose their character as rays. In the same manner the rays from a luminous body are not light, until stopped by a solid body. If they were, the light from the sun should be seen passing through space to the planets or to the moon, but they give no light until stopped by them, and therefore are invisible.

"When reflectors are used with the sun's rays, of course, both the light and heat are reflected. Wood or paper held in the focus of a large reflector, are immediately fired by the sun's heat. The course of the rays traveling from the reflector to its focus, is made beautifully evident by holding a smoking piece of paper underneath.

"The rays of heat passed through a lense, are conveyed in a similar manner by refraction to a focus, but in this case the focus is on the opposite side to the source of heat. With the action of a burning-glass every one is familiar, but it will now be seen that the property of refracting to a centre does not depend upon the nature of the body, but upon its transparency and shape; for ice, if melted in a hot tin mould until it is lense-shaped, acts equally well with glass. By it the sun's rays may be concentrated so as to burn paper and other combustibles, and yet the ice does not become melted. This could not be done with common heat, for instance, that from a fire, as ice will not allow its rays to pass, and stopping them, becomes melted. In Melloni's experiments on this subject he found that there were different kinds of rays of heat, just the same as there are different colored rays of light, and that these rays were mixed in various proportions according to the source from whence they emanated. Thus some will pass through ice and salt, and not through glass. The rays of heat from the sun pass through almost every substance, whilst those from a common fire are stopped to a certain extent by almost every thing, and the substances themselves become heated. That no heat is produced until the rays are stopped, is seen by passing the sun's rays concentrated by a lense through a glass tube filled with ether, when no effect is produced; but put into it something which will stop the rays, such as a piece of black paper, and the ether is seen to boil immediately. The great effects produced by concentrating the sun's rays from a few feet on to one spot, gives a great idea of the immense quantity of heat which is continually being poured on this earth,

and of the fearful effects were this heat withheld but for one season. These rays are not obstructed by the glass of the window, but allow it to pass on to carpets, &c., and heat them, but were they the same rays as from a fire, the effect would be very different.

"The reception and emission of heat, though depending principally on the nature of the body, is found to be very greatly influenced by the state and texture of the surface. Of two radiating bodies, for instance, tin canisters filled with hot water, one blackened or roughened on the surface will be found to get cold sooner than that which is left bright, one appearing like a good conductor, the other like a bad one, though the only difference is in the state of the surface; or the experiment may be varied by black-washing or white-washing only one side of the vessel; a thermometer will then indicate more heat being given off from that side than from the others. In the same way the reception of heat is affected by surface, those absorbing the best which radiate the best. The application of this principle to useful purposes is carried out to a great extent; for steam engines, and boilers, which are required to retain the heat, are kept bright, whilst those from which the heat is required to be delivered, as in warming buildings by hot water pipes, the surface is kept rough. In domestic economy the china teapot is now superseded by polished metal, which is found to keep the infusion hotter, and a difference even would be found whether a silver teapot were kept clean or dirty. Every substance is continually radiating heat to any other body near it which is colder than itself, and ice, even, will send out radiant heat to solid carbonic acid. The emissive power is not always in proportion to the amount of heat, for the flame of a candle, though consisting of particles far hotter than a red-hot iron ball, does not radiate nearly so much heat as the latter. The power of a bright reflective surface to protect from radiant heat, is well shown by placing a slip of gold leaf on a sheet of paper, and holding over it a red-hot ball; the uncovered paper is scorched, whilst the thin metal, itself an excellent conductor, entirely protects the paper below.

"It has, then, been shown that bodies differ in their power of transmitting heat, some, like rock salt, transmitting it readily, or being an easy *diathermal* body, whilst others, such as alum, transmit it but slightly, and that the rays of heat differ, depending upon the source from which they emanate, for the facility with which

they penetrate transparent media; thereby confirming the probability of the analogy that Melloni has drawn between the various rays of light and those of heat."

Electricity is also explained by philosophers, on the hypothesis of an universal fluid, which, when in equilibrium, produces no phenomena; but when the equilibrium is disturbed, by friction of the glass cylinder of an electric machine, or by other means, certain electric phenomena follow.

Galvanic Electricity is that which is produced by chemical action, and the apparatus commonly used is called a *Galvanic Battery*. It is supposed that every chemical change is accompanied with a movement of electricity; and a Galvanic Battery is so contrived, as to cause the electro-chemical motion of etherium to take place in a circuit, thus: Put into a glass vessel a piece of zinc and a piece of copper, so placed as not to touch each other; pour some water containing acid into the glass, so that the two metals will be corroded, and there will immediately be a current of electricity passing through the liquid from the zinc to the copper. Now connect the copper with the zinc by means of wire, and thus constitute a circuit, and there will be a continual current from the zinc to the copper through the water, and from the copper to the zinc through the wire. This is a Galvanic Battery in its simplest form. Any metals may be used, provided one corrodes more rapidly than the other; even two pieces of the same metal will answer, provided one piece is hammered and the other porous, so that one shall be corroded more rapidly than the other.

There is an important distinction between the *quantity* of electricity obtained, and its *intensity*. That which is obtained from one pair of metallic plates, however large, is of very low intensity, so that it is easily insulated; and, however great the *quantity* may be, any number of wires may lie side by side, with nothing but a coating of varnish between them, and each wire may convey a separate current,

while its nearest neighbor conveys an opposite current, without any apparent interference.

But when there is a great number of plates, even if they are small ones, the current acquires such intensity that it becomes difficult to isolate it, so as to prevent it from being communicated to surrounding bodies.

I am inclined to think, that the currents of human etherium are deficient, both in quantity and intensity, when compared with that produced by the artificial apparatuses; and this is one reason why it does not overcome its isolation more frequently.

Thermo-Electricity is that which is brought into action through the agency of heat. This mode of producing electric currents was discovered by Professor Seebeck, of Berlin, in 1822. He discovered that if two different kinds of metal are joined, and heated at the place of junction, a current of electricity will flow from one to the other; and if the ends of the metals which are not joined are connected by a wire, so as to constitute a circuit, a current of electricity will pass around the circuit, just as it does around the Galvanic Battery. The conclusion is, that any thing which can disturb the equilibrium of the great mass of etherium, produces phenomena; and these phenomena have received different names, according to the modes in which the equilibrium has been disturbed.

Magnetism is but another mode in which currents of electricity are produced.

Terrestrial Magnetism, which causes the compass needle to point nearly north and south, is now found to be caused by Thermo-Electric currents, produced by the heat of the sun upon the continually revolving earth. The most powerful magnets are made by causing a current of electricity to pass along a wire which is wound spirally around a piece of iron. All the phenomena of magnetism are but modes

in which electricity is manifested; and all the phenomena of electricity can be produced by heat.

Gravitation has never been satisfactorily explained by any hypothesis; but the only attempts that have been made to give even a conjectural explanation of it, have been based upon the assumption of a universal fluid or etherium. The following is Newton's language upon the subject:

"Is not this medium (æther) much rarer within the dense bodies of the sun, stars, planets and comets, than in the empty celestial spaces between them? And in passing from them to greater distances, does it not grow denser and denser perpetually, and thereby cause the gravity of those great bodies towards one another, and of their parts towards the bodies; every body endeavoring to recede from the denser parts of the medium towards the rarer?

"For if this medium be supposed to be rarer within the sun's body than at its surface, and rarer there than at the hundredth part of an inch from his body, and rarer there than at the fiftieth part of an inch from his body, and rarer there than at the orb of Saturn, I see no reason why the increase of density should stop anywhere, and not rather be continued through all distances from the sun to Saturn and beyond.

"And though this increase of density may at great distances be exceeding slow; yet if the elastic force of this medium be exceeding great, it may suffice to impel bodies from the denser parts of the medium towards the rarer with all that power which we call gravity.

"And that the elastic force of this medium is exceeding great, may be gathered from the swiftness of its vibrations.

"Light moves from the sun to us in about seven or eight minutes of time, which distance is about 70,000,000.

"As magnetism is stronger in small loadstones than in great ones, in proportion to their bulk; and gravity is stronger on the surface of small planets than those of great ones,

in proportion to their bulk; and small bodies are agitated more by electric attraction than great ones; so the smallness of the rays of light may contribute very much to the power of the object by which they are refracted; and if any one should suppose that ether (like our air) may contain particles which endeavor to recede from one another, (for I do not know what ether is,) and that its particles are exceedingly smaller than those of air, or even than those of light, the exceeding smallness of such particles may contribute to the greatness of the force by which they recede from one another, and thereby make that medium exceedingly more rare and elastic than air, and of consequence exceedingly less able to resist the motions of projectiles, and exceedingly more able to press upon gross bodies by endeavoring to expand therein."

Admitting the doctrine of a universal Etherium to explain gravitation, (and I cannot see how it can be avoided, whatever hypothesis be adopted,) we are furnished with a powerful argument in favor of the most marvelous pretensions of clairvoyance at a distance, and by this admission we are estopped from denying the possibility of clairvoyance from any want of a medium sufficiently potent, or subtile, or extensive, or rapid in its movements; for the force of gravity is transmitted from planet to planet with a degree of rapidity which far surpasses all other motions with which we are acquainted. In 1773, La Place "demonstrated that the attractive force of gravity must be transmitted fifty million times faster than light, which travels at the rate of two hundred thousand miles in a second." If, in addition to this fact, we consider that all bodies, however distant, or however solid, are reached and penetrated by gravitation—that no force can impede it, no isolation can exclude it, and no other velocity can rival it, since it has been demonstrated by the greatest mathematicians, to move as much faster than lightning, as lightning moves faster than a snail—I say, con-

sidering all this, the marvels of clairvoyance sink into a comparatively common and insignificant affair.

It seems to me much more reasonable to suppose that there is but one universal Etherium, the different motions and combinations of which, with other and grosser matter, produce all the different phenomena of gravitation, heat, electricity, light, animal motions, &c., than that there are several independent and distinct universal fluids operating through the same space, at the same time, upon the same bodies. It may be, that although there is but one Etherium, that this one is compounded of different kinds of matter or elements, each element possessing different properties peculiar to itself, and that when the compound Etherium comes into combination with some kinds of *ponderable* matter, it becomes decomposed, one element producing one class of effects, and another producing very different effects.

Again, it may be that the universal Etherium is simple and uncompounded, but that, when it comes into contact with the ponderable materials of the earth, or other planets, it enters into combination with atoms of ponderable matter, so exceedingly minute, that it is impossible, with our finite powers of perception and invention, to detect them. By entering into these combinations, it may produce different classes of effects, which seem to proceed from different fluids. By adopting this hypothesis, we can understand why one modification of Etherium (light) will readily pass through transparent substances, but not through those which are opaque; while another modification of Etherium (magnetism) will pass with equal facility through both; and yet, by a certain process, electricity may be changed into magnetism, or magnetism into electricity; and both may be made to produce light. We can also understand why electricity, which will not pass through glass, can be changed to magnetism, or made to produce light, either of which will pass through without difficulty. Again, light may be

made to produce magnetism, and heat to produce electricity and magnetism, while they both in turn produce heat; and, finally, chemical combinations produce heat, light, electricity, magnetism, galvanism, attraction, vegetation, digestion, respiration, muscular motion and sensation, and numberless other phenomena.

It is evident, from a review of all these facts, and many others, with which we are furnished by natural science, that we are at no loss for analogical proof of the reality of an etherean agent in nature, capable of producing all the effects ascribed to etheropathy or mesmerism.

The Rev. Mr. Townsend, in his elegant work, modestly entitled, "Facts in Mesmerism," supports this doctrine with his usual felicity of expression. The ideas, however, which I have suggested in this work concerning credencive induction, do not seem to have occurred to him as a means of accounting for what is commonly called "the effects of the *imagination.*" He also inclines to the opinion that there may be several different kinds of fluid or Etherium, but he argues with so much ability in favor of the propriety of admitting an etherial mesmeric agent, that perhaps I cannot better please my readers than by a liberal adoption of his language.

"First, I affirm that, productive of the effects called mesmeric, there is an action of matter as distinct and specific as that of light, heat, electricity, or any other of the imponderable agents, as they are called; that, when the mesmerizer influences his patient, he does this by a medium, either known already in another guise, or altogether new to our experience.

"What proofs, it will be asked, can I bring forward of this assertion? I answer, such proofs as are considered available in all cases where an impalpable imponderable medium is to be considered; facts, namely, or certain appearances,

which, bearing a peculiar character, irresistibly suggest a peculiar cause.

"Let us take only one of these.

"Standing at some yards distant from a person who is in the mesmeric state (that person being perfectly stationary, and with his back to me), I, by a slight motion of my hand (far too slight to be felt by the patient through any disturbance of the air), draw him towards me as if I actually grasped him.

"What is the chain of facts which is here presented to me? First, an action of my mind, without which I could not have moved my hand; secondly, my hand's motion; thirdly, motion produced in a body altogether external to, and distant from myself. But it will at once be perceived that, in the chain of events as thus stated, there is a deficient link. The communication between me and the distant body is not accounted for. How could an act of my mind originate an effect so unusual?

"Why should we refuse to mesmerism that which we grant to magnetism? It is true that as yet we have no balance of torsion whereby the mesmeric force can be measured; but in the human body itself we do possess an instrument whereby its presence may be ascertained; nor would it be reasonable to insist upon separate agencies being detected by the same test. Why, then, but from the force of prejudice, should we call the mesmeric medium a gratuitous assumption? That such a medium exists is not a gratuitous assumption, but an unavoidable deduction of reason. But there is a class of persons who refuse to admit of anything which they cannot see, taste, or handle; with such it is difficult to argue. Should proofs by experiments be exhibited to them again and again, they still return to their cuckoo note, 'Show me the agent.' One of these practical men, as they are called, actually said to me on one occasion, 'I never will believe that what you call mesmerism

exists, unless you can put it in a bottle, and submit it to analysis."

"To what end, then, is reason given us, if not to judge of things invisible by those which are clearly seen? For what purpose possess we the irresistible propensity to supply deficient links in a chain of causation, if not to prompt us where our senses fail? We move a magnet over a needle, the needle moves in a corresponding manner; and the human mind is so constituted that we cannot behold these two facts in seeming connection without uniting them by a third, which we consider as *proved* by them, since it is, in truth, their necessary consequence. We infer that the effect is produced by means of a magnetic current or medium, a something whic h propagates motion from the magnet to the needle. This something we cannot indeed behold, yet do we believe in it, and with justice; for that which reason perceives to be necessary is *not* an invention, and can never be superfluous; on the contrary, the *only* immutable and essential truths come out of the mould of the intuitive reason, which, as Coleridge observes, stops not at 'this *will* be so,' but at once decides, 'This *must* be so.'

"Now, in all cases where motion is communicated from one body to another, the line of communication must be maintained unbroken.

"The first impulse gives motion to certain atoms, which in their turn propel others, and so on, till the whole series between the active body and the body which is to receive the original impulse, is set in motion, and then, at length, the sequence of events is complete, and the body towards which motion tended is set vibrating. If the medium that propagates the first impulsion be undulatory and elastic, its atoms only oscillate on either side a fixed point of rest; but if it be composed of traveling atoms, there is an actual progression of the medium. In either case, motion is propagated by a real action of matter till it reach its final destination. This

is the history of all communicated motion, and it is plain that this holds good, whether we behold the collection of atoms in a bodily shape, that transmits the motion, as in the case of one billiard ball propelling another, or whether we behold them not, as in the case of sound being communicated to the ear from a vibrating body, by means of the intervening air. I grant that the old maxim, 'A body cannot act where it is not,' is very properly exploded; but for it we must substitute another, namely, 'A body cannot act where it is not, save by deputy or transmissive means.' Yet some have overlooked this truth; and in their zeal to avoid theories, when they behold two sensible actions evidently dependent the one on the other, and yet apparently disjointed, fear to unite them properly, by suggesting the presence of an unseen link, which, nevertheless, cannot but occur between the visible antecedent and the visible consequent; for motion is not an entity that can go through void spaces, independently and alone; it is merely a property, which has no existence out of the subject that manifests it; and, where matter fails, there motion fails also. It is vain, then, to hold such language, as if it were possible for one body to produce motion in another without something intermediate, that is, miraculously and without means; yet your good hater of theories will even dare to blame Newton for having suggested an ether to account for that action which one body produces on another, and even, in many cases, from vast distances, and which we call attraction. It is true, that Newton may be wrong in the manner in which he manages his ether, and accounts for impulsion and reimpulsion by differences of dense and rare; but he cannot be wrong in preserving an unbroken series of atoms between separate bodies which manifestly influence each other—between the sun and earth, for instance—since in this case there is mutual action and motion communicated from a distance. Extending the principle, and perceiving that all the

heavenly bodies were in mutual relationship, and the whole celestial system harmoniously bound together, Newton supposed his ether to be of universal action, and to fill and pervade creation, establishing a means of communication between all its several parts. Were this allowed, there would be but little difficulty in explaining mesmerism ; but a sublime divination of this kind is too vast for the general understanding. Accordingly, even Newton's name has failed to render the theory palatable, and men of small views have dared to call even this suggestion of a mighty mind *gratuitous*, treating the author with a levity which can only lessen one's respect for the objectors. Have these cavilers an intellect superior to Newton's own ? If they have, let them give us something better than Newton's suggestion (better, not only in their own opinions, but in ours) respecting the great problems of creation ; some theory more solid and sublime, to satisfy the cravings of humanity after pure and lofty generalization : till then, let them, at least by silence, acquiesce in Professor Playfair's beautifully expressed opinion of the queries : 'Such enlarged and comprehensive views, so many new and bold conceptions, were never before combined with the sobriety and caution of philosophical induction. The anticipation of future discoveries, the assemblage of so many facts from the most distant regions of human research, all brought to bear on the same points and to elucidate the same questions, are never to be sufficiently admired.' In recalling this to the reader's mind, I trust that I seem not to stray from my subject, which is, in truth, so deeply implicated in the truth or falsehood of Newton's principal suggestions. But I might leave this great man's defence to time, which already has 'brought in its revenges,' science being even now occupied in developing Newton's ideas, and in establishing as undoubted truths the greater part of all which he so modestly advanced as queries. Facts relative to the acceleration observed in the mean mo-

tion of comets have demonstrated, to the satisfaction of men of science, the existence of a resisting medium, undulatory and elastic, which pervades the known universe.

"How frequently it has thus happened that the deductions of the pure reason have triumphed over the cavils and hesitations of the understanding which, being conversant with matters of experience only, cannot step beyond the sensuous and the known! Kepler believed that the harmony of our system required a planet between Mars and Jupiter, and the deficiency is now actually supplied by the discovery of the four singular orbs which seem once to have formed but one single body. My reader's memory will doubtless supply other instances where the philosopher, in his closet, has outrun experiment, and has divined what future observation has verified and facts confirmed. When, then, we find Mesmer (who, whatever were his faults of conduct, was no contemptible thinker) suggesting a universal medium as alone explanatory of mesmeric phenomena, let us, instead of unwisely scoffing, inquire whether the circumstances of the case may not possibly render the existence of such a medium a positive necessity, and a truth palpable to reason. This at least we know, that all science seems now tending to refer the apparently distinct agencies of nature to the varied operation of one medium; to establish, in fine, an ether such as Newton had imagined, and such as Mesmer perceived would satisfactorily account for the apparent miracles of his new science.

"Now, whether mesmerism be a distinct medium, or only the distinct effects of a general medium, widely manifested in other offices, I will not take upon myself to decide. We no longer consider electricity, magnetism, even light itself, to be separate and independent agents; we call them *effects*. And this is well, if we remember to refer *effects* to *causes*, and properties and qualities to real substances and subjects. We must not turn all the goings-on of the world into mere

abstractions. Vibrations imply a vibrating body; electric motions or concussions, something that moves or is concussed. It will, indeed, greatly simplify our ideas to consider all the various appearances of nature as so many actions of matter, but we must beware of supposing that, where action is present, matter can be absent. I am very willing, then, to call all mesmeric phenomena *effects;* but I not the less contend that they must be effects of something. I am willing to consider mesmerism itself as an action of matter, yet still of matter. I cannot tell whether, in the case of mesmeric agency, matter assumes the form of a fluid or a gas, but I know and am sure that material agency there is. This agency may be only one of the modifications of a substance which operates in other ways, or it may be the single action of a single substance. But, in fact, the probability is, that there are really various media in nature, the finer, we may suppose, occupying the interstices of the grosser, distinct yet interfused, wheel within wheel, a subtile mechanism. Every one knows that the atmosphere is the medium through which sound is conveyed to us. A bell rung under the exhausted receiver of an air-pump is inaudible; but the crystal walls, that keep out air, bar not the passage of light and heat. Newton's experiment of this, and his consequent reasoning on the fact, appear to me conclusive. He says, (Qu. 18,) 'If in two large, tall, cylindrical vessels of glass, inverted, two little thermometers be suspended, so as not to touch the vessels, and the air be drawn out of one of these vessels, and these vessels, thus prepared, be carried out of a cold place into a warm one, the thermometer in vacuo will grow warm as much and almost as soon as the thermometer which is not in vacuo. And, when the vessels are carried back into the cold place, the thermometer in vacuo will grow cold almost as soon as the other thermometer. Is not the heat of the warm room conveyed through the vacuum by the vibrations

of a much subtiler medium than air, which, after the air was drawn out, remained in the vacuum? And is not this medium the same with that medium by which light is refracted and reflected?'

"The conclusion which such experiments force upon us is, that there really exist in nature different media, related, yet distinct. If, therefore, I am understood literally instead of figuratively when I speak of mesmerism as an individual agency, I shall not seem greatly to have violated the analogies of nature. This at least I affirm, mesmerism has its own peculiar action; and therefore, for the sake of convenience, I shall denominate matter, as it is developed in this particular way, the mesmeric medium, a term with which, I trust, none of my readers will be disposed to quarrel, the advantage and propriety of referring one class of effects to one cause being manifest. We do this naturally in all cases where distinction is required. The imponderable fluids are still characterized, *pro forma*, by individual names, though we believe that they may be children of one parent. From certain effects we are allowed to presume the existence of a luminous medium. I therefore, by parity of reasoning, may be allowed, from other effects, to infer the existence of a mesmeric medium.

"And, in truth, there is no agency which more manifestly than this may claim to be distinctive, since it is developed under quite other circumstances; and, being developed, presents quite other phenomena than any material action with which we have hitherto been acquainted.

"It neither results from a union of gases nor from chemical composition. It is not developed by the rubbing of amber or the juxtaposition of minerals. It is elicited by certain actions of living nature alone.

"Viewed merely as a physical agency, it originates a sleep, *sui generis*, which pervades the external organs, yet leaves the intelligence free: it brings the nervous system into a

state of exceeding sensibility, rendering it cognizant of influences by which at other times it is wholly unaffected.

"Now what is the medium we know not; and, therefore, all that remains for us, in our ignorance, to do, is to gather as much information concerning it as we can. We cannot analyze it in the same manner as light, or separate it into its component parts, like the atmosphere; but every agent has its own elements, and, consequently, a method of analysis proper to itself. This is clear; in its mode of action it can alone be made manifest; its sensible action, therefore, is the legitimate sphere in which it may be studied; and, till we have all its facts and relations, we have only to observe its phenomena, and to state the results of our observation as plainly as possible.

"First, then, it is an agency which has physical effects on man.

"That any one who has been conversant with even the first symptoms produced by mesmerism should doubt the physical and distinct character of the agency, seems impossible. However marvelous be the train of mental phenomena consequent upon its operation, its primary effects are undoubtedly upon the body of the patient. Those who are neither under the predisposing influence of fear or of imagination; who know not what they have to expect; who, perhaps, close their eyes from the beginning of the experiment, all agree in feeling a weight upon the eyelids, accompanied by a slight pricking; then follows the sensation of a cold current of air streaming in the direction of the mesmerizer's fingers, and of a torpor in the limbs, which gradually increases, until spontaneous motion becomes not only difficult, but impossible to the patient.

"It has been asserted that, when the attention of mesmeric patients is pre-occupied and diverted from the mesmeric processes, or when the imagination has not been previously advised of an effect to follow, the agency is null.

"This statement demands an examination the more serious, inasmuch as it is one of those half-truths which Coleridge has denounced as fatal to true philosophy.

"It must be allowed that the mesmeric influence is to a certain degree impeded, should it be essayed upon a person who is determined to resist it, or whose mind is actively engaged upon other matters; but does this, can this prove that the agency is null save in the imagination of the patient? The only thing that it demonstrates with certainty is that which every rational man who has at all studied the subject must concede, namely, that the force employed in the mesmeric process is not sudden or violent in its action, but of the nature of those subtile influences which it requires a certain attention, and, indeed, education of the sensibility to perceive. A savage has been known to track his prey, like a dog, by the scent alone; and in doing so, he must, of necessity, fix all his attention upon the fine exhalations whereby he is guided. But how plainly absurd it would be to affirm on that account that there was no actual exciting cause of the sensations of the savage! But, it is argued, the imagination must be forewarned before the effects called mesmeric can occur; and is not this sufficient to refer them to the imitative power of the imagination? The answer is not difficult.

"Imagination, indeed, imitates, but then it must have something to imitate. The very expression presupposes a model, and gives real existence to the subject in debate. Granting that which, indeed, I do not concede, namely, that the effects of mesmerism can be proved without mesmerism, and by the imagination solely, it by no means follows that certain effects have not at certain times been produced by mesmerism, and by pure mesmerism. That which is spurious argues that which is true, and many copies of a picture place the existence of an original beyond a doubt.

"Again: they who draw strong conclusions against mes-

merism by affirming that it cannot take effect unless the imagination be prepared to receive it, should remember that they who, deeming they shall feel nothing under mesmerism, and do actually feel nothing, are both forewarned and forearmed *against* the influence in debate; and are thus themselves under the predisposing sway of the imagination as much as their opponents, only in a different manner; the one party believing they *shall*, the other that they shall *not*, experience certain effects. Under these circumstances, how the latter can pretend to a more accurate judgment on the point than the former, I confess I cannot perceive. 'Imagination does much,' say the anti-mesmerists: granted; and let us have the full benefit of the principle. If imagination be so potent, it may also render insensible to mesmeric influence those who are predetermined to feel nothing of it. Yet more; the force of the mind to resist even the most powerful influences may be easily shown by facts to be great, nay, incalculable. In Lockhart's Life of Scott, an anecdote proving this, is related by Scott himself, of one of the Duke of Buccleugh's farmers. 'His father had given him a quantity of laudanum (writes Sir Walter) instead of some other medicine. The mistake was instantly discovered; but the young man had sufficient energy and force of mind to combat the operation of the drug. While all around him were stupid with fear, he rose, saddled his horse, and rode to Selkirk (six or seven miles), thus saving the time that the doctor must have taken in coming to him. It is very curious that his agony of mind was able to suspend the operation of the drug until he had alighted, when it instantly began to operate. He recovered perfectly.'

"The degree to which a person may resist, yet still be influenced by, the mesmeric agency, when preoccupied by some counteracting idea, was on one occasion demonstrated to me, and, as it were, marked off and measured in an interesting manner.

"A friend of mine at Cambridge, who knew nothing whatever of animal magnetism (as it was then called) but the name, consented to let me try an experiment upon him before some incredulous persons, who had said they would never believe in the agency until they saw it exhibited upon some one who did not even know that he was to go to sleep. It being ascertained that Mr. H— (the sincerest of all men) was really ignorant of even so much mesmeric lore, I and my patient sat down in our proper relative positions. At the end of five minutes (though it was the unsleepy time of noon) Mr. H— began to close his eyes and to nod, but soon started, rubbed his eyes, shook himself, and went through all the usual formula of a person who wishes to keep awake. This alternate nodding and arousing went on for some time, when, tired at length of such unsatisfactory results, I gave the matter up and quitted my chair. The patient was then questioned as to what he had felt. 'Only very sleepy,' he replied. 'I experienced no electric shock, nor anything of the kind, though I watched and waited for it.' 'But if you felt sleepy, why did you not go to sleep?' asked some one. 'Oh,' answered Mr. H—, 'what would I *not* have given to have gone to sleep? but I thought I must on no account do this, as I was to keep a sharp look-out for the electric shock!' My reader may smile at this, but I can assure him that the ignorance of my friend respecting the effects of mesmerism is no measure of his information on other subjects.

"It appears, then, that the only concession we have to make to the anti-mesmerist is, that the mood of mind and body which is most favorable to the reception of mesmeric influence is that which Wordsworth has characterized under the title of 'a wise passiveness.' How completely this refutes the arguments, or, rather, assumptions of those who would resolve all mesmerism into imagination, is manifest. But it is time that this question should be forever set

at rest. How such a cause as imagination could at any time be assigned or accepted as explanatory of mesmeric phenomena is matter of wonder, and that it should be so diminishes one's respect for the sagacity of the human species. Here, indeed, is inefficient causation! Here, truly, is gratuitous assumption! I have heard of imagination keeping persons awake, but never of its setting them to sleep. This busy power holds no possible alliance with mesmerism, whose gentle influence, like streams that are only heard when we listen for them in the hush of night, must be attended to with the quiet patience of a peaceful spirit.

"But the imagination theory is really too absurd to merit a serious refutation.*

"A thousand times I have seen mesmeric patients placed under circumstances where the action of imagination was plainly impossible. In proof of this I have only to refer to the preceding books of this work. Persons, it will there be seen, have been thrown into the mesmeric state when asleep, and wholly unadvised of any experiment to be tried upon them. They have been drawn towards the mesmerizer from a distance, when standing with their backs to him; they have manifested phenomena coinciding with those displayed by other mesmeric patients at different times and at different places, and which could not have resulted from imitation, since the patients themselves, not knowing a previous type, were plainly incapable of producing a copy.

"Surely facts like these imperatively call upon us to acknowledge an agency, which we may call mesmeric or what we please, so long as we confound it not with imagination, imitation, *et hoc genus omne* of inefficient and inapplicable causes.

"Experience of the past should teach us not to despair of seeing the statics and dynamics of the mesmeric force plain-

* I would refer my reader to the article in this work on Credenciveness to find an explanation of the nature of imagination.

ly laid down. Who, in the early periods of science, would have ventured to predict the invention of a balance whereby the magnetic action could be reduced to weight and measure? Look at the history of magnetical discoveries! What patience, what erroneous guesses, what feeble dawnings of truth, what lessons of hope are there! The knowledge of magnetical effect is as old, at least, as the era of Homer, by whom they are distinctly referred to; but it is less than a century ago* that Mitchell established the true law of magnetic action, and mesmerism has not yet completed its seventieth year: a measure of existence which the Psalmist has assigned as the period of one man's life! Is this a sufficient space for the development of a subject the most fertile and the most vast, because the most intimately connected with man?

"This, at least, even in the present state of mesmeric science, may be affirmed, that, considered as a force, the agency betrays no slight indications of its affinity with mechanical powers, and that certain circumstances regarding it bring to us nearly a full conviction that its effects are dependent on a certain invariable proportion between the mesmeric force of the individual who dispenses, and that of him who submits to receive the influence.† What that proportion is, once ascertained, (and how can this be but by repeated observation?) would reduce mesmerism to a law and to a certainty. Its mental and remedial effects will indeed necessarily always continue to be varied according to the character and temperament of its patients, but its purely physical agency might be brought within conditions perhaps narrower and more simple than we can now conceive. Supposing (as some now deem) the vital action to be electric, that which is called a man's nervous force or constitution

* In 1750.

† By referring to my remarks on *Isolation*, it will be seen why the more powerful cannot always affect the weaker.

would depend on the possession of a certain original measure of the electric fluid. Were this found to be the case, (my idea may raise a smile,) a neurometer, or instrument to ascertain the power of a person, might give to mesmerism the precision which science requires. Who would have thought at one time a measure of magnetism possible?

"My suggestion may be deemed absurd, but this will not alter the facts of mesmerism. At present, we are only acquainted with the general result, and not with the elements that compose it; but this is no more a proof that is not composed of elements, than the ancient ignorance what water was could have demonstrated that it was not composed of two airs in certain proportions.

"Our knowledge that the will acts, yet our ignorance how it acts, on matter, should prepare us to receive, without a dogmatic denial at least, proofs of an extension in its capacities and its sphere. If, in some mysterious way, I actuate another, it is scarcely more wonderful than that I actuate myself. It is true that the latter comes within the range of my every-day experience; but can I any more comprehend it?

"How great a force the will either has or wields, may be almost measured off to our senses in a very simple but striking manner.

"Let two covered vessels precisely alike, the one empty, the other full of some heavy substance, such as leaden bullets, be placed before a person. Let him first lift the full vessel, and let him then be told to raise the empty one, with an understanding that it is of equal weight with the first. The person doing this will put into action so much unnecessary force, from the expectation of being about to lift a great weight, that his baffled vigor will, in its reaction, cause quite a painful concussion in the muscles of the arm. Now could that force, which, as it were, returns upon himself, be directed outward, it is plain that it might produce a

very powerful and peculiar action in the media wherewith we are surrounded. And wherefore not directed outward? This, at least, we know, that the will is really the primary agent which enables us to move all bodies foreign to and apart from ourselves. In these cases, indeed, it acts through intermediate agencies which are visible to us. But there is nothing whatever to render it impossible that the mind should act sometimes by unseen, yet even more potent intermediaries than the accustomed. After all, what astonishes us in mesmerism is not that the mind is shown capable of producing motion, but that it is exhibited producing motion in a different way, as we conceive, from that with which our experience is familiar. That the mind should originate a series of motions of which we cannot behold certain of the intervening links (I speak of cases in which the mesmeriser influence his patient from a distance), this is the true ground of our wonder and incredulity. Yet, in fact, the very same thing occurs in our commonest experience. When I move one of my fingers, I am only acquainted with the first fact and the last in a sequence of events, the intermediate circumstances of which are hidden from my knowledge, and which are, probably, very numerous. Some of the hidden links in the series, I know from reason. From the anatomist, I learn that my mind, in the first instance, moves a portion of my brain (for certain injuries to the brain render voluntary motion impossible); that this, again, communicates an impnlse to a nerve (for, cut the nerve, and the impulse reaches not the muscle); that then, again, a muscle is moved, and finally the finger. The simplest voluntary motion, then, is but an impulse, originating with mind in the first place, and thence transferred through a series of atoms. There is a sequence of changes, nothing more; some of which are known to us, others not. There is (to use the language of Locke) but one real action, yet many passions or communicated motions. And what is mesmerism but

this? The same definition suits motion, whether produced mesmerically or normally. The same circumstances attend both. Again, even should we pursue motion beyond the limits of our own bodies, we shall find that there are invisible links in all the impulsions which we communicate to matter. The philosopher knows that we are not in real contact with anything which we appear to touch; that there is always something invisible between us and the object that we handle.

"Again: do I not, by every motion of my body, change the relative position of the atoms of the media that surround me? Do I not displace the air, cause various motions in the waves of light, and influence nature to a distance around me which it were vain to attempt to calculate? The wonder, then, seems to be, not that the mind should produce changes in surrounding objects, but that, being itself 'the fountain-head of motion,' it should not move matter more forcibly and generally. Doubtless it would be so had not the all-wise Ruler of creation confined the human mind within necessary limits. Could the will sway the material as it does the immaterial world, what bounds would there be to the tyrant's caprice, to the conqueror's ambition? Mountains would crumble as a dream, and oceans be dried up at our bidding. A Napoleon would 'make a sop of all the solid globe.' These ideas are not so extravagant as his who doubts the power of the human will. By that alone we do great things; by that alone we conquer kingdoms or ourselves; by that alone we achieve the hourly miracle of moving matter, united with, or extraneous to ourselves. Is the will, then, a nullity, whose influence is to be excluded from our consideration when we treat on any subject which nearly concerns man?

"In the chain of our argument, then, there appears to be no link wanting. It is thus connected. Every thought moves the brain in its own appropriate manner.

"A pervading medium being allowed to exist throughout nature (such as the electric), it follows as a consequence that every thought which moves the brain imparts motion also to the ethereal medium.

"Mesmerized persons, being in a state of extreme sensibility, are cognizant of the motions of finer media than common.

"The motions created by the thoughts of other persons being transferred through the brain, and through a certain medium to the sensorium of a mesmerized person, are to him intelligible signs of thought: a language which, though new to him at first, he, by a gradual process of association, gives meaning to and learns to comprehend.

"They who watch for my halting, and are on the look-out for discrepancies, may here remind me that I have in other places advanced facts which are at variance with the supposition of a vibratory medium in mesmerism, and which rather tend to establish the existence of a material emanation, of which the mesmerizer's body is the original source. Contact, the breath, motions of the hand near the patient, have been described as powerfully aiding the transmission of the mesmeric influence. To this I reply that it is now very generally admitted that heat is but a modification of the same agent which produces the sensation of light; in other words, no real entity, but a peculiar action of matter. Thus to heat a body is only to bring the atoms which compose that body into a particular state of vibration. Yet, in order to effect this, in order to induce that peculiar action of matter which we call heat, we employ certain means, which, being themselves material, tend to invest the agent with a material character, but which are in reality only the occasions of bringing certain atoms into a particular state.

"It may well, then, be allowed, by those, at least, who adopt the undulatory theory, that the material means employed in mesmerism to charge a patient with the mesmeric

influence are no proof whatever of the material character of that influence, but are simply methods whereby a medium may be thrown into that particular state of action.* That

* In contrast with my own views, as well as those of Mr. Townsend and every other author who has written upon this subject, I will, in justice to the Rev. La Roy Sunderland, give the principal arguments which he advances in opposition to the doctrine of a fluid. It should be understood, that he claims to have been the first to discover that the organs of the brain can be excited by touching them, although he denies that it is done by the agency of a fluid. Without discussing that subject in this place, I will merely say that I deny that he or any one else has made such a discovery, and I refer for further particulars on this point, to another part of this work. But concerning a fluid, Mr. S. in his work entitled "Pathetism," says:

"What we wish to ascertain, is, whether the brain or nervous system eliminates a *fluid*, which is *received into the system* of the subject, who is affected by pathetism? When the fingers are applied to the cerebral organs, and the subject manifests any given emotion, is that emotion excited by the reception of a nervous substance from the hand of the operator? Or when one operates upon another, (as it is said,) by his will, merely, is there in this case, a *transmission* of any fluid or substance from the nerves of the operator, into the nerves of the patient?

"The following are some of the reasons which incline me to the negative of this question:—

"1. *The results produced without any physical contact, and without any effort of the will.*

"It is susceptible of the clearest demonstration, that sleep, for instance, may be induced without any physical contact, or any mental effort of the will of another, whatever. And so of many of the results already described in the preceding chapter. To suppose the transmission of a fluid in the case of the wooden tractors, or in the case of the non-magnetised tree of Mesmer, is perfectly preposterous. When the patient touched a tree that had not been magnetised, he was seized with convulsions; but when he came in contact with the tree upon which the operator assumed to have thrown the magnetic fluid, he was not affected at all! No wonder the French commissioners put the seal of their condemnation upon Mesmer's theory.

"But, that persons often sink into a state of real somnipathy, without any influence from physical contact or the will of another, is a matter of certainty. I have known persons to fall into this state, partially, who had never been pathetised, merely by seeing me operate on another; and, times without number, have I had my patients fall into this state, when they have been in the same room, or in the same dwelling where they knew I was operating upon others, when I had no volition at all upon the subject. Only the present week, a patient on whom I

there is no just reason why that action should not be vibratory is also manifest.

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had not operated for more than six months, happened to be present while I was pathetising another; and though she was decidedly opposed to going to sleep herself, and though I did not wish her to fall into this state, yet she did so. And what was remarkable, when asleep, she refused to let me touch her for the purpose of waking her up; and after remaining in this state all night, she remembered nothing of what had happened, on waking up the next morning. Her opposition to being pathetised arose from her dread of ridicule; but we see from this case how it is, that the mind of a person overcomes the susceptibility, and induces sleep, without any will on the part of another, and indeed, in some cases, even against the wishes of the patient himself.

"But I may be referred to cases like the following:—the patient is blindfolded, and the operator merely brings his fingers within an inch or so of any particular organ, and its function is excited. Or, the patient places his finger near any given organ in the head of another, and his own mind becomes affected.

"To this I answer:

"(1.) If the excitement of the separate organs is caused by the actual transmission of a fluid, the results should always be the same; that is, the emotions excited in one subject should be the same as those excited from precisely the same place in the head of another. But this is not the case; for though the cerebral organs may be excited without contact, in some subjects, yet the same feelings are not always excited from the same locations, in different heads. These discrepancies can be accounted for, only, by the laws of sympathy before described.

"(2.) Exciting the cerebral organs without contact, no more proves the transmission of a fluid, than the relief of pain, or sleep, induced without contact.

"(3.) The cases in which the cerebral organs can be controlled by pathetism, to any considerable degree, are very few; and hence, it is hardly safe to deduce a general law from these few cases.

"(4.) Among the subjects susceptible of cerebral excitement, by manipulation, the number is fewer still whose organs can be controlled without any contact; and the world over, perhaps, not one individual was ever found, in whom each of the organs could be excited without contact. But, if one organ may be excited in this way, and if there be an actual transmission of a fluid into the brain of the subject, it is plain, that we should be able to excite one organ as well as another. But this is not, by any means, the case.

"2. *Effects produced on idiots and infants.*

"Every operator must have noticed, how much more difficult it is to affect infants and idiots, than it is adults, and persons in whom the cerebral organs are fully developed. But, if a fluid be actually transmitted, why should it not be received with equal readiness into the heads of idiots and children?—Infants, who have all the organs, proportionably large, are not (other things being equal,) so easily affected

"Pursuing the analogy between heat and the mesmeric agency, we know that, with regard to exciting the former,

as adults. Nor, indeed, am I aware that there has ever been an instance, where the cerebral organs have been separately excited in infants. But why not? Why should not the finger of the operator transmit the neuraura to the organ of Benevolence or Self-Esteem, in a brain six months old, as easily as into one twenty-five or thirty years? The true reason is, these effects, in many cases, depend much upon the mental apprehensions of the subject, as I have already stated in the preceding theory.

"3. *The different results from the same locations, and the same results from different locations.*

"For instance: in one subject Combativeness is excited by touching the 'bridge of the nose,' so called; in another, by touching the muscles in the under lip; in another, by touching the scapula; and in another, by touching one of the fingers or teeth? Can any one, in his senses, believe these results to be produced by the transmission of a fluid?

"But, to get rid of this difficulty, an advocate of the fluid theory tells us, that in these cases the patient is under the control of the operator's WILL, and, therefore, these results are not to be depended upon! Just as much as the man who makes this objection, and no more. I have operated on hundreds, and, I may say, thousands of cases, where I know that the subjects were no more under the influence of my will, in the sense above supposed, than any other person whom I never saw. I have put them to sleep by my will, as it is called, and without it—I have examined this agency in every imaginable aspect, and tested it in every conceivable manner possible, and affirm what I know, when I say, that I have induced these different results from persons who were not asleep, and from others who were, and yet, they were not caused or modified by my will, in the least conceivable degree. The inference, to my own mind, is irresistible, that the notion of a *fluid* transmitted from the operator to the subject, is utterly unfounded.

"How could a subject be influenced by my will, when I had no will about the result, as to what it should or would be? The truth is, many operators have unquestionably, been most egregiously deceived as to many things they have attributed to their own wills. How the susceptibility is controlled by the will, and how the will and the susceptibility reciprocally act upon each other, I have already shown. But, to assume that, when I touch the same organs in three different subjects, and they every one manifest a different result, one must be more in love with theories that I desire to be, to believe that the results are either caused by the transmission of a fluid, or that they are the results of my own volitions, when I know that I exerted no will in the cases at all, and the patients were no more controlled by my will than the chairs on which they sat.

"4. *The immediate agencies for affecting the mind, must, in all cases, be the same.*

"Titillation of the feet or sides excites the organs of mirth. Is

the means are not only various, but that they may be altered according to circumstances. Occasionally they may ap-

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there, in such cases, a fluid transmitted? And what is the difference between the agency by which mirth is excited, either by tickling the soles of the feet, or by applying the fingers to the organs of mirth in the head? A tread upon a gouty toe, not unfrequently excites the organ of Combativeness. Is there a fluid transmitted in such cases?

"How often do we feel our Hope, Faith, Courage, Devotion, Love and Benevolence excited, by what we hear said in a public assembly; and in this way, thousands of organs are all excited at the same moment. Is there a fluid transmitted in such cases? Who can believe it?

"But I might ask, what excites emotion in any case? What is the immediate agency which excites feeling of any kind? If it be by a fluid eliminated in one case, why not in all? and if the hand transmits this nervous current or fluid, on applying it to the head, how is it to be rationally accounted for, that this fact was never discovered before the nineteenth century? How has it come to pass, that among the millions of millions who have had their hands upon each other's cerebral organs, since the world began, not one of them ever received this fluid in any perceptible degree, before the year 1841? Really, to swallow such an assumption, one needs an organ of Marvelousness, to say the least, much larger than the one possessed by the writer of these pages.

"The truth of the case is, most who have ever manifested any interest in the investigation of this subject, under whatever name it has been presented, have taken it for granted, all along, that there must be a magnetic or nervous fluid actually transmitted in order to produce these results, because those who have gone before have said so. And thinking of no other way for solving all the phenomena which followed the process of manipulation, we have readily adopted the crude notions of others. And this is the more remarkable, when we examine the results of the wooden tractors, together with the history of Mesmer's operations, and observe what an abundance of facts they present, which go directly to annihilate the fluid theory."

My readers may be curious to know by what theory Mr. Sunderland proposes to account for the facts without admitting an etherium or fluid, I must confess that, after reading his work carefully, I find it impossible to understand his theory, or if I do understand it, I beg leave to say, without intending any disrespect, that it is perfectly absurd. He seems to resolve the whole matter into a metaphysical abstraction, too refined for ordinary comprehension, and infinitely more subtile than the fluid which he denounces. But let the reader judge by the following extract, which embodies his views on this point:

"It will have been seen, that by what I denominate *pathetism*, is meant *susceptibility* to the influence of an agency which is concerned

pear very complex, as where chemistry employs its resources to develop heat by the union of two liquids or gases; and occasionally nothing can be more simple, as where, by

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in every feeling or emotion, or passion, or action which was ever felt, or put forth by any human being. It has to do with the laws of animal life—with nervous *susceptibility* to pleasure or to pain. Without it, man is a lifeless body of matter. All the feelings therefore which one human being may be able to excite in the mind of another, whether pleasurable or otherwise, all the influence he is enabled to exert over mind, are identical with this same agency. If they be from the materia medica, received into the stomach, or agencies applied to the surface of the body, their effects depend upon a *susceptibility*, peculiar to the living body. Or, if impressions be made upon the sensorium through the eye or ear, or through the nerves of sensation, the immediate agency which carries those impressions to the mind is *pathetism*. It is heard in the tones of the voice—it is seen in the look of the eye, and the features of the face; and in its effects thus produced, nothing is thought of it, because these are common and always before the mind. But when precisely the same thing, is felt from the touch of the human hand, those not familiar with the true philosophy of mind start back and tell us this cannot be! But why not? What has been known, or what is now known of the human system, which proves that the same influence may not be communicated to one, from the touch of the hand, which at other times reaches the soul through the eye, or ear? Or, who has been able to tell *how* it is that an impression is made upon the *mind* through the *ear*? What is there in sound to affect *mind*? Or, when the rays of light strike upon the optic nerves, what makes the intellect take cognizance of the image which they make there? In a word, *how* is it that what we call *mind* is impressed by natural agencies, in any way? Can matter control spirit?

"And pressing these inquiries thus far, I might ask an objector to tell the difference between matter and spirit—What is an *element*? What are the laws by which mind and matter reciprocally affect each other? What is *life*? What is disease and death?

"Do you say that we know nothing of these first principles? that we are in the dark as to the laws which operate in producing the most common occurrences of life? Then it must not, it will not be denied but that there are other things as mysterious and unaccountable, as the wonders of phrenopathy or clairvoyance. When I place my hand upon the head of another, and he manifests a feeling of sadness or joy; when by the same simple process, I cause him to weep or to sing, laugh or to pray, to rave with madness or to soar in ecstasies of pleasurable emotions, is there any more real mystery in the agency by which these things are done, than when one is made to weep by merely looking upon a scene of suffering; or when he is induced to sing from the influence of certain *sounds* which break upon the ear?

"And thus of mental perceptions, when the external senses are closed. It is not uncommon for persons to have more vivid and impressive views of objects in their natural sleep, than they ever had in their

mere friction, we produce heat. This should warn us not to be surprised that mesmeric results should accrue from different processes, simple as well as complex ; that at one

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waking state. The system being composed and all the faculties at rest, except the one or two whose excitement constitutes the dreaming, the energies of the whole seem to be concentrated upon those organs, and an impression is thus made more powerful than any which could be produced when all the organs are in a state of general wakefulness. The phenomenon of dreaming is common, and therefore excites no surprise. But when one is put into a state of sleep by artificial means, and in that state he is found to see with his eyes fast closed, and to have perceptions of distant objects, the phenomenon is new, and we cannot admit it.

" If we take two pieces of smooth soft iron, and put them in contact, we do not see that one has any influence upon the other; but if we rub one piece upon the other, in one direction only, for a length of time, we perceive that by this process, we have established such a *relation* between the two, that they mutually attract each other. And yet we cannot detect any substance in either of them which was not there before ; nor do we see that a fluid of any kind is actually *communicated* by one and *received* by the other. All we know about this phenomenon is, that by a certain process, a *relation* has been established between those two pieces of iron, which causes them to stick together in this manner. What that relation is we do not know. It would seem, however, that this process had actually produced a difference in the *qualities* of iron ; for before they were passed upon each other in the way I have stated, they were precisely alike in *quality ;* for on applying either of them to either pole of an ordinary magnet, they affected it exactly alike. But, not so, after they have been rubbed together, as above ; for after this process, one of them will be found to possess north polarity, and the other south; thus proving that though they were precisely alike in quality before, yet, this process has changed the quantity of both, and rendered them *susceptible* of attraction or repulsion.

" By all persons who have heretofore written on this subject, it has been assumed, as a matter of intuition, that what I denominate *pathetism*, or the 'human influence,' is conveyed from one system to another by the nerves of sensation, or motion, or both. Hence it has been called the ' nervous fluid,' ' nueraura,' &c. But no one of these theorists have ever been able to tell which class of the nerves, convey or receive this influence. Are they the nerves of sensation ? We have already seen that the process of pathetising most generally suspends the function of these nerves *entirely*. Are they the nerves of motion ? This process usually suspends the power of locomotion, and, indeed, all voluntary muscular motion throughout the system. *Hence the conclusion is inevitable, that a distinct class of organs or nerves exist, constituting a part of the medullary matter, probably, whose functions are purely sympathetic. This accounts for the effects of pathetism*, and shows how it is that *sensations* are conveyed

time the mesmerizer should employ all the intermediate aids of gesture, look and respiration, yet at another, with equal success, influence his patient by the mere action of his mind and brain."

ANIMAL ELECTRICITY.—In order still further to exhibit the analogy between electricity and the agent which produces animal motions and etheropathic phenomena, I will give a few instances of the application of electricity to the bodies of animals and men. I do not wish to be understood as insisting that animal and human motions are produced by electricity, but that they are produced by a power which bears a very close *resemblance* to it in every essential quality. I consider the effects of human Etherium, mag-

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from the pathetiser to his somnipathist, without contact, and when the latter is wholly insensible to pain from violence done to the nerves of sensation. By this process the function is suspended, and at the same time, the subject may be made to suffer more from mere *sympathy* with the operator than he would from violence to his own system. All the *sympathetic* nervous sensibilities are heightened to an extraordinary degree, while the functions of the other nerves are partially or wholly suspended.

"The *susceptibility* of different persons depends upon the developments of the *ganglionic*, or *sympathetic system*, which unites the mind, and the nerves of sensation and motion.

"The *mind*, and this *susceptibility*, or the *sympathetic system*, reciprocally act upon each other. The latter is the *medium* through which the *emotions* and *volitions* of MIND are manifested, and through the same *medium* all its impressions are received.

"By establishing a *positive relation* between two persons, the mind of one may thereby control the *susceptibility* of the other; or by applying the hand of one to any part of the other, different mental and physical changes, may thus be produced. Hence it follows, that the only influence extended from one mind or body to another, depends upon the kind of *relation* established between them, and the same is true, with regard to any influence felt by the living body, from any other cause.

"It is a universal *law of nature*, that *positive* results are produced by a relation between an agent, and a subject, or two or more substances, brought into *relation* with each other. It is only by establishing a connection between *two* things or forms which differ in quality, that a positive result differing in quality from either of the two is produced. This is the *first law of Pathetism*, and from which we see how it is, that one may not be able to produce the same effects upon different persons."

netic Etherium, and caloric Etherium, as but modified *motions* of one and the same substance, just as the different colors of light are but modified motions of one substance; and as the different kinds of heat, recognized by Prof. Faraday, are but modifications of one general principle of *caloric*.

I have no doubt that there are many different motions or modifications of human Etherium; indeed, reasoning from analogy, there must be. It would also seem that those ponderable substances which are conductors of one kind of etherean motion are non-conductors or *isolators* of some other kinds. The whole subject is rich in material for philosophical inquiry and reflection. The following extracts will serve to illustrate these views:

EXTRACT *of a letter to the London Electrical Society, from Andrew Crosse, Esq., published in Silliman's Journal, Vol.* XXXV. *No.* 1.

"Electricity is no longer the paltry confined science which it was once fancied to be, making its appearance only from the friction of glass or wax, employed in childish purposes, serving as a trick for the school-boy, or a nostrum for the quack. But it is, even now, though in its infancy, proved to be most intimately connected with all operations in chemistry, with magnetism, with light and color; apparently a property belonging to all matter, perhaps ranging through all space, from sun to sun, from planet to planet; and not improbably the secondary cause of every change in the animal, mineral, vegetable and gaseous systems. It is to determine, to ascertain what rank in the tree of science electricity is to hold; to endeavor to find out to what useful purposes it might be applied, that I conceive is the object of your Society; and I shall at all times be ready and willing, as a member, to contribute my quota of information to its support, knowing well, that however little it might be, it will be as kindly received as it is humbly offered. It is most unpleasing to my feelings to glance at myself as an individual, but I have met with so much virulence and abuse, so much calumny and misrepresentation, in consequence of the experiments which I am about to detail, and which it seems, in this

nineteenth century, a crime to have made, that I must state, not for the sake of myself, (for I utterly scorn all such misrepresentations,) but for the sake of truth and the science which I follow, that I am neither an 'atheist,' nor a 'materialist,' nor a 'self-imagined creator;' but a humble and lowly reverencer of that Great Being, whose laws my accusers seem to have lost sight of. More than this, it is my conviction, that science is only a means to a greater end.

"I reduced a piece of black flint to powder, having first exposed it to a red heat, and quenched it in water to make it friable. Of this powder I took two ounces, and mixed them intensely with six ounces of carbonate of potassa, exposed them to a strong heat for fifteen minutes, in a black lead crucible, in an air furnace, and then poured the fused compound on an iron plate, reduced it to powder while still warm, poured boiling water on it, and kept it boiling for some minutes in a sand-bath. The greater part of the soluble glass thus fused, was taken up by the water, together with a portion of alumina from the crucible. I should have used one of silver, but had none sufficiently large. To a portion of the silicate of potassa thus fused, I added some boiling water to dilute, and then slowly added hydrochloric acid to supersaturation. A strange remark was made on this part of the experiment, at a meeting of the British Association at Liverpool, it being then gravely stated, that it was impossible to add an acid to a silicate of potassa without precipitating the silica! This, of course, must be the case, unless the solution be diluted with water. My object in subjecting this fluid to a long continued electric action, through the intervention of a porous stone, was to form, if possible, crystals of silica at one of the poles of the battery, but I failed in accomplishing this by those means. On the fourteenth day from the commencement of the experiment, I observed, through a lens, a few small whitish excrescences or nipples projecting from about the middle of the electrified stone, and nearly under the dropping of the fluid above; on the eighteenth day, these projections enlarged, and seven or eight filaments, each of them larger than the excrescence from which it grew, made their appearance on each of the nipples.

"On the twenty-second day these appearances were more elevated and distinct, and on the twenty-sixth day, each figure assumed the form of a perfect insect, standing erect on a few bristles which

formed its tail. Till this period I had no notion that these appearances were any other than an incipient mineral formation; but it was not until the twenty-eighth day, when I plainly perceived these little creatures move their legs, that I felt any surprise, and I must own that when this took place, I was not a little astonished. I endeavored to detach, with the point of a needle, one or two of them that died, and I was obliged to wait patiently for a few days longer, when they separated themselves from the stone, and moved about at pleasure, although, they had been for sometime after birth apparently averse to motion. In the course of a few weeks, about a hundred of them made their appearance on the stone. I observed that at first each of them fixed itself for a considerable time in one spot, appearing, as far as I could judge, to feed by suction; but when a ray of light from the sun was directed upon it, it seemed disturbed, and removed itself to the shaded part of the stone. Out of a hundred insects not above five or six were born on the south side of the stone. I examined some of them with the microscope, and observed that the smaller ones appeared to have only six legs, but the larger ones eight."

Mr. Crosse, concludes, "1st. I have not observed a formation of the insect, except on a moist and electrified surface, or under an electrified fluid. By this I do not mean to assert that electricity has any thing to do with their birth, as I have not made a sufficient number of experiments to prove or disprove it.

"2d. These insects do not appear to have originated from others similar to themselves, as they are formed in all cases with access of moisture, and in some cases two inches below the surface of the fluid in which they were born; and if a full grown and perfect insect be let fall into any fluid, it is infallibly drowned.

"3d. I believe they live for many weeks; occasionally I have found them dead in groups, apparently from want of food.*

"P. S.—Since writing the above account, I have obtained the insects on a bare platina wire plunged into fluo-silicic acid, *one inch below* the surface of the fluid at the negative pole of a small battery of two inch plates in cells filled with water. This is a somewhat singular fluid for these insects to breed in who seem to have a

* These interesting experiments have not yet been successfully repeated.

flinty taste, although, they are by no means confined to siliceous fluids."

The Rev. Mr. Townsend, in his "Facts in Mesmerism," page 330, says:

"I think, then, at present, that the most striking fact of which I have heard, relative to the identity of the nervous and electric agencies, is the discovery of Desmoulins, that the transmission of sensation and motion is made by the *surface* of the spinal marrow, and not by its central parts. This is exactly parallel to the action of electricity, which is developed only, and transmitted, along the surfaces of bodies. That nerves really do conduct a matter, similar, at least, to the electric, has been also proved by the fact, that a magnet, held between the two sections of a recently divided nerve, was observed to be deflected, as by an electric current.

"But the kind of electricity which is in the human frame, is, probably, a modification of the original principle. In many particulars it bears more resemblance to galvanism, and it is really ascertained, by experiments on dead animals, that the nervous fibre has a property of being galvanically affected, which (though varying, of course, like other properties, with the condition of the substance in which it resides) may be called inherent. Some most interesting specimens, by Dr. Elliotson, in which patients, by a re-enforcement of mesmeric power, were shown capable of swinging round large weights, impossible to be even lifted by them in their ordinary condition, prove again the intimate connection between the mesmeric medium and the muscular force, which, as every one knows, is dependent on the state of the nerves, and by them conducted from the brain. If personal evidence may be allowed to have importance, I may add, that I am of an electric temperament; so much so, that long ago, when a child, I used to amaze and even alarm my young companions, by combing my hair before them in the dark, and exhibiting to them the electric coruscations. Of course, also, this phenomenon takes place most remarkably in a dry, and, therefore, non-conducting atmosphere. Now, between this electrical endowment and whatever mesmeric properties I may possess, there is a perfect relationship and parallelism. Whatever state of the atmosphere tends to carry off electricity from the body,

hinders in so far my capacity for mesmerizing; and whatever state of the atmosphere tends to accumulate and insulate electricity in the body, promotes greatly the power and facility with which I influence others mesmerically.

"My feelings of bodily health also vary with the plus or minus of electricity; and, perhaps, did persons oftener attend to such things, a similar phenomenon might not uncommonly be remarked. This, at least, we may admit, that the welfare of the human body depends on the equilibrium or proper distribution of its forces, and that the electric is one of these, just as much as heat or oxygen. The mesmeric force has, more than any other, been shown to be inherent in man; and, taking all the above facts into consideration, it is by no means a strained conclusion that it actually is that particular modification of electricity which is appropriate to the human constitution. When, then, after having mesmerized a person, I have a peculiar feeling of loss of strength and general uneasiness, which can by no means be traced to the usual causes, I am compelled to consider this as a proof that I have suffered by a temporary destruction of equilibrium in that medium wherewith I have charged another person; that medium, namely, which we have agreed to call mesmeric. That which greatly adds to the presumption is the fact that there is gain in the patient as there is loss in the mesmerizer. The tendency of mesmeric influence to restore equilibrium to the bodily forces is manifest. Under its beneficial action I have seen headaches cured, fatigue dissipated, and trifling bodily ailments removed in a short time."

Muller, the celebrated physiologist, says,—

"The stimulus of galvanism *excites, in all the organs of sense, different sensations in each organ*, namely, the sensation proper to it. In the eye, a feeble galvanic current excites the special sensation of the optic nerve, namely, that of *light*. In the auditory nerve, electricity produces the sensation of sound. It has not, at present, been much observed, whether peculiar smells are produced by the application of galvanism to the organs of smell. Ritter, however, has perceived them; and it is a known fact, that the electricity excited by friction, gives rise to the smell of phosphorous."

"A steel needle, plunged into a nerve, becomes *magnetic*; and

on being withdrawn, it is found to have the power of attracting light substances.

"Muller affirms, that efficient galvanic piles may be formed from organic animal substances, without the use of metals. Wienholn states that he has seen sparks obtained by bringing the divided ends of two nerves together. The electrical properties of the torpedo, and a species of eel, are also well known. The *gymnotus*, for instance, it would seem, possesses a complete galvanic battery. Two troughs are found on each side of the spine, separated from each other by a ligament extending the whole length of the fish; and the resemblance of this apparatus to the galvanic pile, is certainly very remarkable."—*Pathetism.*

"The rapidity, with which sensation and volition are communicated along the nerves, could not fail to suggest a resemblance to the mode in which the electric and galvanic fluids fly along conducting wires. Yet the great support of the opinion was in the experiments instituted by Dr. Wilson Philip and others, from which it appeared, that if the nerve proceeding to a part be destroyed, and the secretion, which ordinarily takes place in the part, be thus arrested, the secretion may be restored by causing the galvanic fluid to pass from one divided extremity of the nerve to the other.

"The experiments, connected with secretion, will be noticed more at length hereafter. It will likewise be shown, that in the effect of galvanism upon the muscles, there is the same analogy;—that the muscles may be made to contract for a length of time after the death of the animal, even when a limb has been removed from the body, on the application of the galvanic stimulus; and comparative anatomy exhibits to us great development of nervous structure in those electrical animals, which surprise us by the intensity of the electric shocks they are capable of communicating.

"Physiologists of the present day generally, we think, accord with the electrical hypothesis. The late Dr. Young, so celebrated for his knowledge in numerous departments of science, adopted it prior to the interesting experiments of Dr. Philip; and Mr. Abernethy, whilst he is strongly opposing the doctrines of materialism, goes so far as to consider some subtile fluid, not merely as the agent of nervous transmission, but as forming the essence of life itself. Dr. Bostock, however, has remarked, that before the elec-

tric hypothesis can be considered proved, two points must be demonstrated; first, that *every* function of the nervous system may be performed by the substitution of electricity for the action of the nerves; and secondly, that *all* the nerves admit of this substitution. This is true, as concerns the belief in the *identity* of the nervous and electrical fluids; but we have, even now, evidence sufficient to show their similarity, and that we are justified in considering the nervous fluid as electroid or galvanoid in its nature, emanating from the brain by some action unknown to us, and distributed to the different parts of the system to supply the expenditure, which must be constantly going on."—*Dunglison's Physiology*, p. 87.

The idea that the will of man can direct Etherium or electricity in such a manner as to produce Etheropathy or mesmerism, has been considered as inconsistent with the nature of electricity and also of the *will;* but in the case of the electric eel we have an instance of the will discharging the electric fluid with such force as to paralyze the limbs of animals at a great distance, and even of their producing death by this power. Many very honest persons argue that the Deity would never bestow upon man such a wonderful power as that which some experiments in Etheropathy indicate; but the power possessed by the gymnotus is far greater than that possessed by man. The most wonderful feats that any mesmerizer ever pretended to perform are unequal to those which are habitually and instinctively performed by one of the very lowest and least intellectual of the vertebrated animals. Many objections which are urged against the doctrines which I am advancing are entirely put to rest by the simple facts connected with the natural history of these interesting animals. Here we see electricity actually generated in the animal body, accumulated in an insulated reservoir, the outlet of which is perfectly under the control of the will, so that the fluid can be reserved or expended at pleasure. We see the intellect directing the electric bolt with all the precision of an accomplished engineer, and projecting it with the most fatal effect upon its adversary. Like a

skillful etherean operator or mesmerizer he ascertains the degree of susceptibility which is possessed by different bodies with which he comes in contact, so as not to exhaust his energies upon non-conductors. In short you see in one of the most stupid and insignificant animals, a realization of all the fabled powers of Olympian Jove. The exploits of Mesmer, Peysegur, or Elliotson sink into mere trifles compared with those of the electric eel; and yet you will hear gentlemen who are renowned throughout the wide world for "learned ignorance" talk in the most oracular style of the utter improbability that the Deity would give one of his creatures *such power* over another. The following is from Rees' Encyclopedia:

"From the observations of Condamine and others, engaged about the same time in a series of experiments on the electric properties of the electricus gymnotus, it is clearly demonstrated that the power of this animal consists in a kind of genuine electricity, being equally capable of being conducted or intercepted by the same means as electricity. Thus, on touching the fish with the fingers, the same sensation is perceived as on touching the charged vial.

"This electric faculty of the gymnotus, is apparently designed by nature to assist in the support of its existence; the smaller fishes and other animals which happen to approach it, being instantly struck motionless, and dropping to the bottom of the water, become an easy prey. The shock this fish is capable of exerting, is so great as to deprive almost of sense and motion those who are exposed to its influence, and is therefore much dreaded by those who bathe in the rivers it inhabits. Some writers affirm, even, that the violence of the shock given by those of a larger size, is so great as to occasion instant death. Their average length is about three feet, but they are sometimes found in the river Surinam upwards of twenty feet in length; and the shock of one of these is said to prove instant death to the person who receives it. Electrical fishes are capable of repeating the shocks very frequently in a short space of time.

"Mr. Jno. Wash, in a letter to Dr. Franklin, says, that he reckoned fifty shocks in a minute and a half, given by a *torpedo*; and

upon another occasion, he calculated that one hundred were delivered in about five minutes. Much of the force of the shock depends upon the natural strength and vigor of the animal at the moment of the experiment. It is said to have very little electric power in the winter. It is much diminished if the fish remain for any time out of water. The shocks do not appear to be lessened in strength by repetition, unless the animal be otherwise exhausted. When the torpedo administers a shock, it is always observed to depress the eyes, and to make some movements of the lateral fins. The other electric fishes do not accompany these shocks by any visible muscular effort. However strong the shock of fishes may be, it has never been seen to produce the least noise nor luminous appearance—and it will not pass through the smallest portion of air; it must, therefore, be greatly deficient in intensity. The electricity of fishes has not the power of attracting floating substances. When a person is insulated, and touches the fish, he receives a shock as at other times, but gives no appearance of excess of electricity, however long he may keep up his communication with the animal. A Leyden phial also being put into contact with an electric eel, never becomes charged. It would appear that the electric phe-

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From the Penny Cyclopædia:

"When the battery is applied to a nerve of a person recently dead, and the circuit is completed, several violent motions ensue, dependent on the relative position of the nerve and muscle; thus, when the wire communicates with the phrenic nerve, the muscles of respiration are set in motion; when from the ulnar nerve to the spinal marrow is included in the circuit, the fingers are set in quick motion and so on. Fishes are still more susceptible of this electric action than animals, and strong convulsive motions will be exhibited by a live flounder placed on a zinc dish and having a piece of copper or silver on its back, as soon as the two metals come in contact: similar effects take place with leeches, worms and amphibious animals.

"It was thought by Volta that the involuntary muscles, such as the heart, could not be thus excited, but experiment has decided against him.

"When the secretion was suspended by cutting the eighth pair of nerves, Dr. Philip and several French anatomists have restored it by establishing a galvanic current through the divided part of the nerves next the stomach.

"Intermittent currents have been employed in the experiments of Masson, Peltier and Delarive. To effect this, M. Masson used a toothed wheel rotating by a cord round it; its axis, supporter and itself being all metallic; a communication is formed between this wheel and a battery in the form of a helix: the object of the teeth of

nomena of fishes are produced in a manner different from every species of physical electricity.* All experimentalists, agree that they regulate the strength, and frequency of the shocks at pleasure.

"Dr. Williamson, relates, that some small fishes being thrown into the same water where an electric eel was swimming, it immediately killed and swallowed them, but a larger fish being thrown in, it was also killed, although, it was too large for the eel to swallow; another fish was thrown into the water, at some distance from the eel, it swam up to the fish, but presently turned away, without offering it any violence; after some time it returned,

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the wheel is occasionally to suspend the action of the current by making the connecting rod of too great a length; hence, when the wheel is made to revolve, the galvanic current acts and is suspended alternately. By a series of intermitted discharges produced in this manner, M. Masson had the cruel pleasure of killing a cat.

* "P. Santi Linari drew the electric spark from the gymnotus in the following manner:—he took a glass tube of the shape of a capital U, which he partly filled with mercury; at each end was fixed an iron wire through a wooden button, and which reached very near the mercury. The apparatus being fixed with mastic on varnished wood, the end of the wires were made to touch short platina wires terminated by laminæ of the same metal intended to make a good communication with the different parts of the electrical fish When the circuit was formed, a spark visible even in the daylight appeared at the place where the conductors were interrupted. This experiment he has repeated in different forms." (*Biblioth. Univ. de Geneve.*)

"Galvanism, in its action on the human system, resembles electricity, yet it is distinguished by certain peculiarities. In its application it can be rendered more continuous and uniform, and may, like electricity, be administered either in shocks, or in a regular flow of galvanic influence through the body. It possesses more power over the chemical actions of the body than electricity, and promotes more completely those processes of decomposition and recomposition which take place in the living frame, as well as the functions of organic life, than common electricity. But the chief distinction consists in the difference of action of the two poles. Each pole excites a peculiar phenomena in the organs to which it is applied. This difference is less perceptible when mere shocks are administered, than when a continuous stream of galvanic influence is transmitted from one point to another of the body. The positive pole more particularly influences the muscular and vascular system, while the negative pole more especially affects the nervous system. At the positive pole there is felt the shock, strong movements, a feeling of concentration and contraction, increased warmth and mobility of the part, with gradual diminution of the secretion and sensibility. At the negative pole the pain and sensibility are stronger and more acute, the organ expands, is more irritable, while

when, seeming to view it for a few seconds, it gave the fish a shock, upon which it instantly turned up its belly and continued motionless. A third fish was thrown into the water, to which the eel gave such a shock, that it turned on its side, but continued to give signs of life; the eel seeming to observe this, as it was turning away, immediately returned and struck it quite motionless."

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the muscular action and mobility are lessened. The difference of their action on the secreting powers is best seen by applying the respective poles to a surface which has been recently deprived of its cuticle, such as where a blister has been. The positive pole changes the serous secretion into that of lymph, which at last becomes thready; the part dries and is inflamed. The negative pole causes an abundant secretion of a dark-colored, highly acrid fluid, which excoriates the skin over which it flows, the part also experiences an enduring irritation. Atonic swellings are rendered harder, should they not become inflamed by the positive pole, while frequently by the negative pole they are dispersed and resolved. Notwithstanding the possession of such powerful properties, galvanism has not produced so valuable results in medicine as might have been anticipated. This comparative failure is, no doubt, to be attributed to errors in the mode of applying it. It may be proper however to remark, that it was urgently recommended during the prevalence of the Asiatic cholera, but the results were not satisfactory. Like many other powerful agents, it was not used till a very late stage in the complaint, when recovery was almost impossible. It is also to be doubted whether galvanism be at all applicable to cholera, since it appears that the continued application of it causes death, by inducing inflammation of the lungs, in cases of animals where the eighth pair of nerves have been divided, more speedily than where the same nerves have been divided in animals to which the galvanic power was not applied as a substitute for the nervous. Inflammation is the invariable consequence of the application of the positive pole; while the negative pole would cause a flow of acrid secretion which could not benefit the patient. The identity of electricity, whether common or galvanic, with the nervous power, is much to be questioned."

SECTION IV.

OXYGEN.

HAVING shown the nature of Etherium, I proceed to inquire how its motion is generated in the human constitution, through the agency of oxygen.

In 1774, Dr. Priestly discovered that the atmospheric air is composed of two different substances—one of which has since received the name of oxygen; and it has been found to perform a more important part in chemical combinations than any other ponderable substance with which we are acquainted. The burning of fuel and other substances, is caused by the combination of oxygen with some of their component elements. The rusting and tarnishing of metals is caused by their surfaces forming a chemical union with oxygen. Most of the substances which are commonly called *earths*, are, in reality, but a combination of oxygen with some metal; this is true of soda, potash, lime, magnesia, etc. Water is a combination of oxygen with hydrogen. Paints are all composed of some metal, combined with oxygen. The common galvanic battery derives its power from the union of oxygen with its metallic plates. The blood of all animals is stimulating and nourishing in proportion to the amount of oxygen which it contains—no animal can live a moment without oxygen: and, finally, the number and force—that is, the *quantity*—of animal motions, is in proportion to the amount of oxygen which they require. The motions of animals are undoubtedly produced by the agency of Etherium; this is the set-

tled opinion of those physiologists who are most capable, from their knowledge and experience, of forming a correct judgment upon this subject. It is also admitted, that oxygen is directly related to animal motions. Now the question to be determined is, what relation has oxygen to Etherium? and what relation has it to the animal motions which Etherium produces?

The following seems to me the most reasonable explanation, and one which will receive the approbation of philosophic minds:

Every chemical change or combination is accompanied with a motion of Etherium, whether we perceive it or not. Some motions, thus produced, are more powerful than others; and the more powerful neutralize the weaker, or cause them to conform. The motions of animals are produced in a manner so very analogous to those produced by galvanism, as to excite a suspicion in the minds of all scientific men that they are produced in a similar manner in both cases. We examine to see what there is in common, and the first and must striking fact that arrests our attention, in both operations, is, the agency of oxygen. In both instances, we find oxygen drawn from the atmosphere to combine with a liquid; in both instances the liquid comes in contact with a substance which has a greater affinity for oxygen; this substance, whatever it may be, unites with the oxygen and forms an oxide; instantly an invisible agent, which I call Etherium, is evolved, (or, rather, a motion of Etherium produced,) which in one case is adapted to move an *iron* machine, and in the other, a *muscular* machine.

The conclusion is irresistible, that oxygen, by its chemical combinations, produces the motions of Etherium in both machines.

It is the office of the stomach to furnish the materials of nourishment, (carbon and hydrogen,) and of the lungs to furnish oxygen, the material of motion. This is the reason

why vegetables, which have little or no occasion to move, use so little oxygen; and why animals use an amount of oxygen exactly in proportion to their motions. It is the reason why the predominance of the digestive functions causes fat (which is composed of carbon and hydrogen) to accumulate; while the preponderance of the lungs and brain is generally accompanied with leanness; as the fat (carbon and hydrogen) is used up in combining with oxygen to produce motion.

This explains why sleep is useful, as it enables fat to accumulate for the supply of the oxygen needed to sustain motion when awake.

During sleep there is just oxygen enough furnished to supply motion to the involuntary organs; during waking, enough to supply both voluntary and involuntary. Oxygen is used immediately after it is received; carbon and hydrogen may (in the form of fat) be reserved until needed. There is generally more carbon and hydrogen secreted than used during sleep, and the surplus is reserved to be used while awake.

The reason why sleep is necessary, is, because we do not digest and secrete fast enough to supply carbon and hydrogen for the oxygen which it would require to move voluntary and involuntary organs twenty-four hours.

The conclusion is, that the quantity of motion of Etherium generated in a man, is in proportion to the quantity of oxygen which combines with his food; and the quantity of oxygen which combines with food in a given time, depends upon the size and perfection of the lungs and stomach, the proportion which they bear to each other, and the expenditure of material made in producing voluntary and involuntary motion.

There are many other modes by which Etherium may be set in motion without the agency of oxygen, but I contend that this is the use to which respired oxygen is put in the animal system.

SECTION V.

SLEEP.

NEW PHILOSOPHY OF ORDINARY SLEEP.

VEGETABLES sleep incessantly, all their actions being involuntary.* The motions of animals are divided into voluntary and involuntary. When the animal is performing involuntary motions only, he is said to be asleep. When he is performing voluntary motions he is awake. There is a very great difference among animals in regard to the time which they spend in sleep ; there is also a difference in this respect among men ; and a difference in the same individual at different periods of life, and in different states of health.

The only theories of sleep which have ever been proposed that I know of, are founded upon the idea that sleep is necessary to restore to the body the substance which it loses by its operations during the waking period, and to give the organs an opportunity to rest. It is spoken of as

"Tired nature's sweet restorer, balmy sleep."

This is the view supported, or rather assumed, by Mr. McNish, in his "*Philosophy of Sleep ;*" and it is maintained

* Some have asserted that vegetables sleep, because during night they suspend some of their functions ; but this cannot properly be considered analogous to the sleep of animals unless we admit vegetables to be *conscious* beings, and consider the parts which during night suspend their functions as *voluntary* organs. That which seems to resemble sleep in vegetables is owing to the withdrawal of the stimulus which during the day they received from the sun.

by Prof. Liebig in his excellent work on "*Animal Chemistry.*" After making an accurate calculation of the amount of force which an adult man expends in a day, he says:

"*This supply of force is furnished in a seven hour's sleep.*"

Again he says:

"The adult man sleeps seven hours, and wakes seventeen hours; consequently, *if the equilibrium be restored* in twenty-four hours, the mechanical effects (muscular motions) produced in seventeen hours must be equal to the effects produced during seven hours in the formation of new parts." "If in the adult man the consumption of force for mechanical purposes, in twenty-four hours, be augmented beyond the amount restorable in seven hours of sleep, then, if the equilibrium is to be restored, less force, in the same proportion, must be expended in mechanical effects in the next twenty-four hours. If this be not done, the mass of the body decreases, and the state characteristic of old age more or less decidedly supervenes."

Having thus fairly stated the received doctrine on this subject, I will now briefly give my own views, which are essentially different.

I consider the cause of sleep to be the predominant influence of the involuntary system over the voluntary, which enables the involuntary system to monopolize all the available force, and appropriate it to its own purposes; leaving the voluntary system without the means of sustaining its operations, it pauses of course;—this is sleep, and its cause. The force which continues both systems in action, is generated by the combination of carbon and hydrogen, with oxygen. Oxygen is continually furnished in a sufficient quantity, but the carbon and hydrogen is not produced in a proper state and proper place to combine with oxygen, and produce force with sufficient rapidity to supply the constant demands which voluntary and involuntary systems would both make upon it, if they should both keep active

incessantly. This deficiency is compensated by sleep; not as McNish and Liebig suppose, because sleep is *necessary to restore* the equilibrium of substance; for sleep is not necessary for this purpose. There *is* a restoration continually going on *when we are awake*, but it does not go on *fast* enough to keep pace with the waste; and when the reservoir is exhausted to a certain point, the struggle commences between the two systems; a struggle in which the involuntary system always triumphs sooner or later. If the brain is greatly excited, it maintains the contest longer; but if all is quiet, monotonous and peaceful, while the stomach is excited by food easy of digestion, the involuntary system easily prevails over its antagonist, the brain, inducts it and puts it to sleep.

In harmony with this theory, we find that (*ceteris paribus*) those who digest their food with great rapidity, and whose secretions are rapid, of course, sleep but little; while those who digest and secrete very slowly, sleep much. This proposition must be understood with the proper qualifications of *ceteris paribus*, or all else equal; for there are other facts which must be taken into the account, and some of them of much importance. One is, *the size of the brain* compared with the body. When the brain is large in proportion to the rest of the body, all else equal, there is a greater tendency to keep awake; and when the brain is small, there is a greater tendency to sleep. Another modifying circumstance, is, the *number* of different powers of mind possessed by the individual; for some animals possess a greater number of mental organs than others. Another circumstance, is, the relative *size* of the *higher organs* of the brain compared with the lower, as the higher organs prevent sleep by producing reflection. Now, take an instance for illustration, where all the conditions are favorable to wakefulness: 1. When the food is such (meat) as to be rapidly and easily digested; 2. When the lungs are very large, so as to demand

rapid digestion; 3. Where the brain is large compared with the rest of the body; 4. Where the number of the mental organs, as in man, is greater than in other animals; and, 5. Where the higher organs are much larger, in proportion, than the lower. If my theory is correct, such a person will sleep but little. On the contrary, let all the conditions just stated be reversed, and the individual will sleep much from unavoidable necessity. The basis of Mr. Liebig's error (if I may venture respectfully to speak of the error of a very justly distinguished man) consists, as I apprehend, in assuming that, to use his own language—

"A living part cannot increase in volume at the same moment in which a portion of it loses the vital condition, and is expelled from the organ in the form of a lifeless compound; on the contrary, it must diminish." "And only from the period at which the cause of waste ceases to operate, can the capacity of growth be manifested." "And, if the original equilibrium is to be restored, we must suppose that, during sleep, an amount of force is accumulated in the form of living tissue, exactly equal to that which was consumed in voluntary and involuntary motion during the preceding waking period."

To annihilate this doctrine, it is only necessary to carry it out to its consequences; for, if it is true that a part cannot grow until the cause of waste ceases to operate, then, the heart and all the involuntary organs, are unable to manifest their capacity of growth at any time during life. But we know that they do grow, and we know that they continually waste, and yet they do "*increase in volume at the same moment in which a portion of them loses the vital condition, &c.* What we *know* of the involuntary organs in this respect, we have a right to *assume* of the voluntary; that is, that they are capable of growing while they are in operation, and that sleep is not therefore necessary to the continuation of life, excepting so far as it economizes force.

Again, Mr. Liebig's assumption is not true, that, all else equal,—

"The mechanical force available for work, is directly proportional to the number of hours' sleep."

It would, doubtless, be true, if the restoration of substance and the acquisition of force could only take place during sleep; but I have already shown that this is not true, and consequently, the assumption of a regular proportion of force to sleep is also without basis. It is at war with facts. Birds, that sleep less than any other animals, surpass all animals in the amount and velocity of their motions. In proportion to their size they certainly expend more force in voluntary motions than any other animals; and yet, according to Mr. Liebig, they accumulate less, because they sleep less. It cannot be said that they sleep so much sounder than other animals, that they are therefore enabled to accumulate enough in their brief sleep to support their long continued and vigorous motions, for their sleep is not only brief, but very light and imperfect. They are so easily waked that it seems doubtful whether they are ever entirely asleep. According to my theory it is easy to understand that an animal of this kind could entirely dispense with sleep: I do not doubt that some birds might be kept awake continually. It is said, indeed, that fishes never sleep, and I can readily believe it; for with their rapid digestion and little expenditure of force, balanced as they are in the water and sustained by the gravity of their native element so as to need but little exertion to propel themselves about, there is little occasion for sleep if my views are correct; but, according to Mr. Liebig, they ought to sleep during the whole time that they are growing; and the amount of their sleep ought to be proportional to the amount of growth added to the amount of substance expended in all their motions: this is certainly not true, and, therefore, Mr. Liebig is certainly and obvi-

ously wrong on this point, notwithstanding the genius which he has exhibited in so many other departments of inquiry. As I propose to illustrate this interesting subject more in detail on some future occasion, I will not pursue it further in this work. It seems, then, that the immediate cause of sleep is that the involuntary system actually inducts or mesmerizes the brain; at certain regularly returning periods, monopolizes, for its own use, all the force then on hand, and proceeds to accumulate substance until the stimulus of the external world prevails and inducts the external senses and brain sufficiently to produce waking.

The apparent design of the Creator in ordaining sleep, is to prevent the unnecessary expenditure of force. Accordingly, those animals, or those parts of animals, whose circumstances require continual action, never sleep. To illustrate: horses sleep standing, rabbits with their eyes open—it is said that fishes never sleep, and we know that the heart never sleeps.

SECTION VI.

THE ORGAN OF CONSCIOUNESS.

It is impossible to avoid the conclusion, that there is a central organ of Consciousness in the brain, where all the other organs of mind concentrate their forces, where their relative influence is appreciated, and their relative claims to superiority weighed and allowed.—An organ of Consciousness, to which all the other organs of the brain, and all the various external organs of sensation are merely auxiliaries. All the organs of the brain which are concerned in thought and feeling, converge to this grand centre, and all the nerves of voluntary motion diverge from it.

The organ of Consciousness is located in the *medulla oblongata*—this is the point where sensation terminates, and volition commences—this is the seat of Consciousness. The proof is derived from experiment; for, if the brain above and the spinal cord below, are both destroyed, consciousness still continues, provided the medulla oblongata and its nerves are uninjured; but if the oblongata is destroyed, consciousness is also destroyed. This is conclusive and unanswerable proof. The precise minute point where Consciousness holds its mysterious throne, whether it is exactly at the place where the pneumogastric nerve is inserted, or the twentieth or the third part of an inch above it, is not yet ascertained, nor is it material; it is certain that it is not below the place where that nerve is inserted; it is certain that it is not an inch above. This is what we know, and all we know, of the location of Consciousness—the sanctorum of the mind. There

is other evidence which confirms this, but none which so decidedly settle the question. Thus, we find that the principal fibres of the brain converge to this point, and we find all the nerves of sensation and of voluntary motion in direct communication with it. Its intermmediate position between the brain and spinal cord, the fact that it is possessed by all animals of the vertebrated class, the fact that some animals have more and others less phreno-organs superadded to the oblongata—but none are without this important part—all conspire to sustain and illustrate the decisive experiments by which this is proved to be the location of the organ of Consciousness.

"The spinal marrow is sensible along the whole of its posterior column, but it also acts only as a conductor of the impression. Flourens destroyed the spinal cord from below, by slicing it away, and he found that sensibility was gradually extinguished in the parts corresponding to the destroyed medulla, but that the parts situated above evidently continued to feel. Perception therefore occurs in the encephalon; and not in the whole but in some of its parts. Many physiologists, amongst whom may be mentioned Haller, Lorry, Rolando and Flourens, have sliced away the brain, and found that the sensations continued until the knife reached the level of the corpora quadrigemina; and again it has been found, that if the spinal cord be sliced away from below upwards, the sensations persist until we reach the medulla oblongata. It is, then, in the medulla oblongata that we must place the cerebral organs of the senses, and it is with this part of the cephalo-spinal axis, that the nerves of the senses are found to communicate.

"Mr. Lawrence saw a child with no more encephalon than a bulb, which was a continuation for about an inch above the foramen magnum of the medulla spinalis, and with which all the nerves from the fifth to the ninth pair were connected, The child's breathing and temperature were natural; it took food, and at first moved very briskly. It lived four days."—*Dunglison's Physiology*, p. 83.

The location of Consciousness is not, in itself, a very important or essential circumstance, provided it be admitted that there is such an organ, and that it has a location somewhere in the brain; the philosophy founded upon Consciousness would be the same if its location were utterly unknown. Dr. Reid, the greatest of the Scotch philosophers, advocated the doctrine that Consciousness is a distinct power of the mind, but did not attempt to give it a local habitation. Aristotle and the ancient philosophers considered the brain as the *sensorium*, but did not designate any particular portion as especially entitled to that name. Descartes considered the pineal gland as the seat of the soul. Darwin and many modern physiologists use the term *sensorium* to signify the seat of the mind, wherever it may be. The researches and experiments of the anatomists of France and Italy, which have been made within the last hundred years upon living animals, with a design of ascertaining the offices which are performed by different portions of the brain, have been very numerous, and have cost much labor, and excited much discussion. Those experiments have, however, been of but little use, except so far as relates to the seat of Consciousness. They demonstrated that life is independent of the brain; that respiration and volition is dependent upon the brain; that the medulla oblongata is the centre of volition and sensation; and that the brain, all excepting the medulla oblongata, may be taken away, and respiration and volition and the signs of Consciousness remain. These experiments seemed to be at war with the doctrines of Gall and Spurzheim, and their fairness was consequently denied by the advocates of phrenology; none of them have considered the experiments as affording evidence of the truth of phrenology, though in reality they do so, if the doctrines which I have advanced respecting Consciousness, are admitted to be correct.

All the phrenological writers seem to have entertained

the most vague notions concerning Consciousness. Both Spurzheim and Combe, and indeed all other phrenologians, deny the existence of Consciousness as a separate power of the mind. They seemed to have a notion that each mental power has a Consciousness of its own, in some way, which they did not attempt to define, and probably did not themselves clearly comprehend. The opponents of phrenology have not failed to avail themselves of this weak point in the science. They have triumphantly demanded, "What constitutes *the unity of mind*—the unity of Consciousness in our system of phreno-philosophy?" They have justly characterized the science as a federal republic without a common executive—a circumference without a centre; and though they were inclined to admit that phrenology has added some useful facts to our stock of knowledge on this subject, it is not itself entitled, in their opinion, to the claims which its friends set up for it, to be considered as a systematic science.* There was, indeed, but too much truth in this criticism, and I hope that this introduction of the organ of Consciousness will in a great measure obviate not only this difficulty, but many others which previously lay in the way of the metaphysicians. The error of Spurzheim on this point, which was adopted by Combe and other followers of that illustrious man, may be traced in all his works, and in the works of all his disciples. Spurzheim divided the powers of the mind into feelings and intellectual faculties. He reckoned twenty different organs of *feelings*, besides fifteen *thinking* faculties. He and Combe also speak repeatedly of these different powers, as operating sometimes in harmony, and sometimes in antagonism; but did not seem to think it necessary to point out the *common ground* upon which their harmony or antagonism is displayed, and without which it is impossible that it can be displayed at all.

* See Henry's History of Philosophy, article Cabanis.

If we say that Consciousness is dependant upon a material organ, it may be objected that it is then compound in its material constitution, and consequently liable, after death, to be decomposed, and, of course, its identity annihilated. I answer that the organ of Consciousness is not necessarily compound. The essential element of the organ may, for aught we know, be an ultimate and indivisible atom of matter, which has the inherent property of being conscious, when placed in proper relations to the senses and other organs, so as to have this property excited. An indivisible, indestructible atom of matter, is immortal in its existence and its identity; and if it is capable of Consciousness, when placed in proper circumstances, then Consciousness is immortal, though it may remain dormant for ages for want of the proper circumstances to excite it. There are some reasons for suspecting that every atom of matter in existence is capable of Consciousness, when placed in the circumstances and conditions favorable to its development.*

It is quite certain that Consciousness can exist, in all its power of thought and feeling, in a particle of matter so exceedingly minute, that the most perfect microscope cannot perceive it. This is demonstrated by the phenomena presented by that wonderful order of animals, the *Infusoria*, some of which, according to an accurate and mathematical measurement by Ehrenberg and Dr. Prichard, are so diminutive that twenty-five thousand of them can stand in a row upon a line which is less than an inch in length, and eight

*Locke tells of a man who recollected distinctly that his conscious principle, or soul, was once the soul of Socrates. Now if consciousness depends upon an ultimate material particle, it is not impossible that the very identical *consciousness* which is now possessed by Queen Victoria was once possessed by Queen Maud; and it may be that if Her Majesty will resolutely set to work, she may be able to recollect the circumstance. If this principle be admitted, it may be also that the future state, condition, and associations of Consciousness, will be dependant upon the aptitudes and habits, the moral and physical sympathies and antipathies which it has acquired in its past and present state—but we can no longer touch bottom.

millions can occupy less space than a mustard seed. Now, when we reflect that each of these animals has limbs, mouth, organs of digestion, an involuntary and voluntary system, with a central Consciousness—how large a space can we suppose the central Consciousness occupies? That it exists in them, as in us, no one will deny; it is also plain that it does not occupy the whole of the body in them any more than it does in us; for in their case, as in ours, a limb may be destroyed and yet Consciousness remain. In them, as in us and all animals, it occupies a central position, distinct in its nature and function from, yet in connection with, all the voluntary organs. Now, it can be easily demonstrated that Consciousness cannot possibly occupy this central position in relation to the other organs of the animal, without being limited to a space more than two hundred times smaller than that which the rest of the animal occupies. As eight millions of the animals occupy less space than a mustard seed, therefore, *sixteen hundred millions of organs of Consciousness may exist in a space smaller than that filled by a mustard seed.** Surely, after this, no one will cavil about the organ of Consciousness being supposed to exist in

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* *Infusoria.* This term has been applied to the numerous minute animals found in water, which are commonly called animalcules.

The invention of the microscope by Hooke, revealed the existence of myriads of living creatures, whose presence was before unknown; and this instrument has shown that a drop of water, though it may appear to the naked eye to be perfectly clear, is perhaps swarming with living beings. Ehrenberg (whose labors have principally contributed to the knowledge of the true nature and structure of the infusory animalcules) has described species which are not larger than from one thousandth to one two-thousandth of a line (a *line* is one-twelfth of an inch) in diameter, and which are separated from one another by intervals not greater than their own size. A cubic inch of water may thus contain more than eight hundred thousand millions of these beings, estimating them only to occupy one-fourth of its space; and a single drop (measuring not more than a line in diameter) placed under the microscope, will be seen to to hold five hundred millions, an amount perhaps nearly equal to the whole number of human beings on the surface of the globe.

Distinct organs of digestion may be demonstrated in all the species. Ehrenberg says, "all true Infusoria, even the smallest monads, are or-

the smallest possible atom of matter, indivisible and indestructible. This course of reasoning is useful in teaching us that the nature of Consciousness is beyond our grasp; that we cannot investigate it by the observation of material bodies; that we can only know its existence in a general

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ganized animal bodies, and distinctly provided with at least a mouth and internal nutritive apparatus."

Speaking of the wonderful power of the infusorial animals to multiply by the mysterious process of self-division, Prof. Ehrenberg says:

"The possibility of the multiplying of an individual to a million, in less than forty-eight hours, was exhibited in them by the mere process that each single animalcule can divide itself, within one hour, completely lengthwise or across, and after the lapse of one hour's rest, can repeat the same thing. The vast effect of this activity, is, that a single animalcule, perfectly invisible to the naked eye, can possibly be increased in four days to 140 billions of independent animalcules. In the polishing slate of Berlin, about 41,000 millions of these creatures form one cubic inch of stone, as may easily aud pretty accurately be determined, &c."—*Transactions of the Royal Academy of Berlin*, 1840.

In contrast with these views, it will be interesting to read the following brief extract from Dr. Lardner's Lectures:

"A star of the seventh magnitude can easily be compared with one of the first, in point of splendor, by the photometer—just as the light of a sperm candle can be compared with that of a lamp. Sir JOHN HERSCHEL has compared the splendor of a star of the sixteenth magnitude with that of one of the first, and has found that the light of the latter is equal to three hundred and sixty-two times that of the former. From this it may be inferred that the distance of a star of the sixteenth magnitude is such that it would require thousands of years for its light to reach our system. These considerations present to our minds most comprehensive views of the economy of the Universe. For if light requires a thousand years to come from any of these plainly distinguishable stars, there can be no doubt that it takes twenty times as long to come from others; and what are we to infer from this but that there are visible objects in the universe which 20,000 years ago existed as they are now seen. Light left these stars 20,000 years ago, and has just reached the earth upon which we live. For 20,000 years past, then, these stars, for aught we know, may not have existed. The objects we see to-day are not the objects of to-day: the Sirius that we see to-day is not the Sirius of to-day. The light by which we see it left that star three years ago, and from that day to this we have known nothing of it. Into what a singular historical state does this view throw creation! Our system, then, exists at an enormous distance from the nearest of the fixed stars, and look in what direction we may, the same chasm yawns between us and it."

manner from experience, and its location by experiments which can only approximate to exactness.

Nor does this investigation shed any light upon the subject of immortality. If man is necessarily immortal because he is endowed with an indestructible organ of Consciousness, then so is every insect and reptile and all the infinite variety of vermin that have ever infested the earth; and science offers as powerful an argument in favor of their immortality as that of man. Of all the investigations of scientific men, none has excited the jealousy of sectarians as much as the one we have now under consideration; almost every philosopher who has manifested a disposition to approach the subject fearlessly and examine it with independence, has had the mad-dog cry raised against him of *fatalism*, *materialism*, or *heresy*. Many of our modern authors have been so far influenced by this outcry, that they have evidently suppressed their true sentiments and smothered their conscientious convictions to avoid the relentless persecutions which arise from bigotry and superstition. The only road to the favor of this potent and numerous class of tyrants, is to make a profound mystery of everything relating to mind; all explanation or even demonstration is condemned by them as unpardonable heresy, dangerous to religion, and inconsistent with *their own narrow views* of the holy scriptures. Nothing has had so injurious an effect upon the fair and successful investigation of this subject, as even the well-meant interference of these self-appointed theological critics, and nothing can be more injudicious and misplaced than their animadversions. The truth is, the subject is not fairly within their jurisdiction and therefore they have no right to meddle with it. The immortality of the soul can neither be proved nor disproved by the demonstrations of natural science. We may examine the nerves and the brain as much as we please; we may prove to a certainty that Consciousness maintains its seat in the very centre of the oblon-

gata; we may determine the precise, individual, ultimate atom in which it resides with all its prerogatives, where it receives its impressions through the senses and sends forth its mandates through the motor nerves; we may prove that it is dependent upon the various phreno-organs, the currents of Etherium, and their modifications in the different avenues; and yet the subject is as far beyond our comprehension as before—we can discover nothing that illustrates or illuminates immortality. If all was doubt and obscurity when we began the search by the light of nature, reason and science, it is equally obscure now; and from the nature of the subject it could not possibly be otherwise. We have come to the wrong place to learn the nature of the immortal principle of the human soul, or to find evidence for or against this important doctrine. Suppose it proved that Consciousness in this temporal life does actually depend upon a compound material organ, which at death is decomposed so as to render Consciousness by that organ impossible; suppose this demonstrated beyond all question; would this be admitted as decisive proof that the soul is not immortal? Again, suppose it demonstrated that Consciousness is dependent upon a single indestructible atom, would this be sufficient to satisfy us concerning the immortality of man? We may conjecture what we will, and speculate until we have exhausted all the resources of our ingenuity, without solving the question of our future destiny. Consciousness certainly does exist in man and every other living animal, and has its seat at the point where sensation terminates and volition commences; this is all that we can know. The condition of human Consciousness after death is a matter of religious faith, but not of scientific knowledge.

Immortality is like one of those fixed and beautiful stars, that cannot be perceived by the unaided natural eye; but divine revelation is like a powerful telescope, which brings that star clearly to our view. Be it, then, hereafter remem-

bered, that "eternal life and immortality is brought to light through the gospel of Jesus Christ," and not through anatomy and physiology, nor any other department of scientific investigation. The subject is infinitely beyond the reach and above the comprehension of finite intellect and human reason. If any one wishes to find evidence of the immortality of the soul, let him go to the Bible. If he rejects this testimony, I can assure him that he will find it proved nowhere else. He will look to human science in vain—it can only lead him to the grave, and there leave him. History may reveal to him, that man has, in all ages, and under all circumstances, savage and civilized, manifested

> "This pleasing hope, this fond desire,
> This longing after immortality,"

but this affords him no assurance that his longing will be satisfied. In vain, then, do we send out science in search of immortality for the soul; like Noah's dove it returns again, unable to find a resting place, even for itself; but divine revelation, like the second dove which Noah sent out, comes to the believer with its beautiful wings illuminated by reflections from the rainbow of eternal hope, bearing the olive-branch, the emblem and assurance of rest and peace from all the storms of a troubled world.

In whatever direction we turn our eyes to the works of nature's God, we find evidences of design; and whenever we are able to understand his designs, we are forced to acknowledge their wisdom. Let us, then, inquire what was the design of the Creator in bestowing Consciousness upon animals and man? Why could not all their actions have been involuntary, as one class of them actually is; and as all the actions of vegetables, in all probability, are? Why was it necessary—when organized beings advanced from the condition of vegetables one degree upwards in the scale—why was Consciousness added?

This has been answered by saying that Consciousness was given that the animal might be capable of enjoying its existence. Why, then, was not Consciousness given to vegetables and minerals? besides, Consciousness is often attended with suffering; and, in some instances, animals seem to suffer much more than they enjoy. This cannot, then, be the answer. When the question is applied exclusively to man, it may be answered, that Consciousness was bestowed because he could not otherwise have been made an accountable being; but this will not be given as the reason why Consciousness was bestowed upon the lowest animals; nor will it enable us to explain all the instances of human Consciousness. I will venture to propose another reason. It is this: *Consciousness became necessary, to enable the animal to act with reference to external objects, which are not in contact with his organs.* Involuntary and unconscious actions are always performed upon objects which are in contact with the organs. When the earth first emerged from its primitive condition, so that organized beings began to live upon it, their first actions were probably altogether involuntary; and when the condition of the earth so far improved as to render the introduction of animals possible, those animals were but a single step in advance—but one degree superior to vegetables. Accordingly, the lowest animals differ from vegetables only in this, that they act upon objects which it requires a movement of their extremities to bring into contact. This is the reason why vegetables, having no Consciousness, have no muscular motion; nor do they need any, since all the objects which require their action are in contact with their extremities. Vegetables have propensities to breathe, to eat, to enjoy the light, &c.; if Consciousness were added, and nothing more, we should have a *vegetable conscious of its wants*, but unable to move to get into contact with the objects which it needed—unable even to perceive them. Now add perceptive organs and contractile muscles, and it

would be a *conscious animal*, with the same wants and Consciousness of those wants; and, in addition to these, it would have a Consciousness of the existence, location, form, color, flavor and weight of the objects which it needed, and the means of moving its extremities and directing them so as to come into contact with those objects. The animal may still be destitute of reflective organs, and, therefore, unable to perceive the consequences of his actions. He has the very lowest animal propensities, and the very lowest perceptive organs, superadded to Consciousness. He is urged irresistibly by his propensities to aim at certain objects, without reflection, without fear, and without hesitation or forethought; danger and death will be unseen and undreaded. He will be incapable of acting with reference to any objects which are beyond the limits of present perception, direct and immediate. He has no memory, for that can only exist with reflection. Memory is a power which connects the past and present, and depends, in some degree, upon the reflective powers, of which we have assumed the animal to be destitute. As he cannot avail himself of past experience without memory and reflection, he is a mere conscious machine, moved by external stimulus. Now add reflection and the higher propensities, and he is a different being; he remembers past experience and profits by it, to avoid danger, wounds and death. He represses his present active lower propensities, because reflection stimulates cautiousness, and other restraining powers. He is no longer urged irresistibly to act from the immediate present external stimulus, but he is operated upon by the treasured stimulus of the past, furnished by memory and applied by reflection, concerning the future effect of present conduct. Thus we conclude that Consciousness is necessary to produce contact with that which is within the range of perception at the present. Reflection and memory, and the high propensities, are necessary, to enable us to act with reference to that

which is absent from perception at present, but will be likely to be present to us hereafter. This analysis gives a very different character to memory from that which phrenological writers generally have bestowed upon it They have made it depend altogether upon the perceptive organs ; but I have made them mere vehicles, modifiers, and repeaters of impressions which are acted upon by other and higher powers of mind.

The philosophical reader will perceive that the foregoing explanation of Consciousness has an important bearing upon the subject of clairvoyance, as it enables us to understand clearly how any current of Etherium, which is made to penetrate the external coverings and isolation, the "outside guardians" of the brain, can easily afterwards reach the central seat of Consciousness and make an impression ; but this is all explained in detail in the article on clairvoyance, in another part of this work.

SECTION VII.

INTER-PHRENO SENSES.

THERE are three kinds of senses, viz.; the external, the internal-corporeal and the inter-phreno.

1. The EXTERNAL SENSES are those which convey impressions from the external world to the perceptive organs, and give the ideas of flavor, sound, color, form, &c.

2. The INTERNAL-CORPOREAL SENSES are those which convey impressions from the different organs of the body to appropriate organs of the brain, and produce the *feelings* of hunger, thirst, suffocation, pain and various other *bodily* feelings. These senses, or nerves, are in connection with certain appropriate cerebral organs of the propensities which are dependant upon them. Thus the organ of Alimentiveness is connected with the stomach by means of a nerve, (a part of the Pneumogastric,) which conveys from the stomach impressions to Alimentiveness; another branch of the same nerve conveys to the organ of Pneumativeness impressions from the lungs producing the feeling of suffocation. There is an infinite number of nerves which convey impressions to the organ of Sanativeness, and through its means produce the feeling of *bodily pain* in all its varieties. These senses have never been properly investigated and explained by any writer upon physiology, and the organ of Sanativeness was unknown until I called attention to it in 1839.

3. The INTER-PHRENO SENSES are those which convey impressions to the phreno-organs from the organ of Conscious-

ness, and *from* the phreno-organs *to* the organ of Consciousness. They produce a communication between Consciousness and all the phreno-organs.

No writer upon Phrenology has, prior to this time, suggested that this class of senses must exist; indeed, they could not do so before an organ of Consciousness was introduced. But when we admit an organ of Consciousness, to which every phreno-organ sends impressions, we are forced also to admit the existence of fibres which connect Consciousness with the phreno-organs in such a manner as to allow of inter-communication.

Let us illustrate by an example. A man is hungry, and eats food. Now, there are several links in the chain of causes and effects, which resulted in the act of eating, and we shall find it impossible to constitute a perfect chain without introducing the inter-phreno senses as connecting links. 1. The stomach, being in a condition to need food, produces an impression upon the end of the nerve, viz. one of the internal-corporeal senses; 2. This impression is conveyed (as in the electric telegraph) to the other extremity of the nerve, where it is connected with the organ of Alimentiveness; 3. The organ of Alimentiveness, receiving the impression, is excited, and sends an impression to the central organ of Consciousness, thus producing a state of Consciousness which we call *hunger*; 4. The organ of Consciousness is excited by the impression, and immediately from its central position radiates and transmits the impression to the phreno-organs *through the inter-phreno senses;* 5. Each phreno-organ, being thus excited, sends, in return to Consciousness, an impression peculiar to itself. Now, as Consciousness cannot fully recognize more than one impression at a time, the most powerful impression forces itself upon Consciousness first, and the next impression follows, and so on, in the order of their relative force; this succession of impressions constitutes what is commonly denomi-

nated *a train of ideas*, or *a train of thought and feeling*. The impressions upon Consciousness, produced by the *intellectual* organs, are called *thoughts;* and the impressions from the *propensities* are called *feelings*. When, in the above example, the impression from Alimentiveness produced the state of Consciousness which we all recognize as *hunger*, the impression was radiated through the inter-phreno senses, and the perceptive organs were thus aroused, particularly the perceptive organ of Flavor. These perceptive organs being *thus* excited, not by impressions from external objects, but by an impression from the central Consciousness, could only send in return an impression which was but an imperfect *repetition* of a former impression: this kind of impression is the foundation of *memory;* 6. In the case supposed of the hungry man, those impressions from the perceptive organs which constitute memory, only serve (when transmitted through the inter-phreno senses and Consciousness to a propensity like Alimentiveness) to excite it to a still greater degree, and cause it to send to Consciousness a still more powerful impression. At length the propensity pours upon Consciousness such a powerful current of impressions, that Consciousness can no longer be relieved by transmitting them through the inter-phreno senses to the phreno-organs; another outlet is therefore resorted to; 7. Under these circumstances, *the motor nerves* receive impressions or currents, *through* Consciousness, *from* the phreno-organs. The motor nerves convey impressions from the organ of Consciousness to the muscles; 8. This produces those contractions of the muscles which we call voluntary motions, and in the example of the hungry man, those motions were directed to food; taking it, putting it into the mouth, tasting it, chewing and swallowing it, and continuing this operation, until the stomach ceased to send impressions along the nerve to Alimentiveness.

It will be perceived that, according to this view, there are two modes in which phreno-organs may be excited: one

is, directly through the senses, and the other is through Consciousness. Thus, Alimentiveness was excited, first, by an impression from the stomach; and secondly, by an impression *through* Consciousness from the external senses.

It would seem, however, that all the phreno-organs are not capable of being excited in these two ways; some phreno-organs receive no impressions, except through Consciousness; this is the case with the reflective organs, and most of the higher propensities. The reflective organs do not receive any impressions directly from the external world, but the perceptives receive them and convey them to Consciousness, and from Consciousness the reflectives receive the impressions and respond to them. It may be a question whether all trains of thought originate through the external and the internal-corporeal senses, or whether the brain may not be sometimes spontaneously excited by operations of its own, which are only dependent upon the circulation of the blood. It may be, in this respect, analogous to the liver and other glands, which are spontaneously excited merely by the circulation.

I am decidedly of this opinion; it is certain that trains of thought which originate in bodily conditions, and which are excited through the internal-corporeal senses, are continued, and, by the aid of the principle of Causality and Comparison, lead to other thoughts which seem to have no immediate relation to the things that first started the train of thought. Thus, a slight toothache may remind one of a friend who once had a similar toothache, and this may lead us to think of his wife, and then of her sister, and so on until our pain is forgotten.

This theory enables us to explain the faculty which we have of using all the powers of the mind in reverie, when neither our senses nor our muscles are active. When we are at rest, every muscle relaxed, our eyes shut and our external senses inactive, though we are perfectly awake

and the mind active upon subjects which are far distant and events that are long past. For after one phreno-organ has been excited so as to impress consciousness, this may cause a long train of spontaneous thought through the means of the inter-phreno senses.* It also enables us to understand how it is that thinking on some absent object sometimes produces a movement of the muscles: thus, thinking of a beloved child and imagining it falling over a precipice causes an involuntary start as if to prevent it; thinking of delicious food causes the mouth to water and move as if in the act of enjoyment; and so of other corporeal enjoyments. The explanation is, that Consciousness first received an impression from some phreno-organ, which when transmitted to alimentiveness was adapted to excite it and to cause it to send an impression to Consciousness with a force which, increasing in energy, at last forced its way through the mo-

* M. Victor Cousin, in his strictures upon Locke, (*See Professor Henry's translation of Cousin, entitled "Cousin's Elements of Psychology,"*) claims much credit for having exposed the deficiency of Locke's system in relation to spontaneous operations of mind independently of external sensation. Locke makes all ideas proceed from sensation; and his system has, therefore, been somewhat reproachfully denominated the *sensual* or sensuous system. He denies the existence of *innate* ideas.

Cousin acknowledges that ideas are not innate, but insists that the mind has the inherent power of producing ideas which do not come through sensation. He contends that sensation *occasions* the mind to evolve ideas which sensation itself could never have produced. Cousin charges, that the doctrine of Locke leads to materialism and fatalism, and claims that his own doctrine is free from this fault; but it would be easy to show that Cousin's doctrine is more directly opposed to revelation than that of Locke; for Locke candidly acknowledges that his philosophy is imperfect, without faith in Divine Revelation; whereas, Cousin vainly supposes that he avoids this necessity, by showing that the mind possesses powers and receives ideas which are independent of sensation. Cousin does not seem to suspect that there may be *internal material organs* which are capable of being *spontaneously* active, or of being called into action "*by occasion*" of sensation. I have shown this to be the case, and, of course, Cousin, Locke and myself, are in the same dilemma,—which forces us to admit, that the tendency of all human philosophy is to Materialism and Fatalism. The only way of escape is, to admit, with Locke, that Divine Revelation is above all philosophy.

tor nerves to the muscles and produced the movement of the mouth. This theory enables us to explain the manner in which dreams are produced when the brain is partially asleep. It also shows, that even supposing it true that touching a certain part of the head excites the phreno-organ touched, yet through the inter-phreno senses the excitement may be so complicated with other parts of the brain as to render it impossible to draw any correct inference in regard to the nature of the organ touched. The relation of the inter-phreno senses to the organ of Consciousness must be understood in order to fully explain the philosophy of clairvoyance and of Credencive induction, as the reader will perceive when he comes to my remarks on those subjects.

SECTION VIII.

MOTION.

It may be said, with truth, that all motion, of which we know, is *communicated*, and that nothing can be said to *originate* motion but God. When a cannon-ball is set in motion, where did the motion originate? Certainly not in the ball, nor yet in the powder. Philosophers say that the motion is caused by the sudden and forcible expansion of the powder. Granted; but what caused the powder to expand in this wonderful manner? It is said that it expands in consequence of its sudden change from a solid to a gaseous form. Granted; but what caused the sudden change from solid to gas? I am told, the application of heat caused the change. But why? how? in what way? on what principle does the application of heat to a grain of powder cause it to change from a solid to a gas, and occupy a million of times more space than it did before?

Again, it is not true that the powder occupies more space than it did before; that is impossible. Every thing, every atom in existence, requires a certain amount of space, and has always, and always must, have it. It is absurd, then, to say that the powder, in the gaseous form, occupies more space than it did in its solid form. The space which it occupies is the same. The constituent atoms of each grain of the powder may be widely separated from each other, but they do not, on that account, occupy more space then when they were associated together in one aggregated lump

Now, what separated, in such a forcible and sudden manner, the constituent atoms of the powder? What agency had heat in the operation? Why could not the separation take place as well without heat as with it? If the motion in this case was communicated, from whence was it communicated? what was its source?

I solve the enigma thus: the atoms of the powder were separated from each other by the introduction of Etherium or caloric between them. The Etherium was in motion before, and only communicated its motion to the atoms of powder. The fire which was applied to the powder was the entering wedge of Etherium, and then the surrounding Etherium which (although human faculties could not perceive it) was already in motion, and which previously was unable to separate the atoms of powder, now, since the fire commenced it, instantly *took this direction*, and thus communicated its motion and force to the atoms. The motions of Etherium are, therefore, the *ne plus ultra* of human knowledge. It moves and communicates its motions to other things, this is certain; but what is the origin of its motions we cannot know.

We see the motions of the water of the river, and we say that it is caused by gravitation. That gravitation is a tendency of things to move towards the centre of the earth; that this is related to the motion of the earth upon its axis; and this again is caused by the influence of the sun communicated to the earth. Now, what communicates this power to the sun, we know not; yet the tides, the winds, the waterfalls, the vegetable and animal motions, are communicated by the sun, moon and other planets, to this world. Nothing *originates* motion within human knowledge, and nothing within human knowledge can arrest it. We see it passing, but we never see it commencing nor ending. COMING and PASSING AWAY is written upon the whole universe, and upon every atom it contains. The

animal life of one generation is communicated to the next; but, where did it begin? where will it end? Is not this, too, communicated motion? Where was it before the earth was habitable? The materials of the first organized beings existed in the fiery elements of chaos; and the motions also existed but not on earth in animated forms. It must then have been first communicated from inanimated forms of this earth, or animate forms of some other planet. Which was it?

When two inelastic balls are discharged from two guns, in such a manner as to meet and strike each other with equal forces, both balls will be deprived of force and motion. Now what has become of the motion which these two balls previously contained? It is commonly said to be destroyed, but this is impossible and absurd. We have seen the balls, powder and matches lying quietly together, until a little friction of the match called into existence a tremendous force. It is met by another equal force, and instantly both forces go out of existence! Is this so? have the forces actually gone out of existence? or are they not rather communicated? But, you inquire, to what can they be communicated? I answer, to the surrounding Etherium from whence they originally received it.

If the two balls are perfectly *elastic*, instead of their force being destroyed, they will rebound from each other with a force nearly equal to that with which they advanced towards each other. Why is this difference? What is there in the nature of elasticity which enables it to prevent force from being destroyed? or what is there to prevent it from being communicated to the surrounding Etherium? The solution of this problem depends upon an explanation of the causes of elasticity. What, then, are the causes of elasticity? Philosophers have never answered this question. They have contented themselves with defining elasticity without attempting to explain its causes. They define

elasticity to be the inherent property of some bodies, when compressed, of returning to their original form. If I might be permitted to suggest an explanation of elasticity, I would say that it is caused by the affinity which some bodies possess for Etherium ; and when compression forces it out, it has a tendency to return with a force equal to the force of the elasticity which it manifests.

Applying this theory to the two cannon-balls : when one is struck, its Etherium is forced out, and its tendency to return is equal to the force with which it re-acts and rebounds ; the same being true of the other, they both rebound.

But when two inelastic balls meet, the Etherium which is forced out, having no affinity for the lead, and no tendency to return, the balls cannot rebound, but fall to the earth perpendicularly in obedience to gravitation.

The existence of a substance must be admitted, which communicates motion ; a power different from any material substance which we can see or know by our senses—a power independent of all human control. This is proved by the effect of a magnet upon iron, when partitions of the most solid substances intervene,—bricks, boards, glass, stone, water, &c., which prevent the passage of all other substances, solid, liquid, or gaseous ; yet, through all these it moves with perfect ease, and without any apparent diminution of its power.

Light passes through glass, water, air and other transparent substances with scarcely any obstruction, and produces all its effects almost as if no obstacle whatever had interposed.

The planets influence each other and the earth ; this could not be, as they are not in contact, unless there were some connecting medium. The inevitable conclusion therefore, is, that there is a connecting medium.

The influence of the planets upon each other is exactly in proportion to their size.

This proves that the influence, whatever it is, proceeds from the constituent atoms of each, to the constituent atoms of the other; and therefore, that the power by which one planet influences another must be almost infinitely divisible and of a chemico-galvanic nature.

The influence of planets upon each other is diminished by distance. This proves that a part of the force is communicated to other particles on its passage—also, that there is a limit to the extent of the influence.

A magnet may reproduce itself upon another piece of iron, by communicating its own motions to it, and afterwards by a blow or stroke of lightning lose its own peculiar power and die.

A chrystal will reproduce forms like its own, and under proper circumstances a vegetable will do the same, and so will an animal. All motions, wherever they emanate, have a tendency to communicate and propagate themselves. When two bodies come in contact, one or both being in motion, the superior will impart and the inferior will receive motion, and so far as the inferior receives motion it sympathizes. In this sense, it may be said that that every thing in existence sympathizes with every other, since they all derive their motions from the same source, though so modified by the medium that they can scarcely be said to be the same. In this sense every thing in existence may be said to sympathize with the FIRST CAUSE and prime mover of all things.

1. *The motions of Etherium from the sun proceed from the constituent particles* of the sun, and not from its whole mass. We may, reasoning from analogy with the earth, infer that the sun is composed of different substances, metals, gasses, &c., and each of these of different kinds and in different conditions.

2. *The motion of Etherium is modified by the substances from which it is communicated.* The Etherium, when it leaves the sun, is in different motions according to the substances from which it emanates, and when it reaches this earth it will produce different effects accordingly.

3. The motion of Etherium produces different effects upon different substances with which it comes in contact on the earth; and here is another source of variety. If motion meets with no obstructions in coming from the sun to the earth, it will, of course, communicate the same motions with which it emanated, especially if it come in contact with the same kind of substances on earth: in this case, the earth may be said to sympathize with the sun.

Sympathy means *same motion*, *same feeling*, *same condition* —and when one thing produces sympathy in another, it is because it is superior, and therefore capable of communicating its own motions to the substance of an inferior, which cannot resist it.

In this sense, when a magnet attracts iron filings, and makes a temporary magnet of each separate piece of iron, is not this sympathy?

When a magnet points north and south, is it not because the motions of the earth's magnetism are communicated to it, and produce *sympathy* or *same-motion*? When a magnet which is pointing north and south is brought within the sphere of action of a galvanic battery, and changes its direction to conform to the battery, is it not because the motions are communicated from the battery to the magnet? The *same motions*—the *sympathy*?

When the same motions—the same *kind* of motions, whether simultaneous or not, are performed by two bodies, one of two things may be inferred—either that they are both set in motion by a third body, or else, that one contains within itself the cause of its own motion, and that it communicates motion also to the other.

When one thing communicates motion to another, there must be either contact or connection. If contact, then the motion must be communicated *first* to the part in immediate contact, and from that to the other parts more remote *afterwards*. If connection is the means, then there must be a connecting medium—a connecting substance—a connecting material, which is capable of being itself set in motion by the superior, and of communicating motion to the inferior.

The effects of the motion communicated will generally be less powerful in proportion to the resistance which it encounters; and the resistance will depend upon several circumstances, such as *distance*, *material*, *counter-motions*, &c.

SECTION IX.

TRIUNE SYSTEM OF PHRENOLOGY.

This system of Phrenology is so peculiar, and so different from the system of Spurzheim, and the allusions to the subject in this work are so frequent, that for the benefit of those who may do me the honor to read this work, but who have not previously perused my "*New System of Phrenology*," I will give a brief outline of it in this place.

OUTLINE.

Phrenology, or rather phreno-physiology, is the science of mind, founded upon a knowledge of the structure and functions of the human constitution in general, and the brain in particular.

The human constitution is composed of six general systems of organs, upon the relative development and perfection of which the character and talents are dependent. The predominance of one of these systems constitutes a peculiar temperament.

Size is a measure of power, *all else equal.* In order, therefore, to know the power of organs, we must first know their size.

Size is a measure of *power*, but not of *correctness* of mind. This is an important distinction which no writer upon phrenology seems to have made. A man may think, or feel, or act, *correctly*, but not powerfully. The town clock may operate with a degree of *power* in proportion to its size, and may be heard throughout a whole

city, thus exercising an extensive influence; and yet a small watch may excel it in point of correctness. So a small man with a small head, may excel in correctness a large man with a large head, on account of a more perfect proportion and cultivation of his powers.

A professional examination should commence with an estimation of

THE SIZE OF THE WHOLE CONSTITUTION, compared with the constitutions of other persons of the same age and sex and race.

TEMPERAMENTS.

The next consideration is, the relative size and condition of

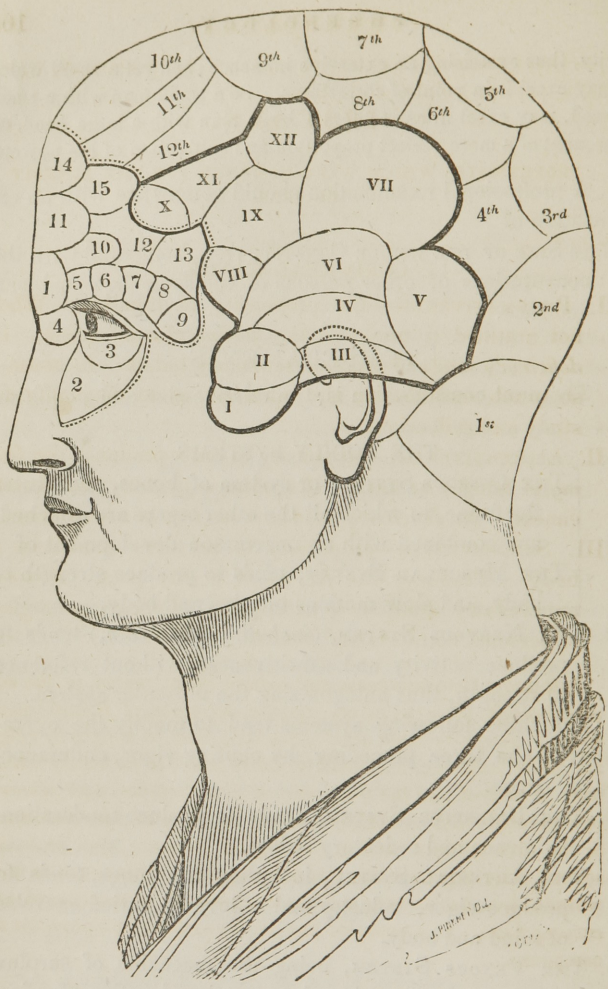
THE BODILY SYSTEMS.

1. THE OSSEOUS SYSTEM, or system of bones, constitutes the frame, to which all the other organs are attached, and combined with an uncommon development of THE MUSCULAR SYSTEM, tends to produce strength of body, and slow motions of mind and body.
2. THE NERVOUS SYSTEM, (*including the brain,*) tends to produce activity and sensitiveness, without reference to strength, thus antagonizing the muscular system.

The three following systems tend to modify the operations of the three preceding, by causing vigor, endurance, or indolence.

3. THE DIGESTIVE SYSTEM, tends to produce moderation, indolence and sedentary habits.
4. THE ARTERIAL SYSTEM, including the lungs, tends to produce vigor, industry and a love of varied exercise of mind and body.
5. THE VENOUS SYSTEM, being the magazine of surplus blood, tends to produce long *continued* action of mind and body, without reference to energy or vigor.

In accordance with these principles I usually reckon five Temperaments, viz.: the Muscular, the Nervous, the Digestive, the Arterial and the Venous.



PHRENOLOGICAL BUST.

The location of the three classes is indicated in the above engraving by three kinds of numeral figures. On the side of the head, from I to XII, are the *Ipseals;* at the back and top, from 1st to 12th, are the *Socials;* and in front, from 1 to 15, are the *Intellectuals.*

IPSEALS.

PROPENSITIES WHICH WERE DESIGNED FOR THE BENEFIT OF SELF.

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CORPOREAL RANGE.

I. PNEUMATIVENESS—the propensity to breathe. When not gratified it produces the *feeling* of suffocation. Its *deficiency* tends to produce sedentary habits. Its *abuse*—so much exercise in the open air as to disqualify for study and reflection.

II. ALIMENTIVENESS—propensity to eat—produces the *feeling* of hunger or thirst. Its *abuse*—gluttony and drunkenness. Its *deficiency* produces neglect of nourishment.

III. SANATIVENESS—propensity to preserve soundness of body. Produces the *feeling* of bodily pain. *Abuse*—unnecessary attention to trifling ails. *Deficiency*—neglect of personal comforts and health.

Just under Combativeness and behind Sanativeness, in the corporeal range, there is, in my opinion, an organ of *Excretiveness;* and it is generally large upon those who seem to delight in vulgar and filthy language, and small on those who are extremely fastidious. I suspect that the front part of Secretiveness, near where it is connected with Alimentiveness, is an organ of *Luminativeness*, or the love of light; and in this region there are also, probably, several other organs relating to the corporeal wants; such as cold, warmth, &c., but nothing definite has been as yet ascertained concerning them. It is probable that all the corporeal propensities are compound.

CARNIVOROUS RANGE.

IV. DESTRUCTIVENESS—propensity to destroy. It produces the *feeling* of anger or wrath. *Abuse*—revenge, cruelty, severity, murder. *Deficiency*—too much gentleness.

V. Combativeness—the propensity to contend, oppose, fight, dispute. *Feeling*—resentment, hostility. *Abuse*—improper contentions and disputes. *Deficiency*—indisposition to contend, even for justice.

HERBIVOROUS RANGE.

VI. Secretiveness—to conceal, to secrete, to act indirectly. *Feeling*—suspicion.* *Abuse*—deceit, falsehood. *Deficiency*—too much openness and directness.

VII. Cautiousness—propensity to avoid coming danger. *Feeling*—fear, apprehension. *Abuse*—cowardice, panic, fright. *Deficiency*—carelessness and recklessness. The manifestations of Cautiousness are often confounded with those of Sanativeness.

RODENTIA RANGE

VIII. Constructiveness—to construct, build, manufacture. *Feeling*—love of the mechanical. *Abuse*—unnecessary and foolish structures. *Deficiency*—inattention to construction and to structural philosophy.

IX. Acquisitiveness——propensity to acquire property. *Feeling*—love of wealth. *Abuse*—avarice, penuriousness, theft. *Deficiency*—profuseness, neglect of property.

HUMAN RANGE.

I think that the "organ of Tune" should be called *Tunefulness;* that it is an Ipseal *propensity* of the Human range, and that it is not an intellectual faculty, as it has hitherto been supposed to be. If this is admitted, we can understand why it is that so many are fond of music who have very little ability to make it, or even to judge concerning its merits; for a *propensity* does not directly give *ability*, but only a *disposition*.

X. Playfulness, *or Mirthfulness, or Wit*—to act in sport.

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* Our language is deficient in terms adequate to express some of the states of Consciousness produced by propensities.

Feeling—mirth, fun. *Abuse*—sport on improper occasions. *Deficiency*—neglect of useful sport.

XI. PERFECTIVENESS, *or Ideality*—to improve and perfect. *Feeling*—love of the beautiful. *Abuse*—ornament to the neglect of the useful. *Deficiency*—neglect of the fine arts and of improvement.

XII. HOPEFULNESS, *or Hope*—to act as if future enjoyment is certain. *Feeling*—contentment, cheerfulness, gaiety, hope. *Abuse*—unreasonable anticipations of enjoyment. *Deficiency*—despondency and melancholy. This is often confounded with exuberant animation which depends upon health.

SOCIALS.

PROPENSITIES WHICH WERE DESIGNED TO PRODUCE AND BENEFIT SOCIETY.

ESTABLISHING GROUP.

1st. AMATIVENESS—to propagate the species. *Feeling*—amorousness. *Abuse*—licentious indulgence. *Deficiency*—inattention to the opposite sex, want of gallantry.

2d. PARENTIVENESS, *or Philoprogenitiveness*—to take care of the young. *Feeling*—parental love. *Abuse*—improper indulgence of children. *Deficiency*—neglect of the young.

3d. INHABITIVENESS, *or Concentrativeness*—to fix on some spot for a permanent residence. *Feeling*—amor patriæ, or love of country, homesickness. *Abuse*—prejudice against other countries, too limited views of patriotism. *Deficiency*—roving.

4th. ADHESIVENESS—To form connections and attachments to parents and friends. *Feeling*—friendship. *Abuse*—improper connections. *Deficiency*—neglect of friends.

GOVERNING GROUP.

5th. IMPERATIVENESS, *or Self-Esteem*—to command, to take the lead in society, to assume superiority. *Feeling*—

dignity, pride, self-esteem. *Abuse*—superciliousness, haughtiness, arrogance. *Deficiency*—want of dignity, independence.

6th. Approbativeness—to act in a popular and agreeable manner, to gain the esteem and applause of others. *Feeling*—love of praise, admiration, distinction. *Abuse*—foppishness, coquetry, vanity, improper attempts to acquire notoriety. *Deficiency*—indifference to the opinions of others.

7th. Firmness—to maintain the position or authority which we have assumed in relation to others. *Feeling*—determination. *Abuse*—obstinacy, infatuation. *Deficiency*—too much influenced by others. This is often confounded with combativeness.

8th. Conscientiousness—to act justly. *Feeling*—conscious integrity, moral sense, remorse. *Abuse*—improper self-condemnation, useless remorse. *Deficiency*—dishonesty.

CONFORMING GROUP.

All of the conforming Socials should be carefully studied, in order to come to a right understanding of the Conforming, Submissive, Imitative, Sympathizing and Credencive dispositions generally exhibited by inducted subjects.

9th. Submissiveness, *or Reverence, or Veneration*—to submit, to condescend, to yield to superior power, wisdom, or merit. *Feeling*—reverence, veneration, adoration. *Abuse*—servility, slavishness, false worship. *Deficiency*—a want of proper respect and obedience.

10th. Kindness, *or Benevolence*—to gratify the feelings of others. *Feeling*—pity, compassion. *Abuse*—indiscriminate and improper kindness. *Deficiency*—indifference to the feelings of others.

11th. Imitativeness, *or Imitation*—to imitate the examples, precepts and operations of others whom we respect.

Feeling—sympathy. *Abuse*—irreverent mimicry, or servile copying. *Deficiency*—indifference to the manners of others.

12th. Credenciveness, *or Marvelousness, or Wonder.*—to act upon the testimony of others, and especially those whom we respect. *Feeling*—curiosity, wonder, marvelousness. *Abuse*—superstition, credulity. *Deficiency*—skepticism, and a want of what is sometimes called *imagination.*

INTELLECTUALS.

PERCEPTIVES.

1. Individuality—or *Perception* of individual things, without reference to their relations. *Memory* of individual facts.

I am altogether dissatisfied with the explanations usually given of Individuality. I cannot help thinking that it is a mere concentration of the radicals of the lowest intellectual organs, and that it is thus auxiliary to, and intimately connected with, the organ of Consciousness. The explanations of this organ by phrenologians seem to me perfectly illogical and unfounded. Although I have followed, in some degree, the example of Spurzheim in the definition which I have given it in my work on phrenology, and also in this outline, yet I am convinced that we have all been in the wrong, and that the only thing certain concerning it is, that *when large it indicates a tendency or ability to take notice of things without reference to their relations.*

2. Flavor—*Perception* of odors and savors. *Memory* of odors and savors. *Talent* for distinguishing the flavor of food, drink, perfumes and chemical substances.
3. Sound, or Language—*Perception* of sounds. *Memory* of words. *Talent* for learning languages.

I have perfectly satisfied my own mind, that what has hitherto been called the *organ of Language*, is merely a perception and memory of *sounds;* and that it is related to language just as far as sounds are related to language, and no farther. (See on this subject Locke's Essay on the Understanding.)

4. FORM—*Perception* of the forms of bodies. *Memory* of forms and faces. *Talent* for drawing forms, &c.

I am in much doubt, but on the whole, am inclined to think that *Form* and *Size* should not be considered as separate powers of mind.

5. SIZE, *or Extension—Perception* of distance, space, size. *Memory* of size and distance. *Talent* for perspective drawing, landscapes, &c.
6. WEIGHT—*Perception* of equilibrium, gravitation, force, momentum, resistance. *Memory* of weight, &c. *Talent* for balancing, and applying force in a skillful and delicate manner.
7. COLOR—*Perception* of hues, tints and shades of color. *Memory* of color. *Talent* for painting, dyeing, &c.
8. ORDER—*Perception* of arrangement. *Memory* of arrangement. *Talent* for arranging and keeping things in order.
9. NUMBER—*Perception* of plurality, or number. *Memory* of numbers. *Talent* for arithmetical calculation. Combined with the Reflectives, it bestows the talent for mathematics.
10. DIRECTION, *or Locality—Perception* of the direction of objects. *Memory* of the points of the compass. *Talent* for navigation.

This is, by all other writers upon phrenology, called the organ of *Locality*, but I call it the organ of Direction, as this seems to me more simple and more in harmony with truth. (*See my larger work on Phrenology.*)

11. EVENTUALITY, *or Action—Perception* of the action of things. *Memory* of transactions, anecdotes and histories. *Talent* for History.

12. Time—*Perception* of the duration of time. *Memory* of intervals and (combined with Number) memory of dates. *Talent* for chronology, and keeping time in music, dancing, marching, &c.

13. Tune *or Tunefulness*—*Perception* of the pitch of sound. *Memory* of tune, the foundation of the *Talent* for Music.

I am certain that tune should not be considered an intellectual faculty. Some of the properties which have been hitherto attributed to it, belong to the organ of *Sound* or Language; other properties belong to *order*, which gives a perception of arrangement or succession of sounds, as it does of other things; other properties, to Comparison and Causality, which give a perception of harmony, relation, connection, mutual dependence, &c.; while this organ gives the mere impulsive propensity to *direct* or *use* the intellectual faculties in a tuneful manner, just as Constructiveness impels them to attend to mechanical ideas. All practical phrenologians have been forced to admit that they cannot arrive at a correct judgment concerning the musical talents of any person, by examining their developments. They have long since given up all pretence of telling a person's musical character by his head; at the same time, they are all sure that this part of the head is in some way related to music. I hope that I have discovered the difficulty, and removed it. In this outline, I have retained the arrangement and definitions of the organs, as they are in my work on phrenology, choosing to explain myself in these notes, for the present, and give my views more at large in a new edition of my larger work on phrenology, which will hereafter be published.

REFLECTIVES.*

14. Comparison, *or Classification*—*Perception* of the resemblances, differences and classes of things. *Memory* of resemblances, and classes. *Talent* for classification, for figurative language, and for analogical reasoning.

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* It is not strictly logical to call these *reflective* organs, it would have been better to call them *combining* organs or combining perceptives, but it is perhaps too late now to correct the error.

15. Causality, *or Connection—Perception* of dependence, connection, cause and effect. *Memory* of general conclusions and results. *Talent* for logical reasoning, and original invention.

NUMBERS.

Most phrenologians use numerical figures to express the size of the organs, and, if correctly done, it is undoubtedly the best way. Some adopt 9½ as a medium number, and, then, of course, 20 stands for the highest, and 1 for the lowest degree of development. I prefer to adopt 5 as a medium number, and, therefore, 9 stands for the highest, and 1 for the lowest degree of development. If a head were perfectly formed, and all the organs equally developed, every organ should be numbered 5; and, as there are 39 organs, the sum of all their numbers would be 5 times 39, or 195. We cannot number any more above medium than we do below, for no organ can be large without being so at the expense of others. If an organ is marked 6, some other must be marked 4, and whatever be the form or size of the head, the sum of all the numbers must be 195, or the examination is incorrect. It is like dividing $195 among 39 men; it would be $5 each; and if we give more than $5 to one man, some one or more of the others must receive less.

Simple and undeniable as this rule is, it has hitherto been either unknown or totally disregarded by all practical phrenologians. It is common to see a chart in which nearly all the organs are marked higher than the medium number; a practice which, however complimentary it may seem to the

subject, is perfectly absurd, and renders the chart worse than useless.

In Capen's life of Spurzheim, we are presented with a chart of his head, taken by Mr. George Combe and Mr. Walter Todd, in which 20 was adopted as a maximum, and the number of organs examined was 35. The sum of all the numbers, therefore, could have been only 332½, if they had proceeded correctly; but they have made it amount to 581. All American practitioners, following the example of Mr. Combe, have been led into the same error into which he has fallen.

It should be remembered that the numbers express only the *relative* size of the organs in the same individual, without reference to other persons. Two men may have their organs numbered precisely alike, and yet one head may be a third larger than the other; one may be a man of extraordinary talent and energy, while the other is far below mediocrity, on account of the small size of his head.

In order to make a just comparison of one individual with others, we must ascertain the size of the whole constitution, compared with others of the same age, sex and race. *All else equal*, the largest constitution will manifest the most force, both of body and mind.

The brain is the organ of the mind, and, *all else equal*, the largest brain will manifest the most power. We, therefore, ascertain the size of the brain, compared with the rest of the body, for if the whole constitution is above the medium size, and then the head is disproportionately large, nothing more is wanting to constitute true natural greatness but a favorable proportion of the parts.

The above remarks concerning numbers were written and published in 1840, and yet the charts made by all the "*practical phrenologists*" in this country, are still made in the old way. None of them pretend to justify it; but such is their unfortunate selfishness, that they prefer to commit the most palpable outrages upon com-

mon sense and mathematics, rather than to admit that they have been so long in error, and that one whose success excites their hostility, has induced them to reform for the credit of the science and the good of their patrons.

Perhaps the reason that none have adopted this method is, that it is more difficult, and requires more accurate examination. It does not allow of such egregious flattery and deception as their method, since they cannot mark one organ high without doing so at the expense of some other.

If any one, who has a chart made by one of them, will take the trouble to examine it, he will find that they have assumed a certain number for average or *mean*, and then, with flattering falsehood, have proceeded to mark nearly all (in some cases all) the organs *above* the average.

They all agree that, in estimating the size of any organ of the brain, they compare it with the other organs of the same brain; this being so, they cannot possibly justify themselves; they are fairly chargeable either with dishonesty, or with unpardonable stupidity.

GENERAL SUMMARY OF THE PHILOSOPHY OF THE TRIUNE SYSTEM OF PHRENOLOGY.

1. The Nervous System may be divided into the ganglionic and the Phrenic. The principal distinction in the modus operandi of the two systems, depends upon the fact that the Phrenic system (or in other words the voluntary system) has a central organ of Consciousness, while the ganglionic system has not. Phreno-organs are merely ganglions connected with Consciousness, and ganglions are merely propensities to produce muscular action. Voluntary and involuntary actions are both produced by similar apparatuses, except that one has a common centre, through which each organ of that system is compelled to operate; while the organs of the other system (the involuntary or

ganglionic), are not under the necessity of preserving unity of action, nor of producing Consciousness.

2. Ordinary sleep is caused by the temporary predominance of the ganglionic system over the phrenic.

3. The organ of Consciousness is located in the medulla oblongata, where it receives impressions from Phreno-organs, and transmits or radiates the impressions which it receives to other Phreno-organs, or else to the motor nerves, or to both, according to circumstances. When it transmits impressions to phreno-organs, it receives other impressions in return, and thus trains of thought are produced. But when it transmits impressions to the motor nerves, voluntary muscular motion is produced, such as tends to gratify those phreno-organs in which the movements originated.

4. Each Phreno-organ has fibres, (inter-phreno senses,) which convey or conduct impressions from Consciousness, as well as fibres which conduct impressions to Consciousness.

5. Consciousness and the lowest intellectual organs were superadded to the ganglionic system, by the Creator, to enable animals (when in the scale of created beings they were elevated above mere vegetables) to act with reference to objects which are not in *contact* with their organs, though the objects desired may be within *reach*, so as to be obtained by muscular movements.

6. Reflection and memory depend upon the higher intellectual organs, such as the *lowest* animals do not possess. These higher organs of intellect were superadded to the lower, and bestowed upon the higher animals and man, to enable them to act reasonably, with reference to the past and future—the distant and absent—and all other things

which concern us, but which are so far separated from us by *space* and *time* as to be beyond the range of our present perceptions.

7. Memory depends upon the reflective organs, in an important degree, because, they combine, connect, class and associate ideas and feelings ; but the materials remembered are furnished, to Consciousness and reflection, by the other organs of the brain.

8. Ideas, thoughts, emotions, or feelings, are only so many states or conditions of Consciousness, which are designed to *prepare* and qualify the conscious being to *act* with propriety.

9. When one phreno-organ, from any cause, sends to Consciousness a more powerful current of Etherium than any other, it produces an effect which is in accordance with the established laws of mechanics as applied to other forces ; that is, it causes every opposing current to conform or be neutralized.

10. The phreno-organs may be divided into *Intellectuals*, or those that *direct* actions ; and *Propensities* that *originate* actions. The Propensities may be divided into *Ipseal*, or those that were designed for the benefit of self ; and *Social*, or those that were designed for the benefit of others. The brain is thus constituted of three classes of organs ; viz., Ipseal, Social and Intellectual. By the connecting and concentrating nature of the organ of Consciousness, these three classes of organs act in harmony and preserve their unity ; I therefore call this, the *Triune* system, or *Three-one* system, to distinguish it from the system of Spurzheim, which all other phrenologians follow.

11. Organs that perform analogous functions have contiguous locations ; and this fact is the basis of their classifi-

cation. Organs that are lowest in the brain, and nearest the median line of the head, are lowest in the scale, and manifested by the least perfect animals; this fact is the basis of the *arrangement* of the organs that belong to the same class. Among the Ipseals, those nearest the *front* mesial line, and nearest the base of the brain, are lowest in the scale.

The Ipseal organs are grouped together on the side of the head. The Socials are extended in a connected chain from the lowest back of the head to the upper front. The Intellectuals are all grouped in the forehead. [See the Engraving.]

12. The *order* in which the organs are successively developed and superadded to each other, when considered in connection with the Triune classification, is, in my opinion, superior in scientific beauty to anything in the whole range of human knowledge.

It is a curious and interesting fact, that the superadditions of organs in the human brain harmonize with the superadditions of the geological strata, and the gradually increasing intelligence and complexity of animals from the lower to the higher strata. It is also a curious fact that the development of the brain during its embryotic growth, is by a series of similar superadditions. In the first stages of its growth, it resembles that of the lower animals. In the new born infant, the head resembles that of an ape, and it continues to expand in the higher regions until the individual attains maturity.

13. If we trace the order in which the *Intellectual* organs are developed, we find, at the base, in the mesial line, the organs possessed by the very lowest animals. The farther we proceed from this point, either laterally or upwards, the higher is the nature of the organ, and the higher the destiny

of the animal possessing it in an uncommon degree. Causality being the most lateral organ of the highest range, is, according to this rule, the highest in its nature; and it is possessed, in a great degree, only by man. [See the Engraving.]

14. In the development of *Ipseals* the same order may be traced. It will be perceived more readily if we make a drawing of the Ipseal class of each hemisphere, and place the two hemispheres together in such a way, that the most frontal organs of each side shall come in contact, just as the intellectuals do in the medium line: let Pneumativeness of the right side be brought forward until it meets Pneumativeness of the left side; and let Playfulness of the right side meet in contact with Playfulness of the left. We shall now perceive that the same order is exhibited in the arrangement of the Ipseals as in the other classes which border upon the medium line; that is, the organs nearest to the frontal line, and also nearest to the base, are lowest in the scale. According to this rule, Pneumativeness is the lowest, and Hopefulness the highest organ of this class. The other organs hold a rank which is indicated by the figures on the engraving of the head.

15. We find the organ of the lowest *social* propensity at the lowest part of the back of the head; the second immediately above it; the third above the second; and the fourth developed laterally from the second and third, like the branch of a tree from the main trunk; the fifth is above the third, and is a continuation of the main trunk; the sixth is a branch of the fifth; the seventh is a continuation of the main trunk, and the eighth a branch; the ninth is a continuation, and the tenth a completion of the main trunk; the eleventh and twelfth are the highest branches; the twelfth is manifested clearly by man only. The whole

classification and arrangement of the three classes very much resembles three trees planted at different points, with their branches regularly shooting forth, and their topmost boughs intertwined harmoniously—they are closely connected, but should not be confounded together.

16. The lowest range of Ipseals and the two lowest Socials, have this peculiarity, that they receive stimuli from the body *directly* through the internal-corporeal senses, while all the other and higher propensities receive all their stimuli *indirectly* through Consciousness.

The perceptives receive stimuli directly through the external senses, but the reflectives receive all their stimuli indirectly through Consciousness.

17. The Ipseal propensities are subdivided into five ranges, which correspond with different classes of animals; this subdivision is not very important, nor very exact, but it is convenient and useful; and, to a naturalist, must be highly interesting.

18. The Socials are subdivided into the organs that establish society—the organs that govern society—and the organs that conform to society. This subdivision is extremely useful and important in its bearing upon the experiments and phenomena of Etheropathy.

19. It will be observed that the explanation which I have given of the Temperaments, is very different from that usually given, especially that which ascribes to the venous system the power of giving *continuity* of action. My doctrine is, that the predominance in size of the bones and muscles produces the *muscular* temperament—this is the temperament of strength and slowness. The predominance of the brain and nerves produces the *nervous* temperament —the temperament of activity and sensitiveness. The pre-

dominance of the digestive system produces the digestive or *indolent* temperament. The predominance of the arterial system and lungs produces the arterial or sanguine temperament. The predominance of the venous system produces the venous or bilious temperament. I believe that I am the first to suggest this venous temperament, and I am happy to know that it has been approved by some of the most distinguished Physiologists.

SECTION X.

ETHEROPATHY.

The spontaneous phenomena and the experiments in Etheropathy, including all those performed by Mr. Sunderland and Drs. Elliotson, Braid, Buchanan, Caldwell and others, may all be explained by the application of the following principles:

1. Imperfect isolation of the subject, exposing him to abnormal induction, both spontaneous and artificial.
2. Will of operator producing induction.
3. Credencive induction, or self-induction.
4. Sympathy produced by induction.
5. Clairvoyance, or un-isolated and un-restricted perception produced by induction.
6. Deranged function produced by abnormal induction; this principle, combined with the principles above mentioned of will, sympathy, credence and clairvoyance, account for all the phenomena, and explain all the experiments.

1. IMPERFECT ISOLATION, *exposing the subject to induction.* The terms *isolation* and *induction* are borrowed from the science of Electricity. The word *isolation* or *insulation* is used in this work to signify the peculiar structure or condition of the organs of man and animals, which is designed to protect them from the influence of surrounding and external currents of Etherium. This principle of isolation is absolutely necessary to protect the organs from the undue

influence of abnormal currents by which we are continually surrounded.—(*See Cuvier's Lectures on Physiology.*) The numberless nerves are continually conveying impressions in all directions throughout the whole constitution. Sometimes we find different functions performed by nerves which are so near to each other that no anatomical skill can point out the precise line of separation, and yet it can be proved by the most decisive experiments that one of the nerves conveys a motion of Etherium in one direction, while another conveys motion in the opposite direction, and notwithstanding their contiguity, there is no interference.

Just as two contiguous rail-road tracks admit of the passage of cars in opposite directions without jostling or collision, so do these nerves convey the motions of Etherium in opposite directions.

In common electric experiments, the wires can be made to convey electricity in opposite directions, even though the wires are in contact, provided they are coated with glass, resin, varnish, or shellac; but if the isolating varnish is removed, the currents interfere with each other, and the weaker currents become neutralized or modified by the induction of the more powerful currents.

Induction is a term which signifies the communication of motion from one body to another, or from one organ to another; thus, when a current of electricity is communicated from a body which possesses it, to one which does not, the motion or current in the latter is said to be *induced* or *inducted*, and the process is called *induction*.

If a large magnet or a galvanic battery is brought near a small mariner's compass, the compass needle is immediately affected by induction; that is, the current of electricity is communicated from the large magnet to the needle.

Thus we have seen that the object of *isolation* is to prevent *induction;* and what we do in an imperfect manner by human skill in a galvanic apparatus, nature does with wonderful perfection in organized bodies.

The Susceptibility of the subject depends upon two conditions; *first*, the weakness of the currents of Etherium evolved in the capillaries; *second*, the imperfection or weakness of the isolation.

Some organs are susceptible, while others are not;—the reason is that some organs are more perfectly isolated, or else they evolve more powerful currents of Etherium. Some organs are susceptible to one operator but not to another. There seems to be a natural tendency of the organs of the operator to induct the corresponding organs of the subject: Combativeness in operator to induce its own current in Combativeness of the subject; Sanativeness of operator to induct Sanativeness of the subject, and so of all the other organs both of mind and body; this kind of induction is denominated *sympathy* or *same condition*.

If, therefore, Sanativeness is large in the subject, and small in the operator, it would be difficult for that operator to induct that organ, though he might succeed in inducting many others in the same subject; another operator may, if his Sanativeness be large, succeed in affecting the Sanativeness of this same subject.

The subject may be inducted by his own organs; that is, one organ may induct all the others, and produce paralysis or monomania. Again, the subject may be inducted by external inanimate objects, as in the cases of spontaneous somnambulism, such as that of Jane C. Rider.

Signs of Susceptibility.—I find the most susceptible subjects among those whose flesh is pliable and flaccid, and indicative of a want of vigor in the capillary circulation. But I have also found a great number, the appearance of whose flesh, and indeed every appearance, was highly indicative of susceptibility; yet upon trial they were found perfectly impervious: the reason is, that the isolation was perfect, though the Etherean current was weak. I have

long since given up all pretensions to skill in determining by the appearance of a person, whether or not he is susceptible, since I am satisfied that it depends upon two or more causes, one of which is concealed from the senses.

The susceptibility of the subject is greatly increased by his passiveness, and the consent and submission of his mind, while the powers of the operator are in their most active condition. It is also increased by the absence of all exciting stimulii, such as noise, or anxiety, or hunger, or pain. All these facts go to establish the opinion that susceptibility is, in some degree, related to the weakness with which the currents are evolved from the organs of the subject.

2. *Will of operator producing induction.* By the term *will*, I mean the effort which we are conscious of making to accomplish an end; for instance, when I determine to raise my arm, I immediately make an *effort*, which is called *willing*, and instantly my arm rises. In this case, the arm was inducted by the brain: that is, a motion of Etherium from the brain was communicated to my arm. Now, when a person sits before me with his eyes closed, and I will his arm to rise, I make the same effort that I did when I raised my own arm; and if his arm actually rises at my will, I conceive that the effect was produced in the same way in both cases: that is, by the induction of a current of Etherium from my brain to the nerves connected with the arm, causing the arm to perform its function.

If I *will* the arm to feel sore, as if burnt, and the subject instantly moves his arm, and complains of its being hurt, the principle is the same; I induct the requisite nerves of sensation by my will, so that a current of Etherium passes to Sanativeness from the arm, and produces a painful state of Consciousness. Why cannot I cause a *sensation* in the subject as well as a *motion*? in both cases, there is merely a current of Etherium from the brain of the operator; but, in

one case the current moves down to the arm of the subject, in the other, it moves up to the brain; of course, in one case it produces motion, in the other sensation.

There has been much discussion among metaphysicians, concerning Identity and Consciousness. The question is often asked, What phreno-organ is it that says "*I?*" and what is it that says "*I am?*" and what says "*I will?*" What is *will?*

I answer these questions simply and plainly, thus:—The notions of *I* and *I am* are the result of the operation of the reflective organs. Many animals never have such an idea. *I am* and *I was* and *I shall be* are notions which are related inseparably to each other, and to the comparing and connecting power. Many beings are *conscious* that never have reason enough to raise the idea of *I am*. An infant is *conscious*, but does not think of *I am* or *I was*, and it is not until they learn to compare themselves, with other beings, that they distinguish *I* from other beings in their reasoning. Doubtless the first efforts of the infant mind in reasoning, teaches them the notion of *I* and *I am*, and a little more of the same kind of reasoning, teaches them the notion of *I was* and *I shall be*.

Identity is an idea that I am the *same* person that I was, and this is certainly a notion which can only arise upon Comparison and connection, or Causality.

I will is an expression which is used in two senses, one signifies *I desire*, and the other I am determined.

I desire is a notion excited in Consciousness by any active phreno-organ when stimulated by some object.

I am determined is a notion produced in Consciousness, principally by Combativeness, Firmness, Imperativeness and Hopefulness, under circumstances of opposition and difficulty.

The idea of *I can* is generally produced by Hope and reflection. The idea of *I myself am superior* from Imperativeness and reflection. The idea of *I love* from Adhesiveness,

Comparison and Causality. The idea of *I hate* from Destructiveness and reflection. In short, it is reflection that says *I*, and propensity says *will*. In operating, when we *will* that the subject shall be in a certain state, that which *wills* is Imperativeness, Firmness and Hopefulness, and any other propensities may add their influence, if they are interested in the result. When one propensity desires one thing, and another the contrary, the *will* is the predominant propensity.

3. CREDENCIVE INDUCTION.

While engaged in performing various experiments, I made a very important discovery which I have never before communicated to the public in writing, though I have frequently mentioned it privately to my friends, and publicly in my lectures. It is this—that when a subject is but slightly affected, and when any of the operators in mesmerism, or neurology, or pathetism, would send him away as unprofitable—merely by the application of a very simple stimulus which every one has always at hand, the subject may be brought perfectly under your control. Do you ask me what this simple and powerful stimulus is? I answer, that it is AN ASSERTION.

Assert to the subject, in a decided tone, for instance, "*You cannot open your eyes*," and if his eyes were shut when you made the assertion, he cannot open them afterwards until you again say, "*Now you can open them*," or something to that effect. Again; say to the subject, "*Put your hands together and you cannot separate them.*" If now he puts his hands together, he will try in vain to separate them until you reverse your assertion. Say "the floor is hot," and instantly to him it seems hot. Assert that "yonder is a lion," and he immediately believes it and sees it; or tell him that he is himself a lion, and he instantly assumes the character, and begins to roar and show his teeth and claws.

It has long been known that very susceptible subjects may be deluded and willed into almost any state of mind; but it has not before been known that it requires less susceptibility to perform these experiments than any other. It has not been known that it is on this principle that most of the successful experiments in neurology, pathetism and hypnotism are performed. The gentlemen who have conducted these experiments were evidently ignorant of the real agent that produced the phenomena.

It is a fact, capable of being easily demonstrated, that nearly all of the subjects of Dr. Buchanan, or any other operator, can be made to believe anything, or to assume any character, or to conform to the wishes, expressed or implied, of the operator; and this can be done when they are affected in the very least degree, while they are wide awake, and appear to know what they are about. They cannot resist an *assertion*. Put your words in the form of an inquiry, and they are powerless—for instance, ask the subject, "*Can you raise your hand?*" and he will raise it; but ASSERT—"*you cannot raise your hand*," and he cannot do it. The same is true of any other assertion, as, "you cannot speak," "you cannot speak without lisping," "you cannot speak without stuttering," "you cannot stop," "you cannot rise," "you finger is wounded and bleeding," "your hair is wool," "your hands are iron," or "fish" or "fire," "you are a child" or "an old man." Any of these assertions produce an instantaneous effect.

Let the subject suppose that you are going to excite the organs of his brain—let him believe that you expect when you touch a certain part of his head, that he will be affected in a particular way, and he will generally use all his ingenuity to learn your wishes, and make his utmost endeavors to oblige you and accomplish your expectations. This is a fact which is undeniable, though it has not hitherto been explained.

Say to the subject, "I am going to excite your Combativeness, and you will be very angry." Now, touch his Combativeness, and he will be angry—touch his Tune, and, if he knows what organ you intended to touch, he will begin to make music. If he even suspects what you wish, he will oftentimes act accordingly. But if he has no idea what you expect, he will do nothing. If the subject does not know the location of any organ, and you say nothing and give him no clue to your designs, *you cannot excite his organs by merely touching them.* If you succeed in exciting his organs when he is ignorant of your intention, it is done by *Will*, by *Sympathy*, or by *Clairvoyance*—but *touching* them, according to the method of Dr. Buchanan, is all a farce, and the astounding discoveries which he has pretended to make by this means, are a still greater farce: the wonder is, that so many respectable men should have been so grossly deceived by his experiments. In making these remarks, I do not mean to be understood as impeaching the integrity of Dr. Buchanan. I know but little of him, but I suspect that he began by deceiving himself.

In order to explain these experiments we must first understand the nature of the organ of *Credenciveness*, the propensity to act upon testimony or assertion. It is a *conforming social propensity, and its natural stimulus is an* ASSERTION.

1. It is a *propensity*, and operates like every other propensity. We must, in order to understand Credenciveness, therefore, acquire a clear notion of the manner in which a propensity operates. It produces a tendency to act in a peculiar manner. It sends a current of Etherium through the motor nerves to the muscles, and either originates a motion or modifies a motion which other propensities originate. It antagonizes other propensities which are opposed to it, and neutralizes them or combines with them.

It produces a state of Consciousness peculiar to itself, and when predominant it causes other propensities and the in-

tellectual faculties to conform to it and act as its auxiliaries.

When greatly excited by any extraordinary stimulus, it governs the individual, and produces such uncontrolable tendencies to gratify itself as to constitute a peculiar species of monomania. This is a general definition and description of a propensity such as Credenciveness is.

2. It is a *social* propensity, and every social propensity gives a tendency to act with reference to others, and for the benefit directly or indirectly of others. Social beings are the objects from which its stimulus proceeds.

3. It is a *conforming* social propensity. The whole group to which it belongs have this peculiar character, that they all tend to conform to the wishes, feelings, actions, commands and assertions of others.

The conforming socials, when predominant in an individual, give him a yielding, obliging, credulous character, and render him highly susceptible to the influence of persuasion, command, example, or assertion. These organs include *Submissiveness*, the propensity to obey—*Kindness*, the propensity to oblige—Imitativeness, the propensity to sympathize and to imitate—and Credenciveness, the propensity believe and to act upon testimony.

4. The appropriate stimulus of Credenciveness is *assertion*. It is the highest organ of the social class, and distinguishes man from the lower animals as much as any other propensity, and perhaps more. Were it not for this, human society would be reduced to an equally degraded condition with that of the brutes.

The child believes and acts upon the assertion of his parent instinctively, and thus avails himself of his experience and knowledge. The courts of justice are founded upon the principle of belief; they act altogether upon the testimony and assertions of others, and not from their own experience and knowledge. History and tradition is based

upon it; indeed all literature, and all the modes in which we record or communicate the acts, the experience, or the thoughts of others, are dependent upon Credenciveness. Any expression of others excites it; but an *assertion* made by one who is supposed to be of superior authority, power, or knowledge—this is its highest stimulus, and excites it to its highest degree of activity—even to monomania. When Credenciveness is uncommonly large, and Firmness and the Reflectives small, an assertion, however extraordinary, is received with confidence. It requires but little aid from mesmeric or etherean induction to render some men mere machines in the hands of those whose assertions they believe.

Now we must consider that the tendency of etherizing or inducting a subject, is, to bring him under the influence of the operator; to make him submit and sympathize, conform and confide in the operator. Its first and most powerful effect is, upon the conforming socials, to excite them, and to exalt them to monomania. The conforming socials were designed to be stimulated by the words and examples, the actions and commands of others. Their very nature is such as to cause their possessor *to be influenced.* They are peculiarly open and susceptible to all kinds of stimuli which tend to give others an influence over us; and, of course, they are peculiarly susceptible to the influence of the currents of Etherium, which proceed from the operator. If they are more affected by his attempts to influence the subject, than any other organs are, it is because it is their function—their nature—their vocation.

Let us now consider, that when a subject is perfectly inducted, the mere silently expressed *will* of the operator can influence him, and cause him to move or feel in any desired way. No assertion in this case is necessary—no sound—no sign—no external muscular motion. There is nothing but the operation of the silent but potent will.

On the other hand, let us consider, that, when the sub-

ject is not inducted, but is in his ordinary and normal condition, the will of the operator has no effect unless expressed in a certain way, by voice or other sign, which the subject perceives by the aid of his senses. Here we have two opposite conditions; one in which the subject is isolated from the influence of the operator, except in a certain way which the Creator has prescribed; the other a condition in which the isolation is entirely overcome, so that every motion of the operator is a cause of motion in the subject.

Now, between these two extreme conditions of perfect induction and non-induction, there are, of course, many intermediate states or degrees of induction.

What is the first degree? What organs (in most cases) first feel the effects of the inducting process? I answer, the conforming socials, and especially *Credenciveness;* for, if an assertion produced a certain degree of influence upon the mind of the subject before the induction commenced, it produces more and more as you proceed. At first your *assertion* that he cannot open his eyes or raise his hand, merely renders the movement difficult; next it is more difficult; next it can only be done by a vigorous effort; then it cannot be done at all.

You can generally affect his eyes first, then his mouth slightly, then his hands. His hands will at first be so slightly affected, that when you assert that he cannot separate them, you must hold them together lightly by pressing upon them; next they will adhere without pressure; and, finally, proceeding from one step to another with a degree of rapidity very different in different subjects, we acquire control over every power of mind and body, so that he will frown, or smile, or weep at our command or assertion merely. If we proceed still farther, we gradually, in many subjects, acquire a power of moving their organs by merely willing, and without expressing our will by any sign; but, in these cases, though neither assertion nor sign is necessary to

influence the subject, yet an assertion, if made, is wonderfully potent. The influence of assertions, and the disposition to conform, is in proportion to the degree of induction of the conforming socials. It is generally supposed by those who see experiments of this kind performed, that the operator accompanies his assertion by an effort of his will. This, however, is not the case. If the operator makes an assertion, it will have nearly as much effect though he wills that it shall have no effect whatever. This proves that it is the assertion and not the will. We are so constituted that we take the assertion of our fellow beings as the true expression of their will, and we sometimes believe them in spite of all our efforts to resist the belief.

In order to understand these experiments, another peculiarity of the mind must be taken into account, with which keepers of the insane are familiar; and that is that the nature of *delusion* is such that the patient or subject is positive that he is not deluded. To him it seems like reality and truth; his Consciousness does not inform him that one of his propensities has obtained a mastery over the rest and is misleading him. It is common to see insane persons believing themselves to be animals, plants, or glass vessels; and the most positive and palpable proof of their error has no convincing effect upon their minds. Indeed we see many persons, who are generally supposed to be sane, who being possessed with a favorite idea seem incapable of appreciating the most conclusive arguments which show its erroneousness. In these cases I presume that there is a slight degree of monomania.

We also find many insane persons who are rational on every subject but one, and the instant that is mentioned they betray the highest degree of monomania.

The *antagonism* of the organs must also be understood, in order to explain the hesitation, doubt and wavering which subjects often exhibit when but slightly affected. It is com-

mon for them to deny that they believe the assertion of the operator, and yet they will act as if they do believe it; for instance: say to the subject—"*That piece of silver is red-hot and will burn you if you touch it;*" he will perhaps answer that he does not believe it and will advance towards it and put forth his hand to touch it, but the very way in which he moves shows that he suspects, at least, that it may be true. He first holds his fingers very near, then cautiously touches it, and perhaps expresses his surprise that it is actually hot. Sometimes, though rarely, he will say, "I know it is not so, though it seems so;" ask him how he knows that it is not really so, and he will answer, that former experience and the testimony of all around, that he is deluded by the inductive operation, make him think that it must be so, though his senses assure him that they are all mistaken. This contradiction arises, in a great measure, from the opposing effects of the Ipseals and the governing socials, especially Imperativeness and Firmness. They are the natural antagonists of the conforming socials; they give a tendency to act independently of the influence of others; and it is from them that the suggestions arise in opposition to the assertions of the operator, when those assertions contradict our own experience.

If the process of induction did not operate as a stimulus to the conforming socials in particular—if it stimulated the governing equally with the conforming socials, the experiments which depend upon the influence of assertion could not be performed at all.

Strange as it may seem, however, it is a fact, that a person of intelligence and education, with whom I am acquainted, although I have explained to him the nature of the influence which I have obtained over him—although he knows as well as I do that it is his own Credenciveness that paralizes his muscles, yet when I assert that he cannot open his eyes, he instantly loses all control over them.

Such is the nature of Credenciveness, that it responds to its appropriate stimulus involuntarily and irresistibly. In this respect it is like Sanativeness or Pneumativeness, or any other propensity. When Sanativeness receives its appropriate stimulus, it instantly acts, and with uncontrolable power. For instance—when we are wounded or burned we cannot help feeling pain, for Sanativeness is instantly roused and produces pain and a kind of action calculated to relieve the pain. This affection of Sanativeness is irresistible and involuntary; precisely so it is with Credenciveness when excited by an assertion.

But there is another and more complicated process to be explained. When the operator asserts that a piece of silver will burn the subject's finger if he touches it, the assertion being the natural stimulus of Credenciveness, of course, excites it; the subject touches the piece of silver and instantly feels pain. Now pain is a state of Consciousness produced by Sanativeness, and not by Credenciveness; and an assertion is not the appropriate stimulus of Sanativeness. The question is, what roused Sanativeness? If the assertion did not excite it, what did? I answer, that the assertion excited Credenciveness; and Credenciveness, through Consciousness, excited Sanativeness; according to the principle which I have explained in the article upon the inter-phreno senses. It must, however, be constantly borne in mind, that the brain of the etherized or inducted subject is in a condition which renders it liable to be affected in an extreme and morbid degree. The principle that one highly stimulated organ may etherize or induct the rest of the brain, or that it may at least act as auxiliary to the operator, is of very great importance in explaining the fact that a subject can be put to sleep without the will of the operator.

I say, for instance, to a subject, "Sit down, close your eyes and let me put you to sleep." He sits down and I put my hand upon him, or stand and look at him, or pretend to look

at him, and pretend to be willing him to sleep; though, in fact, I am thinking all the time of something else; perhaps I am actually willing that he shall not go to sleep; yet he does go to sleep just as usual. Now in this case his own Credenciveness was the principal operator, and inducted all the other organs—neutralized some and made others auxiliaries. Again; I say to the subject, "To-morrow at one o'clock you will go to sleep." When the time arrives he actually goes to sleep, *unless he forgets my assertion.* I have known them to forget, and, in that case, not be affected at all when the time arrived. Does not this prove that the power that affects them is within themselves?

Credenciveness may be excited to a peculiar and morbid action by the process of the operator, or by disease; but, when thus excited, it produces the phenomena without any other aid from external influences. This explanation of the nature of Credenciveness, is a key to most of the wonderful experiments and discoveries of Buchanan and Sunderland; of Braid, Hall and Elliotson. It explains, also, the apparent contradictions and absurdities which embarrassed the celebrated French committee of which Dr. Franklin was a member.

4. SYMPATHY PRODUCED BY INDUCTION.

When the inductive process has been completely successful—when many of the organs of the operator have communicated their motions to the corresponding organs of the subject, and have established such a connection that a movement of the operator is immediately followed by a similar movement of the subject, and a feeling of the operator's mind is followed by a similar feeling in the mind of the subject—this is *sympathy;* and by the word sympathy I mean a condition of the subject induced by the operator in consequence of a connection and communication between them;—I mean a condition which is the *effect* of a similar

condition of the operator. The condition of the operator is the cause, and the condition of the subject is the effect. The currents of Etherium from the organs of the operator to the organs of the subject are the means by which the effect is produced. The *isolation* of the organs of the subject was an obstacle to the currents of the operator; the process of etherean induction removed or overcame the obstacle; the currents of the operator's Etherium, after having first moved the organs of the operator himself, proceeded to the corresponding organs of the subject and moved them in a similar manner, though in a slighter degree. This is sympathy in a strictly philosophical sense. Sometimes it is so perfect that the very same ideas, thoughts, images, colors, forms and sounds which occupy the mind of the operator, are made to occupy the mind of the subject by sympathy.

The operator can put another person into communication with the subject, and then the subject will sympathize with him also in the same manner, and upon the same principle. The only difficulty is in first overcoming the isolation. When this is done, any person who is put into communication, may become the cause or object of the subject's sympathy. The subject may read his thoughts and feelings by sympathy.

In my "New System of Phrenology," I pointed out the fact, for the first time, that normal sympathy depends upon the organ of Imitativeness; that being a conforming social propensity, it gives a tendency to do as others do, and feel as others feel; and that, by giving a disposition to observe and think upon what others do, in order to imitate them and sympathize with them, it becomes an essential element in the faculty of learning *human nature*. On page 292, I stated that this organ contributes to give elevation to the forehead, and added—"*This explains why authors and painters and orators, who have been most felicitous in their descriptions of* HUMAN NATURE, *have high foreheads.*"

Now, it may seem almost incredible to the candid and honest reader, yet it is but too true, that after I and my pupils had publicly taught this doctrine for years, and published it in thousands of volumes all over the country, an individual had the effrontery to pretend that he had discovered the *organ of Human Nature* in the front part of Imitativeness. The truth is, every organ of man is an organ of human nature, and must be possessed by self in order to be understood in others; but the social organs all give a tendency to learn the minds of others. The conforming socials, and particularly Imitativeness, give this tendency more than any others; it is in this sense only that there is any organ in man relating to a knowledge of human nature. As I have given much prominence to Credenciveness and Imitativeness in this work, I will quote the following explanation of them from my work on Phrenology:

11TH. IMITATIVENESS.

This is the propensity to copy the actions of superiors—to follow the example of those whom we reverence—to adopt the manners and peculiarities of those with whom we associate. It is very active during the early years of life, before children are capable of judging of the propriety or impropriety of their acts. It enables them to avail themselves of nearly all the practical advantages of their parent's experience. A thousand little necessary arts, the nature of which it would be impossible for them to understand, are practiced instinctively under the influence of Imitativeness. The organs of both Playfulness and Imitativeness are much larger in children than adults, and they are both of very great importance in education. Man is termed, by Aristotle, the imitative animal. Darwin remarks, that "Not only do the greatest part of mankind learn all the common arts of life by Imitation, but brute animals seem capable of acquiring knowledge with greater facility by imitating each other,

than by any method by which man can teach them." "This propensity to imitate, not only appears in the actions of children, but in all the customs and fashions of the world. Many thousands tread in the beaten paths of others, for one who traverses regions of his own discovery."

Dr. Gall first discovered this organ in those who manifested a talent for mimicking, and he therefore named it the organ of Mimicry. Spurzheim and Combe considered it the propensity of Imitation in general. I agree with those eminent phrenologians so far as they have gone, but I do not think that they have given sufficient importance to this propensity; nor taken into account the designs of the Creator in bestowing it. They have hitherto only spoken of it as it is exhibited by mimics, actors, artists and dramatists; but these are its extraordinary manifestations, when peculiarly combined with other powers. I consider Imitativeness a social propensity, designed to enable mankind to conform to the manners and habits of each other. It partially supplies the power of reason before reason is ripe, by enabling the young, the ignorant and the inferior, to imitate the actions of their parents, masters and other superiors.

Imitativeness is a *conforming* social propensity; and naturally acts in combination with Submissiveness. Although we *may* imitate those whom we do not respect, that is not the proper mode, but may be considered rather as an abuse, and a deviation from its original intention. We always direct the imitation of the young to the great and good, to those whom we most respect, and whose example we consider most worthy of imitation. In accordance with this fact is the anatomical arrangement of the convolution of this organ: it originates at Submissiveness, and runs forward parallel with Kindness, until it reaches the Reflectives. [See the engraving of the bust.] Imitativeness should always be explained in connection with Submissiveness; it is a mere superaddition to it, to carry out the plan of conformity.

There is also an intimate relation between Kindness and and this propensity. Imitativeness disposes us to conceive the feelings of others, and Kindness is a propensity to gratify those feelings. The *feeling* of *sympathy*, in my opinion, depends principally upon Imitativeness. When explaining Kindness, I stated that in order to pity others, we must first experience similar feelings to theirs ; and in order to experience similar feelings, we must possess similar organs. Kindness is superadded to the other propensities, to dispose us to *gratify* the feelings which those propensities produce; and Imitativeness is superadded, to dispose us to *understand* those feelings that we may be the better enabled to gratify them. Darwin says, " Imitation is *repetition*, which is the easiest kind of animal action." If this definition is correct, then this is a propensity to repeat the actions of others; and not their actions only, but their dress and language and mechanical performances. Now, if my views are correct, sympathy is a repetition in our own minds, of the feelings of others, and depends upon this propensity. " Many young men," says Darwin, " fall sick on seeing surgical operations performed, and even feel pain in the same part of their own bodies ; that is, they in some measure imitate in their own fibres, the violent actions which they witness in those or others." " The effect of this powerful agent, Imitation, in the moral world, is the foundation of all our mental sympathies with the pains and pleasures of others ; and is, in consequence, the source of all our virtues. For in what consists our sympathies with the miseries, or with the joys of our fellow-creatures, but in an involuntary excitation of ideas in some measure similar, or imitative of those which we believe to exist in the minds of the persons whom we commiserate or congratulate ?"

Sympathy, is a term which is frequently used as if it was synonymous with pity ; but pity is a feeling produced by Kindness, and sympathy is a feeling produced princi-

pally by Imitativeness. As Imitativeness and Kindness naturally act together, and are generally combined with other propensities, it is sometimes difficult to distinguish which has the greatest share in producing the mingled emotions. In some late examinations which I have made of the human brain, I found that the furrow which separates Kindness from Imitativeness, is very shallow, being not more than half an inch deep; whereas the furrow between Credenciveness and Imitativeness is more than an inch and a half. This anatomical fact coincides with these views, and explains why the two organs are so apt to act in combination, and mutually to excite each other. When explaining Kindness, I showed that it always acts in combination with one or more of the lower propensities; I now add, that it also acts, in every well-balanced mind, in combination with Imitativeness; and what is commonly understood by the term sympathy, when applied to the joys and sorrows of others, is a compound feeling, produced by the united action of those two propensities. For instance, if one of our neighbors has lost his child, our Parentiveness, Kindness and Imitativeness combine to produce towards him the feeling of sympathy. If cur Parentiveness is large, judging by our own experience, we conclude that he must be deeply afflicted; but *this* is not sympathy. If our Kindness is large, we pity him, and are anxious to do all in our power to console him; but neither is this sympathy. Now, if our Imitativeness is large, we not only pity *him*, but we join with him in lamenting the loss of *the child*—we feel as he feels, but not so intensely. This is sympathy: pity is directed *towards* him, but sympathy is a feeling that mingles *with* his, and flows on in the same course: the only difference is, that his is the main current that draws the others for a time in the same direction.

A person having Imitativeness very large, with Kindness small, will be able to conceive how another feels—will, as

it were, imitate or repeat imperfectly in his own mind, the feelings of others; but will have no very strong desire to gratify, or relieve them: yet this is one kind of sympathy; though not such as proceeds from a well balanced mind. Lavater remarks, in substance, that by imitating the expression of another, we may partially experience his feelings; and I doubt not that this is true, especially of those who have Imitativeness very large.

Spurzheim, Combe and all other phrenologians, agree in denominating this propensity a *feeling* of imitation; but imitation is an *action* produced by the *propensity* of Imitativeness. It would be absurd to say "I *feel* imitation;" but it is perfectly proper to say "I *act* in imitation;" and it is also proper to say "I feel sympathy." I therefore name this the propensity of Imitativeness,—the feeling which it produces I call sympathy,—and the actions which it produces I denominate imitations. If the term *sympathy* does not convey the precise idea of the feeling produced by Imitativeness, then I know of none in our language that does. I have, in writing this work, often felt a necessity for new terms, to express more precisely the different feelings; and I doubt not that as the science continues to progress, improvements will be introduced in this important part of the nomenclature of mental philosophy.

Those who have this organ large, are capable of conforming to the manners and habits of those with whom they associate, much more readily than those who have it moderately developed; they seem to have the power of approaching in a proper and successful manner, those who occupy eminent stations. They are more easy and graceful in their manners, and can readily adapt themselves to the feelings, actions and situations of others. It is large in those who are capable of representing the feelings and actions of others, in writing, or speech; and no man can easily excel as an actor, orator, artist, dramatic author, ventriloquist, dancer,

or musician, unless this is fairly developed. In proof of this, we find it large in the portraits, or heads, of all who are eminent in either of these professions. It gives the dramatic author the power of calling up in his own mind the same train of ideas and feeling, that he supposes the character to possess whom he describes; and having thus, as it were, imbued himself with their spirit, and made their case his own, he proceeds to pour out their feelings in language such as that of Shakspeare, Voltaire, Walter Scott, and other writers of this class. If they are public speakers, their elocution will be graceful and appropriate; such as that of Henry Clay. If they are actors, their personations will be striking representatives of real life. If they are artists, they will copy the works of others, or nature, in such a manner as very much to resemble the original. Imitativeness is intimately related to the intellect. The organ runs forward from Submissiveness, until it terminates in the Reflective Faculties; accordingly we find that its operation is very much modified by the degree and manner in which the intellect is developed. If the Reflectives are large they give originality to the thoughts, they check the improper activity of Imitativeness, and give a disposition to imitate or adopt principles, instead of actions. If the Reflectives are not large, and the Perceptives are much developed, then there will be a manifestation of practical, or mechanical imitation; such as is manifested by mimics, and superfical geniuses, who can quickly learn to perform operations, the nature of which they are incapable of understanding. Those authors who are incapable of reasoning profoundly, but who can write racily and pictorially, and readily adapt their style to the subject, will invariably be found to have moderate reflectives, and large perceptives and Imitativeness. They

"Catch the manners living as they rise."

They describe things as they see and feel and hear them, but do not attempt to account for them. Most of the writings of novelists are of this character.

I have never seen a good actor, however large his Imitativeness might be, who had not large perceptives.

This propensity sometimes combines with the other high propensities and the reflectives, and manifests itself only in a moral way, by conforming to the precepts and following the moral and religious examples of others. Such persons are apt to suppose that they should have the organ small, because they have never manifested it in a mimicking, or a mechanical way ; but this common error is owing to the manner in which the propensity has been explained. Phrenologians have hitherto treated it as a peculiarity of artists and dramatists, and have almost entirely overlooked its higher and nobler purposes, as a conforming social propensity, superadded to Submissiveness and Kindness : the fact is, the manner in which it is manifested, depends much upon the organs with which it is combined.

There are some species of animals that manifest Imitativeness very distinctly, particularly the monkey tribes; and I have found the organ plainly developed in the brains of animals, as the swine, cat, dog, horse, &c., some of which manifest it in so low a degree that we should not have suspected them of possessing it; but it is probably useful to them as a social propensity."

It should be mentioned that subjects are apt to be seized with a most ludicrous disposition to imitate every one whom they see, or with whom they are in communication. I do not now refer to the sympathy which I have been describing, but they imitate, just as they do in the normal state, by looking at a thing, or feeling its motions, and then repeating or imitating. It would seem that all the conforming socials are excited by induction, and their activity explains many curious phenomena. It accounts most satisfactorily for

their disposition to conform to the wishes of the operator, and to endeavor to make all his plans and experiments succeed, so that it almost always seems as if there is collusion between the operator and the subject, while, in fact, they are both perfectly honest and innocent in their intentions. The subject deceives by endeavoring to gratify, what he believes to be the wishes of the operator.

12TH. CREDENCIVENESS, OR MARVELOUSNESS.

"This is the propensity to act upon the testimony of others—to give credence to the assertions, and conform to the opinions of those with whom we associate, and whom we reverence. It is intimately related to Submissiveness; and usually acts in combination with it. The convolution of the brain which constitutes this organ, originates at Submissiveness, forms a kind of elbow against Hopefulness, and runs forward to Causality. This arrangement is not without an important and obvious purpose. Although it is true that every organ in the brain is in some degree related to every other organ, yet there is a more intimate relation between some than others; and those which associate most in action will be found to be associated and arranged together in the brain. These remarks apply with peculiar force to Submissiveness, Credenciveness and Hopefulness. We give most credence to those whom most we reverence, and our hopes are greatly modified by our belief, while both hope and faith are very dependent upon Causality.

I consider this propensity as designed, like all the others, to produce *actions*, or to *modify* actions which other propensities originate. Marvelousness and Wonder are *feelings*, which, under some circumstances, precede the actions, just as pity precedes the actions produced by Kindness. In order to determine the kind of actions which Credenciveness produces, we must consider the relation which it bears to Submissiveness, and to the other propensities; and en-

deavor to ascertain its utility in promoting the harmonious operations of society. It is my opinion, that belief in testimony of all kinds, depends upon this propensity. Faith, belief, conviction, are its ordinary affections, when acting in combination with the intellect, upon a subject that can be understood. Wonder and Marvelousness are caused by its operation when the subject is extraordinary, and not fully understood. Combined with Submissiveness, it disposes to faith in the testimony of others, on account of our respect for their characters. This principle is recognized in all courts, that the more exalted and honorable the character of the witness, the more credit is due to his testimony. The organ is much larger in children than adults, and enables them to rely with perfect confidence in the statements of their parents. Such is the constitution of their minds, that they believe the most extraordinary thing upon the bare assertion of their parents or guardians. And this is necessary in order to govern and guide them, in cases where they have no experience of their own.

When explaining Hopefulness, the highest of the Ipseals, I stated that it is related to futurity through the medium of Causality. The same is true of Credenciveness. That which is present, and subject to the test of the senses and lower Perceptives, cannot be a subject of belief—it is positive knowledge. But when any thing is absent, or contingent, or to come, it is then a legitimate subject for the exercise of this propensity. It is more dependent upon Causality than any of the other Socials; and is much more directly related to it. In the brain, the convolution of Credenciveness seems to go forward on purpose to join Causality. Indeed, the Reflectives can hardly be said to guide the Socials, except through the medium of this important propensity. Firmness, Submissiveness and Conscientiousness are greatly affected by a change in belief.

Every proposition, the truth of which we cannot test by

the evidence of our own senses, if it is probable, or even possible, is calculated to excite and gratify Credenciveness. But its most natural stimulus is the *testimony* of intelligent beings. I consider it as specially designed to make us act upon the testimony of others, and particularly of our superiors, in cases where we cannot have the evidence of our senses. Impressions enter through the senses to the Perceptives, and are analyzed, classed and connected by the Reflectives. Causality performs the last and highest process of intellect; and if the proposition is not perfectly self-evident, it becomes a matter of belief or of skepticism; that is, it becomes an appropriate stimulus for Credenciveness. This propensity is, of course, modified in its action according to the nature of the subject, the amount of evidence, the proportion of Credenciveness to intellect, and the effect which it is to have upon our interests, or our hopes. Whether an individual will be skeptical or credulous, depends upon the *proportion* which his intellect bears to Credenciveness and Submissivenss. Those who have very high but shallow foreheads, are apt to be foolishly credulous; and those who have low and prominent foreheads, are inclined to skepticism. They wish to investigate much and believe but little. There is a third class who have foreheads wide, high and prominent—they love to believe when they can; but they cannot without proper investigation. They examine thoroughly, and believe sincerely, many controverted doctrines—they seem to take pleasure in revolving in their minds doubtful subjects, even if they cannot quite believe them. If it is something which challenges belief—if it has probability or even possibility in its favor, it is a proper subject to stimulate and delight this propensity, and produce the feeling of marvelousness. This enables us to understand the character of novelists and romancers and dramatic authors, such as Scott, Voltaire, Shakspeare and Tasso, who all had very high foreheads, particularly

in the region of this organ and Imitativeness. Those who have been remarkable for faith upon religious subjects, have the same development, combined with Submissiveness. Such are Bunyan, Baxter, Swedenborg, Irving, Wesley and hundreds with whom I am acquainted.

I consider this as one of the most important elements of a love of knowledge. The ability or the talent of *knowing*, depends upon the intellect—but the desire, the love, the proneness to learn, depends upon the propensities. Each propensity produces a desire to know that which will be gratifying to itself. The highest gratification of Credenciveness consists in knowing what people have said or written. It is easy, therefore, to understand why those who have it large should be very fond of reading or hearing the extraordinary assertions of others, and of inquiring into their truth. If the intellect is large, they will be commonly successful in their inquiries; but if it is small, they may be induced to give credence to the most absurd statements. It is this propensity that makes us love to hear or read extraordinary things, even if we do not believe them. It seems as if some love to stretch their faith to its utmost, just to give it exercise; the more marvelous the story, the better it suits them: and if Submissiveness is large, and the statement is made upon high authority, it becomes perfectly charming. This organ is larger in youth than adults, and women than men. It accounts for the love of the marvelous manifested by children; for the pernicious novel reading habits of girls; and for the ease with which impostors of all descriptions succeed with the generality of females. I have noticed that those women, who in youth read the most novels, and the least science, in maturer years are the most prone to superstition and fanaticism. They are much greater sticklers for matters of mere faith and form, than for moral and christian practice.

The exposition which I have made of this propensity,

shows that it is one of very great importance in society. It is the grand lever, by means of which the few can govern the many more despotically than by any other. It is for this reason that the union of church and state is a desirable object with all despots, and adds immensely to their power.

This is plainly, then, a *conforming* Social propensity; since it is the means by which children and all ignorant persons are guided. Nothing renders a man more ungovernable, or unamiable, than a disposition to doubt every thing he hears; and to rely entirely upon his own judgment and observation, instead of giving due weight to the testimony of others.

In regard to the lower animals, it is more difficult to show that they possess Credenciveness, than any of the other Socials. It is certain than they have it in a less degree than any of the others, which alone is sufficient to prove its exalted nature.

It is worthy of remark, that Hopefulness, the highest Ipseal, Credenciveness, the highest Social, and Causality, the highest Intellectual, are connected together at the top of the brain; and it is curious to study the relation in which these three important powers stand to each other, and to the Perceptives. The Lower and Middle Perceptives are related to that which is perceptible, present and certain. The Reflectives, to that which is certain, but which is not present to the senses; and which is known only by deduction. Credenciveness to that which is probable, and Hopefulness to that which is possible. We may hope for that which we do not believe—we may believe what we cannot prove by reasoning; and we may prove by reasoning what we cannot test by the senses and Perceptives.

The region of perception is at the base of the brain;—of reflection, a little higher; [see bust,] of credence, in the upper part of the forehead; and hope a little farther back.

In a well balanced mind, these will bear a just proportion to each other; and in making an examination, it is of the very highest importance that the relative development of the lower and upper parts of the forehead should be compared with each other, since they have an important mutual influence. Those who have excelled in practical science, have the lower predominant; and those who have excelled in fiction, the upper; while those who have avoided both extremes are balanced.

SECTION XI.

ETHEROPATHY—CONTINUED.

5. CLAIRVOYANCE, *or* UN-ISOLATED PERCEPTION, *produced by the process of induction overcoming isolation.*

When the subject, without the aid of his senses, by his connection with the operator, perceives the same things which are perceived by the operator, it is perception by sympathy; but when the subject, without the aid of his senses, perceives that which is not perceived by the operator, it is *Clairvoyance.*

The difference in principle between sympathy and Clairvoyance is very slight. The only difference is in the objects from which the currents of Etherium are evolved. When the organ of Consciousness and its dependent organs in the operator, are the points from which the emanation is evolved to the organ of Consciousness and other organs of the subject, the result is sympathy; but when the motion of Etherium is evolved from any other point, through abnormal avenues, to the subject's organ of Consciousness, it is Clairvoyance. The term *Clairvoyance* is from from two French words, and strictly signifies *Clear-seeing*: although some word which is more precisely significant of *un-isolated perception* would be preferred, yet as there is no such word I shall adopt this, which has the advantage of being in common use, and in our language it has no other meaning.

In order to understand Clairvoyance, we must consider

1st. The emanations of etherean motion from the objects perceived.

2d. The isolation and induction of the brain.

3d. The *modus operandi* of Consciousness.

1st. *Emanation of motion from the objects perceived.*—We never perceive any thing unless when there is an etherean emanation from the object perceived. When ordinarily we *see* a thing, there is always an emanation of light from it to the eye. When we *hear* any thing, there is an emanation of ærial vibrations from the object heard to the ear. When we *smell* any thing, there is an emanation of odorous particles from the odorous body. When we *taste* any thing, there is an emanation from the substance tasted, caused by the chemical action of the saliva upon the substance. When we perceive any thing by *touch*, there is a motion emanating from the substance touched and passing to the brain, which motion was produced by the mechanical act of touching. When we *feel pain*, there is an emanation from the painful and injured part to the nerve which is connected with it, passing along the nerve to the organ of Sanativeness, from the organ of Sanativeness to Consciousness, producing there the feeling or consciousness of pain.

The same reasoning applies to *hunger;* it is produced by an emanation from the stomach to Alimentiveness, and from Alimentiveness to Consciousness. *Suffocation* is produced by an emanation from the lungs to Pneumativeness, and from this organ to Consciousness.

In Clairvoyance, the same principle is in operation. There is an emanation from the object perceived to the central organ of Consciousness in the subject. There cannot possibly be any perception of any kind unless there is such emanation.

2d. *The Isolation and Induction of the brain.*—This I have already explained as far as it relates to the communi-

cation of thought and *motion* from the operator to the subject—as far as relates, in truth, to one branch of Clairvoyance, viz.: Sympathetic Clairvoyance. The same isolating contrivance which prevents the *motions* of different persons, and different organs of the same person, from interfering with each other—the very same contrivance has been instituted by the all-wise Creator to restrict and limit our perceptions. When we consider that motions of Etherium from the circumference of the brain to the centre produce different states of Consciousness; when we also consider that every surrounding object in nature is continually receiving and evolving emanations; we of course must acknowledge that some contrivance is necessary to prevent the brain from being continually agitated, and our Consciousness from being continually excited and confused by the innumerable currents and motions of Etherium which are constantly evolved from the infinite number of objects around us. This contrivance is *Isolation;* a peculiarity of the structure of organized bodies, which prevents nearly all external influences from interfering with their operations, while it admits external influences which are useful to them. In what the isolation consists, we know not; we are certain of the fact that by some contrivance the isolation is effected, but we are, as yet, entirely ignorant of the mode in which it is effected.

The eyes are not influenced by sounds, nor the ears by light, but Consciousness is indirectly affected by both. The reason is, that the eyes are isolated from all other influences except the stimulus of the light, and the ears are isolated from all other influences except the stimulus of sound. If we had no eyes we should be entirely ignorant of the existence of light, because all our other organs are isolated from its influence. A blind man, who never heard of light until the age of thirty, would be perfectly skeptical concerning its existence. It would be incomprehensible to

him that things could be perceived by eyes, at such great distances, while by ears they could not be perceived at all. Not having any experience of his own on the subject, he would necessarily be dependent upon the testimony of those about him who professed to have this wonderful faculty. Very much the same is it with us in reference to clairvoyant subjects. We cannot see without our eyes, nor hear without our ears, nor feel without contact; but the inducted subject can do all this; he, with his eyes closed and carefully bandaged, can see, or rather can perceive through walls impervious to light and sound, and at immense distances—can perceive, indeed, in a way as incomprehensible to us as the perceiving with eyes was to the blind man. The blind man could not conceive of the existence of any fluid, or medium, or menstruum, finer than *air*. He was wholly ignorant concerning *light*, which is millions of times finer and more subtile than air, and can therefore penetrate where air cannot, and communicate its motions with a degree of rapidity, and to a distance of which air is altogether incapable. Yet it is very evident that there are other motions exceedingly more rapid than those of light. *La Place demonstrated, in* 1773, *that "the attractive force of gravity must be transmitted fifty million times faster than light, which travels at the rate of two hundred thousand miles in a second."* (*See "Lectures on the Progress of the Physical Sciences," by Prof. Thompson, of the University of Glasgow.*)

Light cannot penetrate boards and stone walls, but magnetic Etherium can do so; for a magnet affects iron filings through such obstacles, almost as if there was nothing in the way; and so also does gravitation. It is plain that if we could perceive through the medium of *this* motion of Etherium instead of light, we could see through boards and walls as easily as the magnet operates through them; for the magnet operates in the dark just as well as in the light. We must conclude, therefore, from the great number of

facts which we have upon this subject, that there is an Etherium, or a motion of Etherium, different from light, by means of which the force of gravitation is communicated; and another modification of Etherium, by means of which magnetism penetrates through opaque bodies. It, therefore, requires no stretch of the imagination to admit a modification of Etherium which affects the brain and its organs, and produces Consciousness and Clairvoyance in a subject who is, by the process of etherean induction, brought into communication with it.

If we analyze a sunbeam, we can demonstrate that besides light and heat it contains another kind or motion of Etherium, different from light and heat, which produces powerful chemical effects; and yet we have no senses given to us by which to enable us to perceive by its means, though it may sometimes abnormally induct us and produce clairvoyant perception.

It seems to me, that that there cannot be a doubt in the mind of a philosopher who examines this subject carefully, that there is a peculiar form or modification of Etherium, which has, with some propriety, been denominated *animal magnetism*, and which is concerned in producing all the phenomena of animal life and all the wonders of Etheropathy and mesmerism. We seem forced to this conclusion as the only one which will account for facts which we are not able to controvert.

If we take a magnet and bring it near to a piece of iron, and make a number of passes across the iron, the peculiar motions of the magnet are communicated to the iron so that it becomes a magnet itself. This is *Induction.* A piece of iron cannot be placed near a magnet for any considerable time without becoming in some degree inducted, losing its own independent motions and submitting to the influence of the neighboring magnet. Precisely so it is with the in-

ducted subject; the cases are as nearly parallel as the different natures of the two bodies will admit.

3d. The mode in which the organs normally produce Consciousness, after they are impressed by emanations from external objects, must be understood in order to enable us to understand Clairvoyance.

They produce Consciousness precisely in the same way in Clairvoyance as they do in ordinary normal perception. The difference between Clairvoyant perception and common normal perception is in the manner in which the phreno-organs are excited by the emanation; or rather it depends upon the different modes by which emanations reach the phreno-organs to excite them to action. In common perception the motion of Etherium is restricted to pass in certain prescribed avenues which we denominate *the senses;* but in Clairvoyance, in consequence of the *isolation* being overcome, the emanation passes directly to the brain through the skull, or through the feet, or hands, or sides, or through any other part where the isolation is especially weakened.

In common perception the emanation is permitted to reach the brain only through certain limited, defined and restricted avenues or senses; and even through these passages the pure and unencumbered motions of Etherium do not seem to be allowed to pass. In the sense of taste the Etherium is conveyed to (or moved in) the external organ by a *liquid* which dissolves the substance tasted. In the sense of smell the motions are conveyed by currents of *air*, which are adulterated, or mingled with atoms of the odorous substance perceived. In the sense of hearing, the emanation is conveyed in pulsations or vibrations of air. In the sense of sight, the emanation is conveyed or moved by currents, pulsations, or rays of light.

But in Clairvoyance the brain seems to be excited by Etherium in a different state—by emanations which are ordi-

narily excluded by isolation—and which are introduced in opposition to the isolating guards. When this more pure emanation is fairly introduced, and a current of it caused to proceed from a distant object to the subject, it passes directly through the skull, or some other abnormal passages, and reaches the organs of Form and Color, &c., and excites them so as to cause *them* to produce a state of Consciousness the same as if the subject had seen the distant object with his eyes. I wish the idea to be distinctly understood, that Consciousness and perception of every kind is, *in all cases*, produced by the Phreno-organs of the brain; that in common perception and in Clairvoyance, the brain, operates in the same manner. In both cases the *Phreno-organs* must be excited and must perform *their* functions before perception can take place. It is a great error to suppose that in Clairvoyance a person can perceive without his *brain* because he perceives without his senses. It is absurd to suppose that a person perceives *color* without the *organ* of color, because he perceives without his *eyes*.

In order, then, to explain Clairvoyance, it is only necessary to admit that the Phreno-organs of perception may be excited through other avenues than the external senses.

According to this explanation, Clairvoyance is no more mysterious than any other phenomena of Etheropathy or mesmerism. Many persons are willing to admit that sleep may be produced by the inducting process, but deny Clairvoyance as impossible; but it will now be perceived that it requires no new principle to explain Clairvoyance after the etherean or mesmeric sleep is admitted; for sleep and sympathy and Clairvoyance are produced in the same way, by the same agent and the same process applied to different objects.

The inquiry will naturally arise, "Why did not the Creator endow us all with the powers of Clairvoyance? Why should such a wonderful power be withheld from the most

perfect and healthy men, and yet be occasionally bestowed upon some weak and debilitated individual." To my mind, the reason is obvious. The Creator has placed us in a situation where a certain amount of knowledge is necessary to enable us to perform our duties, and he has bestowed upon us organs so contrived as to enable us to acquire this knowledge with ease, provided we make a proper use of the means which he has placed within our reach and the powers which he has bestowed upon us. A greater amount of knowledge, instead of being a blessing, would be injurious, and it is withheld from us in mercy; every animal in existence will be found to have the means of acquiring knowledge enough to harmonize with his condition and to enable him to satisfy his wants. More knowledge would be an embarrassment.

Suppose that a man could hear every movement which takes place not only on the earth but in the most distant of the innumerable planets; and suppose he could see every thing in existence, would it not be a source of inconceivable annoyance? would it not render his life a burden? I do not doubt that an omniscient man would be utterly miserable. It is enough for us, then, that we are so organized, that by making an industrious use of our powers, we can learn all that it is necessary for us to know in order to enable us to fulfil our destiny according to the designs of the Supreme Creator.

But still you will ask, why the power of Clairvoyance is bestowed upon some persons? I answer, that Clairvoyance is the result of weakness. It is in itself a species of disease, and like all other diseases it is a violation of the natural laws of the constitution. It was never intended by the Creator, so far as his intention is indicated in the organization of man, that such a power should be possessed by man; for, instead of making any provision for it, (as he would doubtless have done if he had designed it,) the Creator has

ordained a most wonderful series of regulations to prevent it. By isolating the organs and giving them limits and restrictions, he has virtually said to each of them, thus far shalt thou go with propriety, and produce happiness, but no farther. Clairvoyance is an overleaping of the bounds to reach the forbidden fruit of the tree of prohibited knowledge. My object in making these remarks is not to prevent any one from making use of this means of acquiring knowledge, but to convey a clear expression of the view which I take of the real nature of Clairvoyance, and to rebut the absurd doctrine of Sunderland, Buchanan and others, that Clairvoyance depends upon a peculiar organ which was bestowed upon man for that very purpose.

SECTION XII.

ETHEROPATHY—CONTINUED.

6. *Deranged function produced by induction.*—This principle, combined with the principles of Will, Sympathy, Credence and Clairvoyance, account for all the phenomena and explain all the experiments, whether they are known under the name of Neurology, Pathetism, Hypnotism, or Mesmerism: for they are in reality but so many instances of peculiar derangement—of abnormal condition—of departure from proper and healthful operations.

This is true of the Sympathy, Clairvoyance and Credencive delusion which I have already explained; and, by applying these principles, we may unravel any case, however difficult, and reduce it to such simple terms that any person of common intelligence can understand it.

Bearing in mind the principles which I have already advanced and the explanations which I have made, let us apply them to analyze the different phenomena which have been the subject of discussion and experiment by those who have most attracted public attention.

The subject may be discussed under the following heads:

1. Etheropathic, or mesmeric sleep.
2. Manifestations of uncommon strength.
3. Conferring extraordinary power upon medicine, watermotion, and other substances.
4. Discovering diseases, their location, cause and cure.

5. Reading the characters of persons with whom the subjects are in communication.

6. Discoveries in phrenology and physiology.

7. Communing with departed spirits.

8. Abuses and dangers attending Etheropathic experiments.

1. Etheropathic Sleep.—This is generally one of the very first effects of Etheropathic Induction. The subject feels a sensation similar to that experienced when going into ordinary sleep; and his nodding, and the relaxation of his muscles, often imitate common sleep perfectly. Now, mark the difference: a third person speaks but the subject does not hear him. The operator speaks and the subject hears him and answers, or attempts to answer and finds his tongue paralyzed. A third person takes hold of the subject and pinches him, burns him, pricks him, and tries every way to excite his attention, but the subject remains totally unconscious of all his attempts. The operator gently touches him, and he shrinks with the strongest signs of sensitiveness. The operator commands him to perceive when a third person touches him, and now he shows Consciousness in return to the slightest touch from the very person who could not rouse him before by the most cruel experiments. In order to explain this, we must recollect that the isolation of the organs of the subject is overcome, so that the currents of Etherium from the operator's brain interfere with the currents of Etherium from the brain of the subject. The currents from the subject's brain are either neutralized or conformed to the currents of the operator, so that now no current of Etherium can enter the brain of the subject through the external senses; but currents are passing through the organs of the subject from the brain of the operator with great vigor. The senses of the subject can be affected by the operator, or by any object which the operator permits to be in communication. Those currents

are cut off which normally pass to and from the subject's brain and connect it with surrounding objects.

Sometimes the external senses, the voluntary muscles and the organs of mind, seem to be all, or nearly all, inducted; so that the subject is almost as entirely under the control of the operator, as if the subject was but a part of the operator himself. But much oftener it happens, that all the efforts of the operator fail to induct the subject except in a few organs. At first the current from the brain of the subject to *his eyes* may be interrupted, so that the subject cannot open them without the consent of the operator; perhaps also the lips become immovable from a similar cause; but the hearing is not yet much affected, and by an uncommon effort he can move his limbs; the mind is but little affected and the subject knows what he is about and has the power, and perhaps the disposition, to oppose the operator and endeavor to thwart his plans and wishes. The explanation of this is, that only a few bodily organs are cut off from their natural etherean connection with the brain. The other organs are too securely isolated, or else too powerful to be overcome.

When the external senses and the perceptive organs which are dependent upon them are thoroughly inducted, the subject is asleep; that is, he is in such a condition, that if the operator asks him if he is asleep, he will say "yes." I take it that the whole brain is not asleep at this time, for the subject will sometimes complain of thirst, weariness, or suffocation; showing that the internal-corporeal senses are active, and that those organs of the brain are awake which preside over the wants of the body, though the perceptive organs are undoubtedly asleep, except so far as their activity depends upon the operator—they are certainly in that condition, whatever it may be, which gives the subject a Consciousness that he is asleep, for he will generally answer

positively that he is asleep. This leads me to inquire concerning an

ORGAN OF SLEEP.

Is there an organ of mind located in the brain, the function of which is to give a disposition to sleep? If so, in what part of the brain is it located? and what is its nature, its utility, and the design of the Creator in bestowing it? To what class of organs does it belong, Ipseal, Social, or Intellectual? If Ipseal, to what range of Ipseals?

I have reflected much upon this subject, as I deem it one of much interest in a phrenological point of view, and I have at length come to the conclusion that *there is no organ of Sleep per se.* There is a state of Consciousness which we call *drowsiness* or sleepiness, and this is accompanied with an inability to keep the voluntary muscles, especially those of the eyes, in a state of contraction. Now it must be admitted, that this Consciousness of drowsiness, is produced by a particular Phreno-organ, and so also is the contraction of the muscles, which constitute wakefulness, dependent upon an especial Phreno-organ. The tendency to sleep is indicated by an inability to contract the voluntary muscles, and to keep the senses active. Sleep is a negative power. A man asleep is a man doing nothing. Surely an organ for doing nothing is unneccessary. I have shown, in another place, that sleep is produced by the predominance of the involuntary ganglia. These are the only organs of sleep, but they are not Phreno-organs; they give no tendency to do any thing voluntarily, but on the contrary, they tend to prevent all voluntary action.

The consciousness of drowsiness, which we experience, is produced by the organ of Sanativeness, in consequence of a peculiar weariness of those parts, whose function it is to keep the senses active, and the muscles connected with them in a state of contraction.

The function of the organ of Sanativeness, is to produce consciousness and action when any part is exhausted, injured, diseased, wearied, or needs our care and attention. If any part of the constitution is exhausted in a certain slight degree, Sanativeness is affected accordingly, and produces a consciousness of *weariness;* if to a greater degree, a consciousness of *pain;* so that weariness would seem to be but a slight degree of pain—it differs from pain only in degree. The pain produced by the injury of one part of the body, is different from that produced by another part, and the weariness produced by the too prolonged activity of one organ, is different from that produced by another. Now, it would seem that *drowsiness* is the peculiar *weariness* of the senses and their auxiliary muscles, and it affects the organ of Sanativeness accordingly. It may be that the organ of Sanativeness is constituted of a great number of departments, to correspond with the different parts of the body, which are liable to exhaustion and disease; and if so, then there may be one department which presides over the sanatary condition of the senses and their dependent muscles. Such a department, if it does exist, produces the consciousness of drowsiness, or the exhaustion of the muscles. In this sense, Sanativeness may be called the organ of Sleep. But an organ of Sleep, such as Buchanan, Sunderland and others admit, does not exist beyond their own imaginations.

If there were such a propensity, it would, of course, be an Ipseal of the corporeal range—it would be one of the very lowest organs in location and function,—since the very lowest class of organized beings possess it in perfection, and sleep all, or nearly all, the time of their lives. Dr. Buchanan claims to have discovered an organ of *Sleep* and another of *Somnolence!* His notions are in themselves really unworthy of a serious refutation. I doubt whether the annals of science can furnish an instance of the violation of all the rules of common sense equal to that which this

gentleman has perpetrated under the name of "*Neurology.*" His errors are so gross, and, to one acquainted with the elements of phrenology, so palpable, as to lead us almost to suspect that the doctor is amusing himself by trying experiments upon the public credulity, and attempting to rival Mr. Locke by producing another scientific fiction more marvelous than even the celebrated moon hoax. But there is something connected with the notions of Dr. Buchanan, that entitle them to a degree of notice which their intrinsic merit by no means deserve; and that is, the circumstance that hundreds of respectable persons, including some of the most distinguished men in our country, have been so far misled by a superficial examination as to give to them the sanction of their names and characters; so that the general impression throughout this country, at present, is, that Dr. Buchanan has actually made some important discoveries in phrenology and physiology, and that he really proves phrenology by his practice of exciting the organs of the brain. Whereas, the truth is that he has not added any thing to our knowledge, nor made a single discovery. His pretensions may justly be classed with those of Joe Smith and Father Miller. I do not speak thus positively on this subject without having first examined it. I have repeated his experiments upon hundreds of susceptible subjects, and proved the utter falsity of his boasted "wonderful discoveries," by the very method which he himself proposes to establish their truth, and that is, by experiment. Dr. Buchanan locates his "*organ of Sleep*" between Combativeness and Cautiousness, and his organ of "*Somnolence*" near the organ of Tune. His location of the organ of "Sleep" is a violation of a perfectly established principle of phrenology—which is, that the powers that are the most essentially animal and corporeal in their nature have their organs in the lowest portions of the brain. How then can sleep have an organ *above* Combativeness and Acquisitive-

ness, where Dr. B. has placed it? If there is a tendency more especially low and anti-intellectual in the catalogue of human powers than any other, it is the tendency to sleep: if, therefore, there is an organ which is the agent of this tendency, it must be at the very base of the brain, taking precedence of all others.

But I am told, perhaps, by some very innocent witness of Dr. B.'s experiments, that he certainly does put his subjects to sleep with no other ceremony than merely holding his finger upon that part of the head where he has located the organ of sleep. I answer that I have no doubt of it; and neither do I doubt that he could put them to sleep, just as well, by putting his finger on the nose or any other part, especially if the subject expected to be put to sleep and was susceptible. I have often put them to sleep by simply telling them to go to sleep, and without touching them at all. Would it not be an unpardonable deception then, if I were to put my finger on a certain part of the head and pretend that this was the means and the organ by which the sleep was produced, when I could produce the same effect by touching any other part, or even by not touching at all? If touching certain parts of a fresh subject sometimes aids and facilitates the sleep, it is, doubtless, because it facilitates the induction and stops the action of several organs, and not because it excites a particular one.

A person who has been once inducted, can be inducted again with much more ease than before. There are two reasons for this: one is, that the isolation is weakened and rendered pervious; the other is, that the conforming organs are excited by the recollection that once before he has been overcome, and this leads him to expect and believe that he will be overcome again.

There is a very great difference in subjects, in regard to the length of time that the influence will continue to affect them. Some will for weeks after they have been inducted

be highly susceptible to induction, so that the slightest effort made by the operator, *with their knowledge*, is sufficient to render them powerless. I know a young lady of Syracuse, who is so susceptible, that if any one converses upon the subject of mesmerism in her presence, she will become rigid and unable to move; the consequence is, that the family are obliged to abstain from mentioning the subject in her presence. In this case, I have no doubt that the power that paralyzes her is within her own brain, though the conversation of others may call it into action. It is my opinion that any organ of the brain may paralyze the whole system under some circumstances: fear often does this, and so does joy and sorrow. Subjects are often extremely fanciful, capricious and unmanageable, in consequence of the self-inducting power of their own organs foiling the attempts of the operator to influence them. Such subjects are apt to acquire eccentricities and apparently unaccountable peculiarities in relation to their susceptibility. The explanation of their cases may be found in the idle and foolish notions which they have imbibed. I know a lady in Cooperstown, for instance, who becomes instantly paralyzed if any one inducts or attempts to induct her for a moment, and nothing will relieve her but touching a certain part of her head. Her sister, whom she has much reason to love, fills her with horror if she approaches her. The medical gentleman, whose patient she is, was greatly puzzled with these things until I explained to him the nature of Credenciveness, and showed him by a variety of experiments that the brain of the subject manufactured all the difficulty, on the princiciple of insane Credenciveness, and that no other subject would present a case perfectly parallel unless there was an opportunity afforded for a communication or imitation of symptoms. It is not unusual for a whole community to be inducted by imitation and Credencive Induction, so as to be subject to delusions, panics and diseases; and the most ex-

traordinary physical and moral effects are produced through the agency of the *physical* organs of Imitativeness and Credenciveness. A full and sufficient explanation of the causes of the Salem-Witchcraft delusion is furnished by applying these principles.

2. MANIFESTATIONS OF UNCOMMON STRENGTH.

The inducted subject sometimes manifests a degree of strength, which he cannot possibly manifest in his normal state. The explanation is, that the currents of Etherium from the brain of the operator unite their power with those of the subject, and both brains are actually moving one set of muscles through one set of nerves; there is increased *intensity*, analogous to that produced in the galvanic battery by increasing the number of plates, so that those muscles can manifest a corresponding strength. Insane persons sometimes manifest a most wonderful amount of personal strength in consequence of great excitement of the brain; but in their cases, the excitement is succeeeded by a reaction, accompanied with uncommon prostration and weakness. Not so the externally inducted subject, he often makes the most powerful efforts, and being thoroughly replenished and sustained by the operator, awakes without any sense of fatigue or exhaustion. I have observed, on such occasions, that the operator is exhausted though the subject is not; owing, as I suppose, to the drain which the subject makes upon the operator. Sometimes the subject complains of exhaustion, but this is because he is not supplied and sustained by the operator, but by his own organs, and they begin to feel the effect of his exertions; or the uneasiness of the subject may be from sympathy with an exhausted operator. The correctness of this reasoning is confirmed by the fact, that, when a subject is put to sleep and aroused again after a reasonable time, without being made to exert himself while asleep, he almost always awakes re-

freshed and with a feeling similar to that experienced on awakening from a common sleep.

3. CONFERRING EXTRAORDINARY POWER UPON WATER, MEDICINE, FOOD, &C.

The only way in which food, medicine, or anything else has any effect upon organized beings is by evolving motions of Etherium, which act upon the organs. The reason why different articles of food or medicine have different effects upon our organs is, because they evolve different etherean motions—that this is so, can easily be shown by experiment. Take a highly susceptible subject, one who is capable of Sympathy and Clairvoyance, and take any article of medicine, put it into a glass vessel carefully corked and hold it in your hand, or let the subject hold it, and the medicine will have precisely the same effect as if the subject swallowed it in the ordinary way. It seems to me impossible to explain this, except on the principle, that the medicine evolves motions of Etherium in a peculiar manner, which communicates with the organs of the subject and affects them, although the glass intervened. This can be done upon some subjects, even if the operator does not know what medicine is in the phial. Again; the operator can produce, by his *will* alone, the same effects which are produced by any medicine; this fact proves that the will and the medicine have one power in common. What can it be but the power of giving peculiar motions to the Etherium? Again; the operator can do the same without either medicine or will, but merely by *assertion*. I can produce a hundred subjects in the valley of the Hudson River, including some of the most respectable persons in this State, who will make oath that ice burns their fingers when I *assert* that "*it is hot*" —and they will do this when perfectly awake, and apparently in possession of all their faculties—being rational on every other subject but this.

I can give the subject in this condition a glass of water and *assert* that it is brandy, and it produces the same effects upon his taste and feelings as if it really were brandy. This will happen, even if I *will* that it shall have no effect at all. These are facts which cannot be denied, nor even doubted. The number and character of the subjects render this impossible. I can do this to one person in twenty throughout the United States, and can teach any one else to do it. The facts must therefore be disposed of in some other way than by denying them. I have already explained them by showing that an *assertion* excites one of the largest organs of the brain, and with the aid of Induction this one produces a peculiar kind of monomania, in which the same motions are produced and imitated in the brain by the *Credencive imagination*, which are ordinarily produced by the brandy or the fire.

Since all sensations are immediately produced by motions of Etherium in the nerves and brain, any means which can cause those motions can produce corresponding sensations. An assertion produces motions in Credenciveness, and Credenciveness modifies and communicates them to all the other organs as far as is requisite to cause the result asserted. In short, the whole brain becomes the slave of Credenciveness, and Credenciveness is the slave of an assertion. In these Credencive experiments it should be understood that the motions of Etherium do not emanate from the substance—medicine, water, &c.,—but from the deranged organs of the subject himself. He is in the same condition as many insane persons who live for years in the belief that their own limbs are glass, or that they themselves are birds, or plants, or monarchs, or departed spirits.

4. DISCOVERING THE DISEASES OF PATIENTS, OR OF THEMSELVES, AND PRESCRIBING MODES OF CURE.

Subjects can often discover the diseases, injuries, or pains

of persons with whom they are in communication on the principle of *Sympathy*, which I have explained, or on the principle of *Clairvoyance*, or on both combined. By Sympathy, they know the *feelings* and *motions* which the patient experiences at the time when they are in communication. By Clairvoyance, they know the *appearance* of the injured parts; and from these data they sometimes are able to prescribe medical treatment which is well calculated to effect a cure. Medicine, as I have already had occasion to explain, produces its effects by modifying the motions of Etherium in the organs of the patient. There are doubtless hundreds of substances which possess the most powerful medical virtues, though they are not known to scientific men; for we have had no means of learning the qualities of medicines except by accidental observations and by experiments.

It is not unlikely that the clairvoyant subject perceives operations in diseased organs and virtues in medical substances, which to one in the normal state are imperceptible. Perhaps the reasoning powers of the subject, as well as his other powers, sometimes become morbidly active, and enable him to judge and predict, with a degree of correctness which seems almost miraculous, the result of disease or the effect of medicine. I have thus admitted fully on this point the just claims of operators as far as regards the philosophical principles involved, and I refer to Sympathy and Clairvoyance for their explanation; but I must now confess, that although true in principle, Clairvoyance is uncertain in practice.

It is a fact that experiments in Clairvoyance are, in a majority of attempts, entire failures. It is a fact that experiments in Sympathy are successful much oftener than those in Clairvoyance. Yet it is also a fact that the clairvoyant subject is sometimes so perfectly correct, and under such circumstances, as to entirely exclude the possibility of deception, collusion, or mistake. This has been the great

stumbling block of skeptics. Having perhaps heard or read of some astonishing feat of Clairvoyance, they protest that it is impossible, and accuse the narrator of falsehood or weakness; and, when challenged to witness the experiment for themselves, they accept promptly the invitation. Preparations are made, expectations are raised, a triumph is anticipated, when, alas! the experiment fails. The operator cannot tell why; accuses the weather, the presence of skeptics, the noise in the room, his own want of health or concentration; offers to try it again, and then proceeds to give the most wonderful accounts of feats which he *has* performed on *other* occasions; so he declares upon his honor. During all this time the skeptics, too polite perhaps to express their sentiments verbally, answer with "Oh!" "Indeed!" and shrugs and looks of suppressed contempt; and finally, take their leave fully confirmed in their skepticism, and afterwards refuse to listen candidly or look fairly upon the subject.

Do you ask me why there need be so many failures? why, if Clairvoyance succeeded yesterday, it should fail today? I answer frankly, that I do not know; I know the fact only, and I say that a thousand failures do not disprove one instance of success.

The wonder to me is, not that there should be failures, but that there should ever be success. When I reflect that every successful experiment in Clairvoyance is a triumph over the laws of the constitution, and that creative wisdom has been displayed in preventing the success of such operations, I am by no means astonished that success is an exception and failure the general result. I am rather astonished that a single phenomenon of this character can be produced at all; and were it not that I am forced to yield to irresistible evidence, I should be disposed to deny the truth of Clairvoyance altogether; and, indeed, of all other Etheropathic phenomena.

All the different kinds of experiments are more successful at one time than another, though performed upon the same subject, without our being able to assign any sufficient reason. But when we reflect that the electric and magnetic states of the atmosphere are continually varying, without our being able to assign the reasons, we ought not to be surprised that similar variations are found in Etheropathy.

I advise no one to *rely* upon clairvoyant subjects in cases of disease, but I would respectfully recommend to physicians to weigh their testimony candidly and give it all the attention which it really deserves. Let it be borne in mind, that though sometimes astonishingly correct, they are oftener insanely romantic.

5. READING THE CHARACTERS OF THOSE WITH WHOM THE SUBJECT IS IN COMMUNICATION.

This is but a species of clairvoyant sympathy, for if the motions of the operator or any one else in communication are made to affect the subject, and he is conscious of the affection, he can, of course, judge of its character. A subject who is ignorant of phrenology will sometimes examine the head of a person and tell the character with tolerable accuracy. I take it that this is done by the subject being slightly affected by each organ, and that he judges of the relative influence of the mental powers by their relative effect upon himself at the time of his sympathetic communication.

Subjects can sometimes read the character and disease of a person by merely feeling of a handkerchief, or a lock of hair which belonged to that person. Such subjects are rare, but they are sometimes found. This seems incredible, and, when admitted to be true, is exceedingly wonderful; but our wonder is doubtless principally caused by the novelty, rather, than the impossibility of the thing, for is it not equally incomprehensible that a dog can tell by putting his

nose within a few inches of a stone upon which twenty persons and animals of different kinds have trodden, and if his master, or a fox, or any favorite game has for an instant been standing upon the stone, the dog perceives it as he runs rapidly along over the stone. How can we explain this but by saying that there is an emanation of some kind from the animal which impregnated the stone.

I once tried an experiment with a kitten about three months old, which I was certain had never seen a mouse. I brought a covered tub into the room, in which was a mouse, intending to let it out and see whether the kitten would catch it; but before I opened the the tub the kitten gave the strongest evidences that she already knew its inhabitant. She evidently perceived it without sight or hearing, through the covered tub. Was this not reading character in a manner quite as wonderful as that of the Clairvoyant subject? If you say that she smelt it, I might ask how by that means she knew that it was her natural prey?

Take a carrier pigeon a thousand miles blindfolded, by a circuitous route, and it will return by the most direct line that can be drawn. Did the pigeon smell home? How then, if not by smell, does the bird *know* the way home? I have seen a company of about twelve persons, nearly all strangers to each other and to the subject, take their handkerchiefs and mix them together in a box and then present it to the blindfolded subject, who took the handkerchiefs all out, and as each owner presented his hand, the subject selected and returned his property. I have seen the same subject tell correctly by feeling the hands of persons whether they were of the same family. I have seen a ring handed to a subject, and the owner of the ring, who lived at a distance, described—the sex, health, residence and state of mind, and many other circumstances, with great accuracy, in most particulars; though I never saw an instance in which there were *no* mistakes made in the description, if many

questions were asked. I can understand as well how a Clairvoyant subject can tell the character of the person by the emanations from the handkerchief, as I can how the dog can tell the character by a footstep, or a pigeon his home without even one sign or circumstance to afford a hint in any way that we know of.

There are several ways in which the subject may get his information; one is by sympathy with the person or persons present, who have in their own minds a knowledge of the person inquired about. Another way is by emanations from the ring or handkerchief. The ring being inducted by the Etherium of the owner, partially retains and communicates the motions which it has received, just as a magnet does, or a scented handkerchief. Another way is by Clairvoyance: the ring, if it has continued to emanate motions of Etherium all the way from the place where the owner resides to the residence of the subject, has made a *path* which may aid the Clairvoyant subject in finding him, and establishing a communication with him so as to perceive his condition: just as *we look* around for any desired object, and when we at length discern it, we have established a communication by means of *light* with the object. It is in reality no more wonderful that the subject in his peculiar inducted condition, should perceive a hundred miles by Etherium through opaque intervening bodies, than it is that we can perceive by means of light in the way we can through water, air, glass, &c. *The difference is in the novelty of the method rather than the magnitude of the performance.*

The difficulty of conceiving such minute operations as those of the motions of Etherium in a ring, which can be communicated to a subject, and followed a hundred miles to connect with the owner—this difficulty is not greater than that of conceiving how eight millions of conscious beings can live and move in a space smaller than a mustard seed, or how the force of gravity can be propagated fifty

millions of times faster than light. The minute is doubtless as infinite as the grand; and we commit as great an error by limiting nature to our capacities, as a microscopic insect would, who should suppose that the north side of the grain of earth on which he lives is the paradise and most important part of the universe.

It is with us as it is with the insect,—what seem to be the limits of nature are in truth but the limits of our own powers. The chain of causes and effects is infinite in length, but with our limited powers we can only perceive a few intermediate links. Both extremities of this chain are mysteriously continued far beyond the limits of human conception. Human knowledge in its greatest extent is necessarily cut short at both extremities. In all human reasoning we are forced, through ignorance and weakness, to begin by *assuming* first links or principles, and conclude by again confessing that we are at our wit's end. What we call *first principles* are merely the first links that we can *perceive;* and what we call *a conclusion*, is merely the last link which we can trace. All human knowledge begins and ends in ignorance.

DISCOVERIES IN PHRENOLOGY AND PHYSIOLOGY BY MEANS OF ETHEROPATHY.

In the year 1837, I became acquainted with the late lamented Mr. Wing Russell of Syracuse, N. Y., who then resided in Buffalo; I was at that time an unbeliever in mesmerism, and supposed that all who were engaged in experiments of this kind were unprincipled and dishonest men; I therefore refused to witness any of their performances. But when I saw Mr. Russell, with his beautiful development of the moral and intellectual organs, I was forced to confess that phrenology was at fault if such a man was capable of so gross a deception. I requested an introduction, and told him frankly my opinion. He replied, with benevolent mildness, that he did not blame me for my

skepticism, as in my case he had no doubt it was owing to my want of an opportunity to learn the truth, and that he would willingly show me some experiments. He accordingly operated in my presence, upon a young woman named Catherine, in such a manner as to produce entire conviction in my mind.

I was at that time deeply engaged in the study of phrenology, and was preparing for the press a work upon the subject, containing many novel views. Catherine was Clairvoyant, and I determined to try an experiment which I thought would be a fair test of the truth of mesmerism, and might posssibly lead to some important discovery. There were many queries in my mind relative to the functions of certain parts of the brain, and it occurred to me that if she really could perceive, as she pretended that she could, perhaps I might learn something from her.

One day when she was inducted so as to be in the Clairvoyant condition, I asked her to tell me the appearance of the brain. She was put into communication with Mr. John T. Hogoboom, who now resides in Nassau, Rensselaer county, N. Y., and she described his brain with most anatomical precision. The function of the *corpus callosum* being unknown to physiologists, I thought I would ask her if she could *perceive* what office it performed. After minutely describing the anterior, middle and posterior commissures of the brain, and telling me that they were to connect the two hemispheres together so as to make them act as one, she said that the office of the collosum was different—that it did not connect the two halves, but if one half acquired more fluid than another, that the use of the callosum was to conduct the fluid across from one side of the brain to the other, in order to produce equilibrium. The moment she mentioned the fluid I interrupted her and asked her what *fluid* she meant, she answered "*this*" holding out her fingers, and moving them as if she perceived something emanating from them "this is it," don't you see

it? I then asked her concerning the location and the uses of several new Phreno-organs, which I supposed that I had discovered, and to my surprise she answered me without the least hesitation, and confirmed all my previous opinions, not even excepting those opinions which I had never mentioned to any one, and which she could only have known by Clairvoyance. I was at the time in much doubt whether she really perceived the brain, and could see it operate and know the functions and forms of its different parts, or whether she acquired her ideas from sympathy with my own mind.

I wrote down, soon after, a memorandum of the whole affair in a book, which I lost a few weeks since in my travels; and which, I will thank the finder to return to me at my residence in Lansingburgh. As far as I know, this was the first attempt to learn the functions of the brain by means of mesmerism or Etheropathy; and notwithstanding all the boasting of the pathetisers and neurologisers, I still think that this method is the only one which will be found of any real use. I mean, that *Clairvoyance* is the only instrumentality by which we may hope to make discoveries through the agency of inducted subjects. But I must confess, that even this method is exceedingly discouraging, since I find that in those cases where I have had an opportunity to know whether the subject was right or wrong in his pretensions to Clairvoyance, the actual result has been, that he was wrong more than half of the time. They are correct in examining the diseases of patients much oftener than in any other kind of Clairvoyance; but in this they are perhaps aided in a considerable degree by sympathy. It may be, that there is something in the nature of the human body which is congenial to the Etherium of another human organization, and this may render it easier to establish a communication with them, so as to produce Sympathetic Clairvoyance than any other kind. On this

subject there is much need of carefully observed and connected facts; but it is unfortunate that most of those who are engaged in making experiments, are such visionary and credulous persons, that they lead us to error oftener than to truth. I shall never complain that people are skeptical on this subject so long as they do not refuse obstinately to examine it. Let us continue to observe, to examine, to theorise, to criticise, and skepticize, and turn, and overturn, until the truth, whose right it is, shall reign.

In January, 1841, I gave several lectures in Albany, which, by permission of the legislature, were delivered in the capitol. At the close of one of these lectures, the Rev. Mr. J. M. Garfield came to me and stated that he had discovered that he could excite any organ of a mesmerized subject by merely putting his finger upon it; and when I expressed a doubt of it, he invited me to visit him and witness the experiment for myself; I thanked him, and promised to do so at the first convenient opportunity. Before I found time to call, the same experiments were announced, as performed by the Rev. La Roy Sunderland, and also by Dr. J. R. Buchanan. Several others claimed priority in this *great* discovery, both in Europe and in this country. There is no evidence that Sunderland nor Buchannan made their experiments before the spring of 1841; whereas, Mr Garfield made his known to me in the previous winter, so that if there is any honor in the priority, it belongs of right to Mr. Garfield: in justice to this gentleman, I will however state, that he claims no credit and seeks no notoriety in connection with the subject.

So much did the announcement of these discoveries excite interest, that a journal was started in this country, called "*the Magnet;*"—and another in England, called "*the Phreno-Magnet*"—and both are, I believe, still continued—the principal object of which was to advocate and disseminate the "New Wonders."

Public attention was, however, directed to this subject more especially by the operations of Dr. Buchanan, as reported by himself, and those who acted as committees appointed by audiences to examine and scrutinize his experiments in New-York, Albany and Boston. Dr. Buchanan came with letters of introduction from gentlemen of high standing to some of the first citizens of this region, and as he professed to have made very great discoveries in science, he was received cordially, and his subject taken in hand by gentlemen of such character as to command the confidence of the public. These gentlemen published long and detailed reports which sanctioned all or nearly all that Dr. Buchanan had advanced. The committees professed to merely report the facts which they knew and the experiments which they had witnessed, without expressing any opinion concerning them ; but the tenor and complimentary style of the reports, was such as to amount to an official endorsement of the whole concern. The editor of the Democratic Review, the editor of the New-York Evening Post, Dr. Forry, Rev. Mr. Pierpont, and others of the same high character, publicly expressed their conviction of the general truth of Dr. Buchanan's doctrines ; and hundreds of others were and indeed are still of the opinion, that being founded upon experiment they could not be erroneous. What greatly added to their confidence, was the fact that they could repeat the experiments themselves, and with the most perfect success. How, then, could they be mistaken, when they were themselves the operators and the subjects were their most devoted friends? Yet there is, in my mind, no doubt that the whole doctrine is a most egregious tissue of moonshine.

The subjects being under a peculiar delusion, deceived themselves and their operators, and both combined to deceive the public, though neither intended to do so. If an insane man were to assert that he possessed the power

to work miracles and pretended to actually perform them, I should not accuse him of *wilful* deception, though I would say that he deceived himself; and if a number of intelligent and respectable sane men, should affirm that they were satisfied of the reality of his performances and should so report to the public, I should be unwilling to accuse them of fraudulent intentions, but I would certainly consider their report as discreditable to their intellectual characters and as calculated to do mischief by deceiving and misleading the credulous portion of the community.

In the case of Dr. Buchanan and the reports of his committees, the mischief is the greater from the fact that they tend to destroy confidence in the science of phrenology. He professed to produce an entire revolution in this science —to add thousands of new organs—to change in a moment the location of organs which had already been established by years of patient observation. Some idea can be formed of the extent to which this mischievous delusion proceeded, from the fact that Mr. Fowler in a new edition of his work on phrenology introduced a long catalogue of new organs, which he pretends to have discovered by this means ; and, furthermore, he professes to have *verified* them by observation and examination of crania !

Mr. Fowler has made such an immense number of examinations of heads and is supposed by the multitude to understand the subject of phrenology so well, that it was thought he must certainly be capable of judging whether Dr. Buchanan or Sunderland was right or not ; and, therefore, when he declares that he has tested the experiments fully, made important discoveries by means of them, and then proved and verified the discoveries by observing the developments of the head, he gives his highest testimony in favor of their truth, pledges his own professional character for skill and accuracy, and must stand or fall by the result. But in the mean time, the public who have relied

upon him are misled by his unfounded assertions; and the new organs which he has endorsed have vanished to the land of dreams from whence they originated. I can sincerely pity Mr. Fowler, for having, by his imprudent zeal and unintellectual ambition, placed himself in such an awkward predicament; but still it is my duty to apply the critical knife to the ugly excrescences which under the name of "newly discovered organs" he has attempted to engraft upon the beautiful tree of phrenology.

Let it not be supposed that I am attempting to render the gentleman's scientific pretensions more ridiculous than is necessary to the development of truth—I hope that I am incapable of such injustice—I will, therefore, quote his own language, and let my reader judge whether it is possible by any comment of mine to make such ideas appear more contemptible. He says,—

"No sooner had an application of Animal Magnetism been made to Phrenology, than I eagerly embraced it, not only to test the truth of magnetism in regard to the organs that were fully established, but also, when satisfied on this point, to see which of the doubtful organs stood being tested by magnetism, as well as whether new ones could be discovered. Accordingly, the Rev. La Roy Sunderland, Dr. Sherwood and myself, instituted a series of Phreno-Magnetic experiments, a summary of that portion of the results which relates to *Phrenology* is given.

"Nothing has ever interested me more than these experiments, and I felt that I could not put another edition of this work to press, though it was stereotyped, without giving at least a *summary* of them. I will just add, that I have examined hundreds, probably thousands, of heads, since these discoveries were made, with the view of seeing whether examinations made by means of them, coincided with the characters, and I find they *do* without the least perceptible variation. These results, then, are:

"1. Each of the internal organs, such as the heart, lungs, stomach, liver, &c. &c., has an organ in the head, which is large, small, healthy, or disordered, &c., according to the condition of *the organ*

in the body. These organs are situated *behind the ears.* Their precise position, however, I have not so fully ascertained as is desirable.

"2. All, or nearly all, the old organs, are found to be a *group,* or *family* of organs; each analogous to the old one, but differing from each other in their *shades* of function. Thus, Combativeness is found to be divided into *Physical Courage, Dissatisfaction* and *Resistance,* or a *contrary* spirit; Philoprogenitiveness, into Parental-Love, Filial-Love, and Love of Pets; and so of most of the other organs.

"3. The location and function of all the old, or established organs are fully confirmed, not a single variation of importance in either having been observed. This will certainly prove highly gratifying to every lover of Phrenology, and does immortal credit to the minuteness and extent of the observations of its founders, Gall and Spurzheim.

"4. These experiments have revealed the *cause* and *instruments,* as well as the '*modus operandi*' of *Physiognomy,* and show *how* it is that the activity of each organ imparts its peculiar expression to the face. Men have long known that all the passions, such as anger, love, cunning, pride, decision, kindness, piety, fear, reflection, &c., were expressed in the countenance; but no one has ever discovered the *rationale* of this, or shown *how* it was done. As all effects have their legitimate causes, and also their means, through the instrumentality of which they are effected, these expressions must have both their *causes* and *instruments of expression.* These, we think, we have discovered. It appears, that every organ of the body and brain, has a certain *magnetic connection* with the face, or a place there for its indication. For the want of a better name, we will call these places and connections, the *poles* of the organs. Hence, when the organ is affected, that portion of the face is drawn so as to cause the face to express the feeling or sentiment of the organ excited. This connection existing between the organ and the pole, (for that is the term given to the *termination* of this connection, while the term *conductor* is applied to the *channel* by which this influence passes from the organ to the face,) is the same as that between the head and the hand, or any other part of the body,

by which the limbs, muscles, &c., involuntarily obey the command, and fulfil the desires of the mind and will. Thus, the poles of Self-Esteem are between the mouth and nose, about an inch and a quarter apart, and about an inch below the outer portion of the nose. Hence its action produces that curl of the upper lip which expresses scorn, contempt, pride and self-sufficiency.

"The poles of Firmness are about half an inch apart, near the edge of the upper lip, and in the hollow between the nose and mouth. Hence, its action produces that *compression* of the upper lip which is said to indicate *decision* of character; and hence, encouraging another to be firm, is expressed by the saying, 'Now keep a *stiff upper lip.*' The expression, 'That man carries a stiff upper lip,' is also in harmony with this supposed discovery.

"The poles of the reasoning organs are just below the edge of the lower lip, and those of the moral organs, still farther down, between the lower lip and chin.

"This harmonizes perfectly with the physiognomy of all great reasoners; for, their *under lip* will be found to *project* and *turn under*, as it were, towards the teeth. Reasoners generally handle their under lip much, and whenever we *think* deeply, we *naturally* bite, or finger, or draw, or stick out the *under* lip. The coincidence between this discovery, or rather, between the position of these poles and that part of the face by which the functions of their organs are manifested, is most happy and striking; and it will soon lead to a *correct* system of Physiognomy.

"This brings us to the second point of interest connected with this portion of our subject, namely, that the *poles* of the organs are *grouped in the face*, much as the organs themselves are grouped in the *head;* that is, the poles of those organs that are most likely to aid and accompany one another, are located near each other. Thus, it is a leading principle in Phrenology, that the moral and reasoning faculties should co-operate in directing and governing the actions of all the other faculties, and in controlling nearly all the doings of life; and, in accordance with this principle, the poles of these organs are near neighbors, just as are the organs themselves.

"This same principle of polarity, applies equally to all the organs of the body. Thus, the poles of the heart are in the chin, by exciting which the heart labors, and is raised to so violent a state of action as to *prevent* the circulation of the blood, and to all appear-

ance, would cause death in a few seconds. The poles of the lungs are in each cheek—just where the hectic flush appears in consumption. Hence, the inflammation of the lungs excites these poles, producing that rosy redness of the cheeks which indicates and accompanies lung-fever. In the name of philosophy, I ask, if this coincidence, does not indicate truth, and is not in harmony with nature? And, beyond a doubt, this discovery, if founded in truth, will soon be employed in the cure of consumptive complaints, lung fevers, asthma, &c. The poles of the stomach are found to join Alimentiveness on its inner side. This shows *how* it is, that the excitement of the stomach by hunger, disease, &c., excites Alimentiveness, and through it Combativeness, Destructiveness, &c. &c. In other words, it shows *why* hunger produces a desire to *eat*, rather than to worship, or be kind—*why* the morbid and inflamed condition of the stomach, brought on by over-eating, (a disease called dyspepsy, liver-complaint, &c.,) produces a craving, insatiable appetite; the inflammation of the stomach being felt at the poles adjoining Alimentiveness, and thereby exciting the organ and creating a desire for food; and also *why* and *how* hunger produces irritability, ill-temper, &c., rather than kindness, or penitence, &c.; these poles of the stomach being close by Combativeness and Destructiveness, which partake of the excitement of the stomach through these poles. All the other organs of the body are found to have their poles in the face, and in all probability, when dormant can be excited and cooled off when inflamed, merely by magnetising their poles, or by putting them to sleep."

In my "New System of Phrenology," published in 1839, I introduced three new organs, viz.: *Pneumativeness*, *Sanativeness* and *Flavor* or *Chemicality*. These discoveries were at that time neglected, or unmercifully and contemptuously scouted, by Combe, Fowler, Caldwell, Buchanan and nearly all the leading phrenologists; but it seems that when they found that the organs could be made to "speak for themselves" by being excited by "touching," they spoke in favor of those very organs which I had previously announced. Buchanan and Sunderland found an organ of extreme "physical sensibility" exactly where I locate the organ of Sana-

tiveness, which feels *pain!* Fowler, Buchanan and Sunderland found the "pole of the lungs" precisely where I had located the organ of Pneumativeness—the propensity to breathe—which produces *suffocation!* They also found the organs of taste and smell near where I located the organ of Flavor or Chemicality, which in my work I had defined to be "the perception of those chemical qualities of bodies which affect the senses of taste and smell!" The reader may perhaps suppose that these great discoverers, when they found that they had previously done me injustice, were prompt in acknowledgements and loud in their proclamations of my priority and correctness: my dear reader, let me assure you that on the contrary they have forgotten, or never knew, that such a work as that of mine was ever published; and in this convenient state of forgetfulness they have come out and claimed the discovery of these *same* organs, which several years before I had announced in my work, and which had been made a matter of discussion in Albany, New-York, London and Paris—which Caldwell (Buchanan's preceptor) had criticised in Fowler's Journal, at Fowler's request.

But it will be asked how it came to pass that these gentlemen by their experiments confirmed my observations, if all their experiments are based on moonshine. How happened my observations to harmonize with their experiments? I answer by referring you to the explanations which I have already made of the principles of Sympathy, Will, Clairvoyance and Credencive induction. The operators, though unwilling to acknowledge it, were satisfied that I was right in regard to the organs which I had announced in my work. And, therefore, when they tried to *excite* them upon a very susceptible subject, (one who was probably Clairvoyant,) they succeeded of course, and then instead of acknowledging their tardiness to do me justice, they claimed to have made the discovery themselves.

But in reality the experiments do not confirm these organs; their claim is based upon observation of external development and Phrenological harmony. The experiments would have confirmed any other organ, or any doctrine however absurd or visionary, as the records of their pretended discoveries abundantly prove.

In regard to the poles of the stomach, and the magnetic connection of Alimentiveness with the stomach, &c., of which Fowler is so proud, I beg leave to refer you to my work on Phrenology, p. 162, in which in 1839 I announced this same doctrine in my explanation of the internal senses. The following is the language I then used:—

"These are the nerves that convey impressions from the internal bodily organs, to their appropriate propensities in the brain. Thus Pneumativeness, Alimentiveness and Sanativeness, of the Ipseals; and Amativeness and Parentiveness, of the Socials, are each capable of being excited to the highest degree, when the bodily organs to which they are severally related, are in want of their peculiar enjoyments. The secretion of milk in the breast, irritates certain nerves which convey the impressions to Parentiveness and rouse it to action. The secretion of the gastric juice, irritates certain nerves of the stomach which convey impressions to Alimentiveness; in the same manner every organ when irritated in a peculiar manner, communicates an impression to the brain by means of some nerve, and rouses the appropriate propensity, to relieve disagreeable sensations, or to continue agreeable ones. The nerves of the internal senses are so concealed from observation, that the most skillful anatomist cannot trace them with certainty; this accounts for the fact, that so very few, besides professional men, are acquainted even with the existence of such senses."

If Mr. Fowler had merely stated that he had repeated the experiments of Sunderland and Buchanan, and had obtained

the same results, he would have deserved no more censure than the other endorsers of these monstrous absurdities ; but when he declares that he has by *the examination of crania confirmed* them, and *thus* established their truth, he takes upon himself a responsibility from which I fear that nothing but charity can relieve him.

I regret the necessity of these remarks, but I owe a duty to the public which I am determined to discharge, and which will not permit me to pass in silence and indifference the false lights which are calculated to lead them so far astray.

SECTION XIII.

NEUROLOGY.

The notions of Dr. Buchanan have received the sanction of Dr. Charles Caldwell of Kentucky, one of the most distinguished phrenologists in the world, and one who ought to have been the first to perceive and expose their fallacy. He lends the influence of his venerable name to give popularity to this new "Neurology"—a granite pillar to sustain a bubble. This is to me more astonishing than any of the new discoveries. The following extracts from a letter of Dr. Caldwell to the Editor of the Edinburgh Phrenological Journal defines his position:

"Louisville, April 5, 1842.

"My Dear Sir:—The paper from the pen of Dr. Buchanan, which this letter accompanies, is transmitted to you in the belief that it will so far experience from you a favorable reception, as to be admitted to a place in the Phrenological Journal which you so ably conduct.

"If I mistake not its character, the paper contains in itself an amount of curious, interesting and important matter, abundantly sufficient to serve as its ready and welcome passport into any phrenological depository of the day.

"In behalf of its solidity and merit, however, permit me to observe, that I have myself witnessed experimental verifications of no inconsiderable number of the striking positions and allegations which it contains. I have also performed in person a sufficient number of them to serve me as an earnest of the truth of many others.

"This is true, more especially, as regards the Mesmeric excitement of the separate organs of the brain, and the calling forth, in an augmented degree, of their natural language and action.

"I apply to the excitement the term "Mesmeric," because the mode of its production is analagous to, and its ruling principle no doubt identical with those of the production of common Mesmeric phenomena. The following experiments I have repeatedly performed, since my last return from Europe, without encountering a single failure.

"Having thrown my subject into a complete Mesmeric condition, I have so excited the organs of Combativeness and Destructiveness, even in ladies of delicacy and refinement, whose natural feelings toward myself were friendly and kind, as to induce them to give me blows, as severe as they could inflict. I have then excited their Benevolence, willing into their presence some object of distress, and drawn from them an abundant effusion of tears—their Veneration, and they have become immediately devout, reverential and adoring—their Hope, and their thoughts have become buoyant, elastic and brilliant, and all their anticipations a foretaste of felicity to be afterwards enjoyed by them—their Cautiousness, and they have sunk into victims of apprehension and gloom—their Self-Esteem, and so swollen was their pride, that they would hardly have submitted to the companionship of an Empress—their Mirthfulness, and their thoughts were cheering, sprightly and playful, and all their fancies bright and mirth-born—their Number, and their instinct of Calculation would become insatiable. A lady, in that condition, counted several generations of canary birds which she had reared, all the buttons on my coat and waistcoat, and on being willed into my drawing room, all the chairs, tables and pictures contained in the apartment. I next excited her Order, whose development was large, and in that state, willing her into my study, she gave me an earnest rebuke on account of the disorder and confusion which prevailed in it, and was quite exceptionable to her.

"Thus have I, on several occasions, run through a majority of the larger and more powerful cerebral organs, rousing them to strong action and expression, and in this way settled, in my own opinion much more definitely and in-

dubitably, their positive locality, than can be effected by any other mode of proceeding with which I am acquainted.

* * * * * *

"Among the experiments of Dr. Buchanan, which I witnessed, a very interesting and important one consisted in his augmentation or diminution at pleasure of muscular strength in any given part of the body. In the case of a youth, convalescent from severe disease, the Doctor, in the presence of several persons, I being one of them, first augmented and then diminished the strength of the arms, in a degree that was obvious and even striking to the spectators. I have also been a witness, when he has, by a similar process, changed very materially the condition of the digestive organs."

It seems that Dr. Elliotson of London has admitted the truth of Dr. Buchanan's head-touching doctrines: and so, indeed, have many other distinguished Phrenologists and Physicians of Great Britain. The reader must therefore acknowledge that however absurd and ridiculous may be the doctrines which have been advanced by Dr. Buchanan and others of the same faith, the high character of the persons who have endorsed them give them a claim to a serious and formal notice and refutation.

However much they may deserve ridicule, and however naturally they may excite our contempt, this alone will never dislodge them from the public mind as long as they are defended by such renowned and respectable champions. The great majority, even of educated persons, do not take the trouble to examine such matters for themselves. They presume that those whose peculiar vocation it is, will examine and report correctly upon any question which especially concerns their profession; and if some commit important errors it is, expected that others will oppose them, not with ridicule and sarcasm merely, but also with experiment, fact and argument.*

* In England, the credit of having discovered the head-touching princ iples, is supposed to belong not to Dr. Buchanan nor to Mr. Sunderland, but to Mr. Spencer T. Hall, an English gentleman.

The discoveries of Dr. Buchanan and all his pretensions depend upon the proposition, that *by touching a definite spot on the head we can learn the function of that portion of the brain which is immediately beneath the spot touched.*

This is his "mode of operation" as it has been "displayed publicly" both by himself and his disciples. By this simple process he claims to have made discoveries of such magnitude and importance as to overshadow all the discoveries of all other men since the flood. But I shall be suspected of misrepresenting him; let me therefore give his own language extracted from "Sketches of Buchanan's discoveries in Neurology," published by himself. In the introduction it is said that—"The following sketches will, it is hoped, give a just conception of its character and importance."

He then proceeds to give an account which of itself is sufficient to show that he is better fitted by nature for a poet than a philosopher, and calculated to excel in works of fiction, rather than of fact and experiment. Nothing can exceed the extravagant and bombastic style in which he announces his discoveries. It reminds us of an oriental proclamation, in which notice is given to the whole world that the Emperor is eating his dinner, and that when he has finished, all the other great ones of the earth may eat theirs. He very coolly takes his place at the head of the immortal band of sages and philosophers that the world has produced, and proclaims himself far in advance of them all. At a single leap he reaches the very summit of the temple of fame, claims a whole box to himself, and with enviable self-complacency remarks that being "placed in so authoritative position awakens many peculiar emotions."

It may seem cruel, but I am really under the disagreeable necessity of informing the gentleman that he has "got into the wrong box." I expect that he will object and refer me to his committees' reports—to Dr. Caldwell, Dr. Elliotson,

Dr. Dodds, Dr. Forry, Rev. Mr. Pierpont, Mr. Bryant, Mr. O'Sullivan and a host of other persons of equal rank, who have endorsed his ticket, and consented to allow him to take some "shorter road to the arcana of cerebral physiology."

But I would most respectfully inform all those gentlemen that no man can be permitted to occupy such "an authoritative position," who avoids, as Dr. Buchanan says he does (to use his own words) "*the labor of theorizing observation, induction and philosophical combination.*"

The book of Dr. Buchanan to which I have referred, contains the following interesting extracts, upon which I shall take the liberty to make a few comments.

Sketches of Buchanan's Discoveries.

"For some months past I have been engaged, during the intervals of professional engagements, in an experimental investigation of the functions of the brain, in which I have been so singularly fortunate, that in the course of a single month, I have been able to ascertain more of its true physiology than has heretofore been acquired by all the labors of all the Physiologists and Pathologists who have ever been engaged in observing and making experiments to ascertain the nature and locality of its various functions."

This can only be met by a direct contradiction.

I have been engaged for many years in the investigation of Phreno-physiology, with a view to improve and perfect the science. And I have thoroughly examined the pretensions of Dr. B.; and I assure the public that he has not added a single item to our knowledge.

"While the ink is yet wet, with which I record this sentence, I cannot repress the feeling of strangeness with which I view so comprehensive an assertion, when placed in writing, although I know it to be but a naked statement of a *portion* of the facts, which I have ascertained by the testimony of my own senses, and which have been witnessed by many others. These facts, and the experiments in which I have been engaged, have lost a portion

of their novelty and wonder with me by frequent repetition; but to suppose that results of such magnitude have been so speedily and correctly attained, and that the promulgation of such discoveries has devolved upon one whom neither years nor official honors have placed in so authoritative a position, awakens many peculiar emotions.

"Fortunately, it requires neither rank nor title, nor persuasive eloquence, to secure the reception of these truths, The experiments by which they have been tested can easily be repeated, and cannot leave a doubt upon the mind of any, nor do they suggest any thing for debate. Their reception must be instantaneous.

"I am thus prepared to teach the true physiology of the brain; to correct the errors that have heretofore been made, and to give the function of its smallest organs with a precision which it would once have been deemed chimerical to expect. Yet every proposition which I advance shall be accompanied, on the spot, by experimental demonstration, as palpable and satisfactory, even as those of chemistry."

I assert, on the contrary, without hesitation, that the falsity of every new proposition which he has advanced can be shown by similar experiments.

"Yet how, asks the wondering and incredulous metaphysician, can this possibly be accomplished? How can the sublime science of mind be degraded, into a mere subject of physiological experiment, and an hour's observation become the substitute for heavy folios of reasoning?

"By the simplest means imaginable. It is in my power to excite, in a few moments, any portion of the brain, either large or small; to put that portion into full and vigorous action as an efficient portion of the character of the person upon whom I operate, and then, at will, suspend its action, and excite the action of its antagonist organ, or of any other organ, or group of organs, that I choose to bring into play."

I deny that he can do this in any other way than that in which it was done by the mesmerizers, "long time ago," and had he been well acquainted with mesmerism and

Phrenology, as I have been in the habit of teaching them, he would not have deceived himself with these egotistical delusions.

"The idea which led to these developments, though long impressed upon my mind, like many other plans to which I hoped a consummation, has but lately been carried into effect Three years since I had made important progress in craniological science, and traced the outlines of 'the Pathognomic System of Phrenology;'

"I had printed a prospectus and obtained subscribers to this work, to be issued in five volumes, embracing the whole of the sciences of Phrenology and *Pathognomy*. But discovering that, by the plan I was pursuing, a lifetime would scarcely be sufficient to reorganize the science, and to test every proposition, I determined, if possible, to find some shorter road to the arcana of Cerebral Physiology. The labor of theorizing, observation, induction and philosophical combination, might form a system, indeed, of tolerable accuracy; but the lifetime expended in such labors, I foresaw, would be poorly rewarded, as the moral and intellectual organs in ninety-nine-hundreths of the human race, are too feeble to perceive, or to appreciate, the truth of any new discovery, The principles thus discovered, would have to undergo the tedious ordeal of criticism and experiment, by incompetent as well as competent men, before they could receive the proper credit, I could not consent to spend a life in the labor of untying a Gordian knot for the benefit of posterity, but determined to find the sword with which I could cleave it open at once, and bring the most recondite truths palpably before the public eye.

"In plainer terms, I determined to ascertain the functions of the brain in some simple and direct manner, which would place our knowledge of its functions upon a par with the other portions of experimental physiology. To do this, I determined to excite the different portions of the brain by a galvanic or galvanoid fluid, and calling them separately into action, to watch the resultant phenomena; or, by exciting them in myself, to enjoy at once, a perfect consciousness of the nature of each faculty and its organ. In this attempt, I have met with even a more glorious success than I had ever anticipated.

"I have discovered the means of exciting, at will, any portion of the brain—any organ, or any number of organs, and of retarding or suspending their action. Even the small perceptive convolutions, on the super-orbitar plate, have proved to be completely under my control; and I have many times excited the organ of Form or Calculation, Color or Order, without allowing the excitement to extend beyond the organ which I wished to call into play. In the most susceptible subjects, I find that I have been able to assume the entire control of their characters, and operate upon their minds or bodies in the most fantastic manner that caprice could suggest.

"I say nothing of my mode of operation at present, as that will be displayed hereafter publicly—and the experiments, unless conducted by persons who are well acquainted with Neurology, may be managed so as to injure, instead of benefiting, the health."

By publishing to the world that he could excite the separate portions of the brain, and inducing gentlemen of respectability to endorse the statement, while he "said nothing of his mode of operation," many who had not seen his experiments, were led to believe that he had actually made a new and important discovery. I confess this was my own case; I wrote a letter to Dr. Caldwell, to make inquiries concerning the reality of the discovery, and received a very kind reply, in which I was assured that "some important discoveries in Neurology" had actually been made, and that the great discoverer would soon honor our region with a visit, when we should have an opportunity to judge for ourselves. In the mean time, Mr. Sunderland, a Methodist clergyman of N. Y. City, claimed to have made essentially the same discovery: that is, he claimed to have discovered the means of exciting the mental organs by touching the head with his finger. But as Dr. B. said nothing of his mode of operation, it was supposed that there was something peculiar in his method to distinguish it from the method of Mr. Sunderland. When Dr. B. arrived in N. Y. he "displayed publicly" his mode of operation, and it was

found to be essentially the same as that of Mr. Sunderland. His mode of operation was to take a person who was susceptible of mesmeric or Etheropathic induction and having first ascertained his susceptibility, he put the extremity of one finger upon his temple and held it there until the subject was asleep—this part of the head was therefore called the *organ of Somnolence.* By touching in a similar manner another part of the head he waked the subject up. He then proceeded with his other experiments in the same manner. By touching behind the ear he excited (so he pretended) the organ of *Felony*; a little higher, the *organ of Profanity;* still higher the organ of Acquisitiveness; higher yet the *organ of Sleep;* above and behind the organ of Sleep (near Adhesiveness) he "touched off" the *organ of Ignorance, the organ of Stupidity and the organ of Imbecility.* Sometimes he excited them by *Sympathy*, that is, if instead of the Dr. touching the head of the subject, the subject touched the head of the Dr. the same effects were produced; for instance, if the subject touched the organ of Ignorance on the Dr's head, the subject was instantly inspired with "a fellow feeling," and became ignorant, stupid, &c. I first saw the experiments repeated at Albany, by a most enthusiastic friend of Dr. B.—a gentleman who is immeasurably superior to him in sagacity; and upon a subject, a Lady of good character and family, of exceeding susceptibility, and of uncommon natural and acquired endowments. Every experiment succeeded admirably. The organs were excited and the new discoveries demonstrated and illustrated in such a manner as to convince all—but myself—that the organs of *Insanity, Idiocy, Dreaming, Immortality, Childishness, Felony* and numerous other "airy nothings," have "a local habitation and a name." I said but little in opposition at the time, except to a few confidential friends, and from them I received no sympathy. From my acquaintance with phrenology, I knew that they were wrong in respect to the pretended new

organs, but I was not satisfied that the whole was a delusion until I had myself repeated the experiments, and had discovered the source of error in the nature of *Credenciveness*, *Will and Clairvoyance*, which Buchanan, Sunderland, Caldwell, Elliotson and others had overlooked. I at length found that no reliance whatever, could be placed upon the experiments made by touching the head—that in fact the touching had nothing to do with the effect produced, and consequently *nothing can be learned concerning the function of the part touched*, by these experiments. If any thing can be learned, it must be by Clairvoyance, and even this is more uncertain than a lottery. Again he says,—

"The question then naturally arises, since the functions of every organ have been ascertained with this precision, and Cerebral Physiology has become on a sudden a science of demonstrable accuracy, whether the existing science of Phrenology is overturned or established by the new discoveries. The experienced and philosophic practical Phrenologist will easily anticipate the answer. Knowing the unimpeachable truth of the body of the science; he knows too, that it is still an inaccurate or imperfect doctrine, when we survey the mass of its details. He finds himself occasionally liable to practical errors, for which he is at a loss to account, and of which he can dispose only, by using the old phrase, so often sophistically applied, '*exceptio probat regulum.*'

"As a practical Phrenologist, having wandered farther from the doctrines of Gall and Spurzheim than any other zealous cultivator of craniology, I had to some extent abandoned the use of the established phrenological nomenclature. Believing that the doctrines of Phrenology would be for some time a matter of debate, and deeming it rather premature to determine the precise functions of organs by their names, I used and even taught my students the anatomical nomenclature, deeming it more convenient that the name should express the fixed anatomical position of the organ, than that it should express the unfixed and not very precise doctrine of their functions. Seeking the truth boldly, regardless of all systems, I had become distrustful of the established doctrine, and while engaged in making additions to it, was by no means back-

ward in rejecting every thing which did not stand the test of sound reasoning or of craniological observation.

"When I found the means of testing all the principles of Phrenology, by inspiring the organs *to speak for themselves*, I was of course eager to learn what was their decision upon the doctrines of Gall and Spurzheim, and what was to be the fate of my own craniological doctrines.

"The result has been singularly happy: while the truth of my own views in every essential point has been well maintained, it has been done at as little expense as possible to the existing system. In some instances in which my doctrine departed materially from the doctrine of Gall and Spurzheim, decisive experiments have presented a compromise, sustaining as far as practicable the truth of both; showing that the principles of each, though apparently contradictory, were really just and harmonious, but limited views of the same subject, which a more extensive survey combines into one picture."

We here get the key to many of the pretended discoveries of Dr. Buchanan. It seems that he had been for some time dreaming and scheming upon a new system of notions, and being naturally of a romantic and visionary turn of mind he had formed some highly erroneous conceptions of phrenology and physiology; consequently when he made (as he supposed) *the organs speak for themselves*, he made them speak his own doctrines, their language was but an echo of his thoughts, and their testimony was of course in favor of his "own craniological doctrines;" like another innocent youth whom we read of in ancient classic story, he fell desperately in love with his own shadow. He says,—

"I have been in the habit of teaching the phrenological doctrine, that every portion of the brain sustained a particular relation to the body, by means of which the circulation and all the phenomena of life are modified through the cerebral agency; that the paramount influence of the brain gave to the body its peculiar growth, form and temperament; that every portion of the body had a specific relation to some part of the brain, upon which it

was dependent for innervation, and with which it sympathized in health, disease and excitement. I had made some progress in tracing out the laws of this innervation, and establishing the relation that existed between each portion of the body and each portion of the brain—thus ascertaining to what classes of disease particular forms of the brain made us liable, or with what portion of the brain and what kind of cerebral excitement each disease was connected—in other words, making a phrenological classification of disease, and of all the phenomena of life.

"Having done this, it became my duty when I found the brain under my control, to proceed directly to testing its influences upon the body, and its power of modifying the phenomena of disease, in a curative or an injurious manner. In this, my expectations have been fully and exactly realized.

"I have found it perfectly practicable to operate upon the various portions of the body, and stimulate or modify their functions by the appropriate action upon the cerebral sources of their innervation."

It can easily be demonstrated, and often has been, that the circulation and the motions of the heart are independent of the brain, [See Le Galois on *Life*, with Cuvier's report,] for the head can be cut off and thrown away, and yet the heart can beat and the blood circulate for an hour. But Dr. B. did not know this; for it seems that he had acquired the belief that the heart is dependent upon the brain for its growth and innervation. He was not aware that deformed creatures have been born with perfect bodies yet destitute of brain: or if he had heard of these things he disregarded them and formed these unfounded opinions. Under these circumstances he touched the heads of his subjects and inquired, like Macbeth among the witches, or a devotee at the Delphian shrine, what was to be the fate of his favorite doctrines; and when *echo* returned him his own views in reply, he remarks with delightful self-complacency—"In this my expectations have been fully and exactly realized." The key to his error is found in the fact that the same ef-

fects may be produced by touching different parts or by not touching at all. He continues,—

"I would offer a word in reference to the wonderful 'art, science, or imposture,' which has made so much noise, and excited so much credulity, opposition, debate and criticism, under the title of *Animal Magnetism.*

"I have proven by experiment, that most of the phenomena which have been reported by the magnetists, are real occurrences, and by no means incompatible with the known laws of Physiology, although they derive their explanation from principles which Physiologists have not yet known, and which the magnetists do not appear to have properly sought. Animal Magnetism has been too much of a display of wonderful results, and there has not been a sufficient and efficient investigation of the laws, by which those results have been produced. To such an investigation, I have directed my efforts, guided by an improved system of Cerebral Physiology, and I have found no very formidable difficulty. By means of the *Pathognomic laws* and Phrenological principles, which I have established, I flatter myself that the sunlight of science will soon rest upon this mysterious *terra incognita,* in which the usual laws of Physiology and Psychology, seem at present mingled, confounded and lost."

Among all those who have made a "display of wonderful results," no one has equaled this very person who is thus rebuking the magnetists, and surely no one has done as much as he to produce confusion, to shut out the sunlight of science from this mysterious incognita, and to mislead the sincere inquirer. He proceeds,—

"The term 'Neurology,' by signifying the science of the nervous system, is competent to embrace all its functions, as well the mental as the corporeal, and is therefore the proper term for that comprehensive science, of which Craniology, Phrenology and Physiology, are constituent portions."

"Neurology" is a term sufficiently comprehensive to include all the phenomena of the nervous system, and for this

purpose has been long used, but it cannot be made to embrace all the phenomena of mesmerism or Etheropathy, for the motion of Etherium exists independently of the nervous system. It is related to every thing,—light, heat, oxygen, food, blood, &c. It produces effects *upon* the nerves, and is conducted by them, but it often is transmitted without the aid of nerves; by will, for instance, it passes from one end of a room to another without being dependent upon nerves for its transmission through the space which intervenes between the operator and the subject. I consider nerves merely conductors of etherean motions. Again,—

"At first, gentlemen who may engage in illustrating Neurology, will be disappointed in some of their experiments, because of the inaccuracy of the existing science of Phrenology One-third of the organs are inaccurately located; and a large number (about two-thirds of my catalogue) are not known or described in any treatise on the science.

"After the publication of my System of Neurology, and the illustrative bust, experiments may be made with perfect certainty as to the results.

"There will be failures, also, for another reason: most of the functions displayed by the excitement of the different organs are compound. The operations will therefore sometimes display a compound function, and sometimes a simple function. The results will thus become contradictory, until the operators understand the laws of antagonism and co-operation, which are almost entirely unknown to Phrenologists at present,"

I have already spoken of the new organs mentioned in my work, and which Dr. B. re-discovered, and in another place I shall speak of his "laws of antagonism and co-operation." He says—

"When discoveries of such magnitude came into my possession, I felt eager to establish them immediately, by crossing the Atlantic and making them known in London and Paris. The propriety. however, of perfecting my discoveries, as far as possible, has induced me to remain thus long quietly engaged in their prosecution, and in preparing for the press an exposition of what I have done."

"I would remark, that I have *not* been engaged in making experiments upon subjects in a magnetic or somnolent condition, but solely upon persons in their *natural* condition."

Here is another most egregious mistake. Dr. Buchanan labors under the delusion that his subjects are in the natural or normal condition. I hope I have sufficiently explained this matter in another place. Because the subjects are not and never have been put to sleep by the inductive process, he thinks that they are in "their natural condition." He might as well say that the inmates of bedlam are in their natural condition, because they are not asleep. One of the best subjects which he had when in this vicinity, and who is particularly referred to in one of his most laudatory reports, is my intimate friend, a gentleman of veracity and talent. I had operated upon him repeatedly before Dr. B. saw him, and I know that when in his natural condition he is a prudent and intellectual man, but when inducted he becomes deranged in his functions in proportion to the degree of induction. Now I can take this subject and operate upon him in such a way as to contradict all the doctrines of Buchanan, and I pledge myself to do so on any proper occasion. I can find a hundred subjects who seem to be perfectly rational—who are awake and converse and act as usual, but if I take a handkerchief, and assert that it is a snake, they will all believe it, and make oath of its truth. Now will Dr. B. say that these subjects are in their natural condition? Again,—

"Disregarding the very meaning of the word Neurology, and probably unacquainted with its derivation, ignorant scoffers would repeat that this science was nothing more than the old story of Animal Magnetism, Clairvoyance, &c.; others would assert that it was totally unlike—both confounding the *science* of Neurology with the experiments by which it was demonstrated. Some, by a singular combination of skepticism and credulity, were even led to adopt the laughable theory, that I produced the wonderful results

of my experiments by the mere power of my will, controlling every one whom I approached! and compelling them to feel such emotions as I willed them to experience! !"

He seems particularly sensitive on this subject, and takes a great deal of pains to prevent us from thinking that his "Neurology" is the same thing as "the old story of Animal Magnetism, Clairvoyance, &c." He has so industriously circulated the assertion that Neurology is something different from Animal Magnetism, that people generally suppose it to be true. Now the fact really is that what Buchanan calls Neurology is the illegitimate offspring of this same Animal Magnetism which it "repudiates." It was begotten by the union of Animal Magnetism with credulity; and though at present it pretends to be ashamed of its father, there is much more reason for Magnetism to blush at the deformity and the indiscretion of its ill begotten bantling. These remarks will apply with equal truth to Sunderland's "*Pathetism*," and Braid's "*Hypnotism*"—and I will venture to predict that they will all three be left to suffer a miserable death, from the neglect of the respectable dupes who have hitherto officiated as their god-parents. He says,—

"Such notions being afloat, I have been compelled to express myself frequently, in public and in private, in something like the following manner:

"Neurology is a comprehensive science, including all the phenomena of mind and body. The Animal Magnetists, are engaged in cultivating one department of this science, which is rich in wonders. Their results, although they seem incredible, are established by unanswerable testimony; and, therefore, must be received. The experiments which I am performing, are different, as they are simply designed to illustrate the ordinary or normal functions, and the pathology of the human mind and body. My operations aim at utility, by explaining the machinery of life, and the powers of each organ: those of Animal Magnetism, develop extraordinary or transcendental phenomena, by the joint influence

of two or more individuals. The phenomena thus developed are mysterious and wonderful; and, indeed, we seem in a fair way to realize through these operations, that 'truth is strange—stranger than fiction.'"

The utter inconsistency of these remarks may be inferred from the fact that he claims as "ordinary or normal functions," such manifestations as "insanity," "stupidity," "imbecility," "baseness," "felony," &c. (*See his catalogue of newly discovered organs.*)

The following extract from the same book was originally published by one of Dr. B.'s pupils and shows how they understood the matter:—

"Some of our brother editors, as well as many with whom we have conversed, even *here*, do not seem to *know what Neurology is.* No longer since than Wednesday evening, a medical stndent informed us that he had all along regarded it as none other than the veritable science of *Mesmerism*, or *Animal Magnetism;* and was quite astonished on learning that Neurology was merely the *Physiology of the Nervous System;* and that the singular experiments in which Dr. B. has been engaged, are designed to show the functions of every part of the nervous mass contained in the head, by exciting that part, by external irritation, in such a manner, as to cause a distinct manifestation of its peculiar properties, whether mental or corporcal.

"Those who recognize Phrenology as a *true science;* (and who does *not?*) who understand the mysterious operation of the mind, upon the whole nervous system, through the medium of its organ, or mass of organs, the *brain;* and who are aware how readily the different organs of the brain can be recognized, classified, and their volume defined by exterior examination, can, with readiness, comprehend the whole secret of Dr. Buchanan's operations; which consists merely, in exciting any organ, or combination of organs, to greater activity, by operating with the fingers, upon that portion of the skull under which they are located. Hunger, thirst, anger, benevolence, vision, muscular strength, hearing, &c., may be readily excited in this way. *Mesmerism*, with its mysterious manipulations, its passes, its clairvoyant conditions, its magnetic

states and transmissions of mental power and ubiquity, all operating independent of *contact*, no more resemble the science of Neurology, as defined and exemplified by Dr. B., than the practice of the *faith doctors* does the regular practice of medicine.

"When our neighbors come to give the matter a 'sober second thought,' and witness a tithe of the experiments which Dr. B. has made in Louisville, in the presence of hundreds, and upon all classes of subjects, we shall expect to find them more warm in their commendations than we have been. We are a skeptical people in Louisville, in matters of this kind, and yield to nothing which is not sustained by unquestionable philosophical demonstrations, *heard and seen by ourselves.*"

"The essence of my discoveries consists in determining the seat of all the functions of the nervous system, whether they relate to mind or body. For instance, I determine with equal certainty the sources of the passion of anger; the sentiment of benevolence; the faculty of vision; the power of secreting bile; the power of secreting the gastric juice; or the power of using the muscles in locomotion.

"Every passion or emotion that man can feel; every intellectual faculty that he can exercise, and every function that is performed in any part of his body, has a legitimate origin in some portion of his nervous system. The result of my investigations shows that all of these localities can be ascertained; and such has been my progress, that but few important principles have been left for future discovery."

How very grateful ought we to be to Dr. Buchanan for discovering everything in physiology, and leaving nothing more for us common mortals to do but to feast upon the fruits of his labors! What if he should take it into his head to turn his mind to other departments of science, with a determination "not to spend a life in the labor of untying a Gordian Knot for the benefit of posterity, but to find the sword with which to cleave it open at once and bring the most recondite truths palpably before the public eye!" There would be an end to the race of philosophers, for their "occupation would be gone." He proceeds,—

"Since this publication, my experience has daily given me new facts and principles. To avoid all further detail, I would simply remark, that I have found the key to the whole mechanism of man; and that I will undertake, under proper circumstances, to execute any command that you may see fit to lay upon me, for the purpose of modifying the state of either mind or body; proving that we may lay bare the deepest mysteries of Nature, and that we are now in the possession of knowledge which must be of invaluable utility to the human race."

And "I will undertake, under proper circumstances, to execute" everything which Buchanan does without contact or touching the head at all, and without touching the body at all; and I will undertake to show that all these things, or others like them, were known and practiced by mesmerizers and magnetisers before Buchanan or Sunderland were heard of. Again,—

"The number of independent functions, which may thus be demonstrated by experiment. with an adequately susceptible person, amounts to 166; but, for convenience of instruction, I demonstrate usually not more than one hundred. With a subject of large brain, well cultivated mind, and high susceptibility. I have no doubt that even as many as two hundred might be shown."

This was written April 5, 1842. I have before me a "Diagram" published by Dr. Buchanan in 1843, in the explanation of which he says,—

"Any one who has the ambition of discovery, can easily, by experimenting on an impressible constitution, discover hundreds of new organs or modes of manifestation by making additional subdivisions. Had the author published all the distinct functions which he has observed, they would have amounted to more than a thousand!"

I doubt whether any man can be found who has sufficient genius to write a sentence which shall surpass the above in foolishness. If there is any thing on earth more supremely ridiculous, it is the position of those who have recommended such doctrines to the public.

Yet there is truth in Dr. Buchanan's promise, that "any one can, by experimenting on an impressible constitution, discover hundreds of new organs;" and I "will undertake to execute" an order for any number or any kind of new organs which shall be wanted for the gratification of the public credulity. If any one else will "undertake" to furnish names, I will manufacture the organs according to "the laws of antagonism and co-operation" which are practiced by Dr. Buchanan and Dr. Caldwell. Again,—

"Every function, or organ, is associated for its balance and control with an antagonist function or organ; and by means of these laws of antagonism, the whole mass of Cerebral Physiology assumes a wonderful and beautiful simplicity,"

This doctrine of "antagonism" is taught by others besides Dr. Buchanan. It is taught by all those who excite (as they suppose) the organs by touching the head. In the preface of my "New System of Phrenology," I remarked that "I cannot countenance the idea that some organs were *intended* as antagonists to others; they all act in harmony; and though some are more intimately related than others, no one, unless abused, counteracts the proper effects of another." An anonymous writer in the "American Phrenological Journal" (the proprietor of the Journal says that it is Dr. Caldwell) devotes thirteen pages to criticise my book, and begins by attacking the remarks in my preface concerning antagonism. In this criticism Dr. Caldwell takes the ground distinctly, that some of the organs of mind were bestowed for the very purpose of opposing others. I have not the article now before me, but I recollect that he rebukes me severely for holding a different opinion. Dr. Buchanan, it must be remembered, was once a pupil of Dr. Caldwell, and very naturally imbibed his opinions on this subject as well as others. Accordingly when Buchanan made "his organs speak for themselves," they spoke in fa-

vor of antagonist organs in a manner which must have astonished a sensible man like Dr. Caldwell. Is it not wonderful that his suspicions were not excited when such new antagonist organs were introduced as "Felony, Baseness, Desperation, Idiocy and Coarseness ?"

The true doctrine upon this subject, I conceive is, that any organ is an antagonist to every other which opposes its operation and gratification—two organs may be antagonists on one occasion and co-operators upon another; but I repeat what I stated in the preface of my "New System of Phrenology," "No organ was intended to counteract the proper effects of another." Conscientiousness, for instance, may co-operate with Kindness to oppose Destructiveness, where its aim is unjust; but the same Conscientiousness may co-operate with Destructiveness to oppose Kindness, when justice demands the sacrifice. When two organs tend to opposite results, and the stimulating circumstances are equal, the largest organ will prevail. If the organs are equally large and the stimulus of each equal, the result will be an intermediate course in which both powers will be gratified in a medium degree only; but if the size or the stimulus of one surpasses that of the other, the gratification will equally surpass if opportunity is equally favorable to both. There is then no such thing as an organ for an antagonist function, *per se*. By adopting a different doctrine, Dr. Buchanan has involved himself in a labyrinth from which nothing but retraction can extricate him. Some of the new organs which he proposes, are doubtless intended to supply the demand for antagonist organs. Thus the organ of *Suicide* is introduced to antagonize the organ of Vitality—Ignorance *versus* Knowledge—Mortality *versus* Immortality—Sanity *versus* Insanity, and so on to the end of the chapter.

Extract from Dr. Buchanan's explanation of his Diagram.

"Dormant Region.—This is the region productive of trance,

and efforts of the mind to know external phenomena intuitively. These efforts have been called clairvoyance, prevision and presentiment. The tendency to such phenomena depends upon those organs which lie in the order above-named, extending from the sense of heights, upwards upon the internal aspect of the front lobe. These organs are called dormant, because they are in a dormant or inactive state in most persons."

Buchanan's idea is, that Clairvoyance depends upon certain organs situated between the upper part of the nose and the top of the forehead. There is not the least foundation to this assertion beyond the prolific fancy of Dr. B. If this is really true and Dr. B. can excite, as he says he can, any organ he pleases, he can of course excite these organs and produce Clairvoyance at any time in any susceptible subject; but he cannot do this, and he knows it; what then becomes of his boast about "exciting any organ," &c.

The following is a part of the "Catalogue of Organs" as published by Buchanan with his "Diagram" which is intended to show their location:—

"Disease—Relaxation—Indolence—Sullenness — Insanity—Idiocy—Childishness—Rashness—Carelessness—Restlessness—Destructiveness—Turbulence—Amativeness—Buffoonery—Animality—Ardor, or Calorification—Conductor Organs; Intellectual—Moral—Selfish.

"*Ignorance.*—Stupidity—Imbecility—Sleep—Blindness—Awkwardness—Adhesiveness, &c. &c. Not having determined upon the nomenclature, the other names of this region are for the present omitted.

"Hardihood, or Insensibility—Temperance—Skepticism—Coarseness—Vigilance — Combativeness — Moroseness—Perverseness—Rudeness—Hostility—Censoriousness—Sternness—Secretiveness—Reserve—Deceit—Suspicion—Selfishness—Acquisitiveness—Economy—Trading—Avarice—Profanity—Irritability—Gambling—Felony—Desperation—Vitality—Baseness—Suicide—Hatred—Cruelty—Misanthropy—Ambition; Moral—Criminal."

It should be particularly remarked that no two of the professional *Head Touchers* agree. Sunderland and Fowler locate Secretiveness and Acquisitiveness in the temple were Spurzheim does, but Buchanan and others place them in the occiput, near Combativeness; and each rival "toucher" accuses the other of having the organs of "Ignorance and Stupidity" in a state of too great activity for the "antagonist organs."

SECTION XIV.

PHRENO-MAGNETISM, PATHETISM AND HYPNOTISM.

The Rev. La Roy Sunderland, in the first number of the Magnet, published June, 1842, claims to have been the first person to make use of "Living Magnetism" to discover the functions of the brain. I beg leave to refer to my experiments with Mr. Hogoboom, of Nassau, as a refutation of this claim. I have never heard of any attempts having been made to discover the functions of the brain by animal magnetism, previous to the experiments which I made in Buffalo by means of Clairvoyance, in 1838.

The following from Sunderland's Magnet, vol. 1, No. 1, is in itself a literary and scientific curiosity, and it will serve to show the extent to which the head-touching mania was carried, and the confidence with which the resulting theories were proclaimed :—

"The editor of this work believes himself to have been the first in this, or any other country, to use Living Magnetism as a means for *Physiological and Phrenological discoveries*.—And, though almost any other person might have found out the same results had he made use of the appropriate means, yet many will doubtless turn up the lip at our statements, who, themselves, would have considered it an immortal honor to have enjoyed the facilities which have so richly crowned our humble inquiries after truth.

"Polarity of the Mental and Physical Organs.—The brain has five *large* poles, corresponding with five others in the heart. And, with these large poles, there are consecutive poles through-

out the entire system, connected with every mental and vital organ, and with every muscle and portion of the body which is concerned in the production of voluntary and involuntary motion.

"All the organs and muscles of the system are connected with the magnetic forces from the brain, so that while the heart is the great fountain of *vitality* to the system, the brain is the organ of *thought* for the mind. And each vital and mental organ has its corresponding pole, positive and negative, and these *sympathetic points* from the different organs are all located in the face and neck, so that by operating either on these sympathetic points in the face, or the poles of the organs in the brain, I can *excite* any mental or physical action, and remove it, at pleasure, as the condition of the patient may require.

"For instance, by operating on one portion of the brain, I produce, in the mind of the patient, the feeling of Self-Esteem; by operating on another portion, I produce the feeling of Gratitude; on another, the feeling of Joy; on another, the feeling of Filial Love; and so of every emotion or sensation which is peculiar to the human mind. And thus, also, of the physical organs. The *sympathetic points*, corresponding with the lungs, are located in the face, where you will see the hectic flush, in cases of pulmonary consumption. The points (or poles, it may be,) of the organs of smell, are located at the lower part, each side, of the nose, and by operating here, I excite the corresponding organ of Smell. The sympathetic points of Mirthfulness are located in the corners of the mouth, and when I operate on these points, they are drawn up in the act of laughing.

"This discovery gives the only true foundation for *Physiognomy* and *Pathognomy*. It shows how it is that the MIND excites the organs, and, also, how it is that the mental faculties excite one another, and when they are in exercise, it shows how it is that they produce the appropriate expression in the eyes, and features of the face. Think of it, reader! And then say what could be more interesting than a knowledge of these laws, which, as it would seem, have remained hidden for six thousand years, by which the MIND looks out in the face, and express its emotions through the organs of clay!

"This discovery enables us to tell you how it is that the feel-

ings of the mind are conveyed in the tones of the voice; and by what process the health is affected by the exercise of the intellect; — in a word, it gives the only true and satisfactory account of the manner by which mind and matter are connected, and reciprocally act upon each other. And thus I am able, by operating on the poles of the organs, to cause the patient to feel the strongest emotions of *Hope, Fear, Courage, Mirthfulness*, or in fact, any feeling appropriate to the human mind.

"I have, times without number, produced *Sleep, Somnambulism, Monomania, Insanity, or Madness*, and removed the excitement at pleasure. By operating upon the sympathetic points in the face, I have produced, or suppressed action in the heart, lungs, liver, spleen, kidneys, stomach, larynx, &c., or any muscle or limb in the system; and by the same means, I have found the nerves of sensation throughout the system may be excited or paralyzed, and to a degree truly astonishing to such as have never seen these most interesting phenomena.

"I have often removed, in a short time, great nervous excitement, and by the same means *relieved* persons who have suffered for years from troublesome dreams and a want of refreshing sleep.

"Groups and Pairs of Organs.—Another most interesting discovery I have made, is, that the Phrenological organs not only exist in groups, corresponding with the nature of their functions, but most, if not all of them, in *double pairs*, and some in *triple* and even *quadruple pairs;* and *the uniformity and beauty af the groups, corresponding, as they do, with the consecutive sympathetic points in the face*, is more interesting than I can find language to describe. Never was I so profoundly impressed with a sense of the wisdom of that great and good Being, as on finding the location and grouping of the different *pairs* of organs, *with their corresponding sympathetic points in the face.*

"Thus, for instance, I find in one group those which relate to Attachments; in another, those which relate to Home and Country; in another, those which relate to Will, Decision, Justice and Government; in another, those which relate to the Deity and a Future State; in another, those which relate to the defence of ourselves, and the preservation of our own lives. And all the corresponding poles of the perceptive faculties, together with Sublimity,

are located in the eye; and the poles of the affections are located around the mouth!

"Their are two pairs of Individuality, one taking cognizance of things and the other of persons; two of Eventuality, one pair taking cognizance of recent, and the other of ancient events; two of Comparison, one pair for ideas, and the other for things; two of Benevolence, one for giving, and the other for pity; two of Veneration, one for the Deity, and the other for man; two of Firmness, one relating to conscientiousness, and the other for perseverance, etc.; two of Self-Esteem, one for the HUMAN WILL and self-government, and the other for the government of others; two pairs for Fear; two for Music; two for Place, and so of the organs of Conscientiousness, Belief, Gratitude, Amativeness; three of Marvelousness, one for Faith, one for Human Credence, and another for anticipating future events; and three for Secretiveness, one for Disguise, one for Keeping Secrets, and the other for Cunning, as is seen in the cat and fox; in the group of Acquisitiveness there are three, one giving a desire for Money, one for Keeping, and one giving a disposition to Traffic; in the group of Approbativeness, there are four, one giving a regard for Character, one giving a desire for Praise, Notoriety, one giving a sense of Ridicule, and another giving a desire for Show, and when large, giving Vanity.

"OPPOSITE ORGANS—POSITIVE AND NEGATIVE.—Another important fact, deeply interesting to Phrenologists, which is demonstrated by my discoveries, is the opposition of the different mental organs. My experiments have proved that the organs are balanced by positive and negative poles; and that their functions are in opposition to each other is certain. As, for instance, one organ is for Joy, another for Sadness; one for Love, another for Aversion; one for Self-Government, another for Submission; one for Forgiveness, another for Retribution; one for Patience, another for Discontentment; one for Courage, another for physical Fear; one for Confidence in man, another for Suspicion or Jealousy; one for Ancient, another for Recent Events; one giving a desire to see Old Places, another for New Places, or traveling; one for Destructiveness, another for Preserving; one for Keeping Secrets, another for Loquacity; one for Opposiveness, another for Suavity; one for Self-Esteem, another for Humility; one for Praise, another for Censure;

one giving a sense of Dependence, and another giving a sense of Independence; &c., &c.

"This discovery gives the true solution of various shades in the characters of different individuals, which have never been explained, either by Phrenologists or in any system of mental science heretofore offered to the world. And how beautifully this fact agrees with the arrangements of nature, to which we have before referred. There are two magnetic forces, Positive and Negative; one repels and expands, the other draws and contracts. And by these forces all the functions of the human system are carried on, not excepting the exercises of the mental organs. For how else could these organs be exercised at all? Should they be subject to one motion, merely, only in one direction, it would be insanity, or madness. The organ of Joy, for instance, is counterbalanced by an organ of Sadness. Were one of these organs to be exercised without another to check it, Monomania would be the result, and so of the others.

"Correspondence in the Position and Functions of the Organs—It had long been known to phrenologists, that the lower the organs in the head, the more their functions corresponded with the propensities common to the animal creation. But my experiments have demonstrated, that one pair of the same organs is more elevated and refined in its functions than the pair below it. Thus, I find, the first pair of Amativeness are common to animals; the pair above are appropriate to intellectual enjoyment. The lower organs of Comparison take cognizances of things, the upper ones compare ideas; the lower organs of Causality are exercised on things, the upper on metaphysical subjects. And it is a remarkable fact, that from mere animal instincts, which relate to the preservation of life, and selfish gratification, the organs not only ascend in the head, but also in the nature of their functions, till we come to the highest, which take cognizance of our relation to the *Deity*, and a future state, not excepting one which is appropriate to calculating, or perceiving future contingencies!

"New Phrenological Organs.—While our experiments have in a most remarkable manner, confirmed the discoveries of the immortal Gall, they have brought out and demonstrated the existence of new organs, among which are the following, viz:—Humility,

Joy, Gratitude, Patriotism, Jealousy, Modesty, Aversion, Smell, Taste, Pity, Cheerfulness, Weeping, Contentment, Wit, as distinguished from Mirthfulness; Melody, as distinguished from Harmony; Retribution, as distinct from Destructiveness; Method, directing as to the Manner in which things should be done; Regularity, as to time and order; Disguise; Praise; Filial Love; Love of Pets, as distinguished from Philoprogenitiveness; besides the pairs of the organs already described, which, as will be seen, more than double the number heretofore supposed by Gall, Spurzheim, Combe and others.

"Thus I have given a concise account of the results of the first cerebral Magnetic experiments, so far as I know, ever attempted in this or any other part of the world. These discoveries are *real*, and *founded in the nature of man*, and *they will ultimately be admitted and advocated, as their importance demands.* And to have been an humble instrument in first making these facts known to the world, affords me more pleasure than I could ever derive from silver or gold, or all that this earth can afford.

"No accounts of any similar discoveries, as far as we know, have ever been published in this or any other country. Our experiments have been so often repeated, and for such a length of time, upon different subjects, that we now feel fully authorized to assume the above positions.

"After commencing my Magnetic experiments, I proposed to two scientific gentlemen,* of this city, to assist me in conducting them, and it gives me pleasure to acknowledge the aid which their kindness has afforded me in this interesting work. And the results with which these experiments have since been repeated by others, in different parts of the country, have, I think, sufficiently, confirmed these assumptions, and left no room to doubt as to the influence which Magnetism is destined to exert, in exhibiting and proving the true SCIENCE OF HUMAN LIFE throughout the world."

The jealousy with which these experimenters guarded the honor which they supposed was to result from these great exploits, is exhibited in the following extract from the same

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* Dr. H H. Sherwood and Mr. O. S. Fowler, Phrenologist.

number of the Magnet. It is an amusing item in the history of scientific discoveries, and may be useful in teaching others not to be in too great haste to blow the trumpet of fame for themselves :—

"New Discoveries.—Though the editor of this work believes himself to have been the first who ever made use of *Magnetism* for the purpose of Phrenological *discoveries*, yet it would seem, that quite a number of others are somewhat anxious to share this honor with him. We have seen the names of two different persons, referred to in an exchange paper, as having been the first to discover the connection between *Magnetism* and Phrenology! And this, too, for the first time, nearly one year after the accounts of our own Magnetic cerebral discoveries had been published to the world! Of course, it is an easy matter for one to find gold, after the mine has been discovered and opened by another. But, before it can be consistently assumed, that similar *Magnetic* discoveries to our own, were previously made by another, it must be shown that the accounts of them were *previously published*, and at the time they were made. This is what we did, about one year ago. And, we are confident that nothing of the kind had ever been heard of till long after our experiments were commenced, which resulted in the discoveries described in this work. In the New-York Watchman for August and October, 1841, were published the accounts of the first *Magnetic* cerebral experiments, as far as we know, that ever were performed, in any part of the world. What discoveries may have been made by others, since, (and following in our wake,) we, of course, do not know; nor indeed, are we anxious to deprive another of the credit of having made a discovery of the same thing, a year or more *after* we had published the account of it to the world. For notices of our discoveries have appeared in more than one hundred different papers, in every part of the country, and they have also been published in France and England."

The following from the London "Phalanx" will give an excellent idea of the reception which these discoveries met from the very learned gentlemen who compose the Phrenological Society of London :—

"PHRENOLOGICAL SOCIETY.—On Monday evening there was a full attendance of the members of this Society, at their Chambers in Exeter-hall.

"The President, Dr. Elliotson, delivered a lecture upon the connection between Phrenology and Mesmerism. He said: I have always been scrupulously cautious in introducing the subject of Mesmerism at our meetings on account of the difficulties opposed to it, and the prejudices existing against it in the minds of mankind; and I would not do any thing to create a difference of opinion in the society. But assertions have recently been made in public, and opinions have been promulgated in society, (and I see no reason against adopting them), that Mesmerism could explain some of the most important principles of Phrenology. I was always aware of the connection between them, as Mesmerism relates to the whole of the nervous system, of which Phrenology explains one part. There is the less objection to my introducing the subject here at present, as *the Society for the Diffusion of Useful Knowledge, with Lord Brougham at their head, and four of my late colleagues at the London University Hospital, have now borne public testimony to the reality and usefulness of Mesmerism.* This they have done in the monthly number of the Penny Cyclopædia. What is more remarkable, they have borne their testimony just as strongly, and just to the same extent, as I have done in my Physiology, for I have said no more than that one person can influence another in various ways, without the will or consciousness of the person influenced; that so one person can send another to sleep, and again awaken the latter at pleasure; and that he would know nothing of what might happen in the interval. I have said that this can be done, not only without the knowledge, but even against the will. But I was at last compelled, to admit more than this. I was compelled from what I witnessed, to admit that persons thus influenced were rendered insensible to pain, even to that of severe burning, and of sharp surgical operations,—such as the insertion of setons, and the removal of tumors. Yet to all these—mad as it must appear—I have been obliged to admit 'vision without the eye.' Mad as it may appear, I have seen it in the most unequivocal manner in three cases, where the eyes were blindfolded with the utmost care.

"But I have mentioned these things, gentlemen, more to smooth

my way in relating occurrences of a more extraordinary nature which have happened in America. In the course of last month, I have received a series of newspapers from America containing accounts of Mesmerism, from which it seemed that when an operator had reduced a patient to a state of stupor, he could excite the phrenological organs at will; that parts of the brain could be awakened and excited, and afterwards be put to sleep again.

"Dr. Elliotson then read from a New York paper an account of numerous Mesmero-Phrenological experiments, which related a vast number of public experiments of similar nature, and with similar results. In each case, it is represented that the organs, as named by the Phrenologists, invariably manifested, under mesmeric influence, the functions attributed to them. The relations excited the greatest surprise in the meeting, and were listened to with deep attention. He then stated that whilst these things were proceeding in America, experiments precisely of the same character and effect were carried on in different parts of England, by gentlemen who knew nothing of the operations of each other, or of those going on in America. He had sent down copies of the American papers to Hampshire to Dr. Engledue, with a request that he would hand them to Mr. Gardiner, a gentleman of the highest respectability and learning, the son of Sir James Gardiner, an old member of this society. It happened, curiously enough, that when Dr. Engledue went over to Southhampton, to give the packet of papers (which he himself had not opened) to Mr. Gardiner, he found that gentlemen, Mr. Mansfield and others, actually engaged in a series of experiments, which, on afterwards looking into the packet, they found to correspond exactly with those described in the American papers. Dr. Elliotson then read from the Hampshire Telegraph, a long account of experiments by Mr. Gardiner, from which we can only make room for the following:—

"'I asked the patient referred to, (a young lady ignorant of Phrenology,) when in the trance, with what part of the brain she kept a secret? She replied, "on the side of my brain." Upon asking her to point out the spot, she placed her finger exactly on the organ of secretiveness in my head. I placed my finger on her organ of secretiveness, when she said, "Yes, just where I am touching my head." In the trance she fancies the two movements are identical. Having asked her where she felt anger, she placed

her finger upon my organ of destructiveness. I inquired—where she felt hunger; her finger rested on my organ of alimentiveness. I interrogated her as to the time; she was wholly unable to tell me. The idea then struck me that I might possibly enable her to estimate the hour by exciting the organ of time. With this view I rubbed the forehead gently at the required spot, exerting my volition to the utmost, of course; "Oh! that makes me fell so odd." I asked her why? She replied, "It makes me know what time it is." She then told me the time with almost perfect accuracy. She would afterwards always estimate the lapse of time—intervals—with astonishing accuracy, upon my exciting the organ of time on her forehead. Her finger rubbed on my forehead produced invariably the same results (this is true of all the organs).

"'Upon my exciting her organ of tune in the same way, she said, "That makes me feel so very cheerful—it makes me like to hear some singing." I requested her to sing. She persisted in asserting her inability, until I energetically excited self-esteem, when she said. "I'll try," and she forthwith hummed an air. When her organ of color was excited, she exclaimed with animation, "Oh, oh! I see green, yellow, purple, &c., such beautiful colors." If, when she was unable to distinguish an object clearly, I excited individuality, she instantly perceived it distinctly. In the trance she is never aware of her locality, until the proper organ is excited. Upon one occasion, I excited constructiveness, when she expressed a desire to make a cap model, which she executed upon being supplied with materials. The organ called wit or mirthfulness being excited, she very soon began to laugh involuntarily, although I steadily maintained my gravity. I continued the operation, which produced an increase in her mirth until she fell into a continuous *fit* of laughter, exclaiming as well as she could, "I shall die of laughing."

"'Upon exciting her organ of destructiveness, her whole aspect and tone gradually underwent the most marked change; the "milk of human kindness" gradually turned to gall and venom; she pouted, frowned, threatened, stormed, clenched her fist, and finally became exasperated. Thinking I had gone far enough, I breathed on the organ with a view to reduce its activity, and she very soon became calm, losing every symptom of anger.

"'The most beautiful results were elicited by exciting the organ

of imitation. She commenced mimicking and imitating with extraordinary and ludicrous accuracy several peculiarities of her acquaintances and friends, not omitting my friend Mr. Mansfield and myself in the act of magnetising. Suddenly, by the exercise of my whole energy, I paralyzed the organ, and instantly her power of imitation vanished. I re-excited the organ, when she immediately repeated her wonderful mimicry to our intense gratification.' "

Not one of those who have adopted this doctrine concerning the excitement of the Phreno-organs has yet retracted, or even expressed a doubt concerning the truthfulness of their conclusions. I do not know of a phrenologist in this country who does not admit them to be true. I believe that I am the first who has attempted to show their fallacy.

The following is a concise summary of the reasons why I reject the doctrine :—

1. When the subject is *Clairvoyant* he knows the intention of the operator, or of any third person who instructs the operator how to proceed, so that no contrivance can deceive him, and, therefore, in Clairvoyant subjects, touching is a mere farce.

2. When the subject is influenced by *the will* of the operator, this alone will explain all the phenomena, even though the subject is not Clairvoyant. In this case, also, touching the head is a mere farce.

3. When the subject knows or even suspects that the touching of a certain spot is *expected* to produce certain results, he is generally desirous to oblige the operator, and will act accordingly. In this case touching the head is also a farce, for under these circumstances the same results can be produced by touching anywhere else.

4. When neither *Clairvoyance*, *Will*, nor the *subject's previous knowledge* can be brought to bear, the result *cannot* be produced.

5. When the subject, the operator and all concerned be-

lieve in any peculiar notion, the experiments will not contradict that notion, but will confirm it, however absurd it may be.

6. Subjects are often Clairvoyant enough to know the intentions of others, when the operator does not suspect it, and the operator often influences the subject when he does not intend to do so.

7. Admitting that emanations of Etherium stream from the extremities of the fingers—would they not be conducted away in all directions by the innumerable nerves and blood-vessels—the skull and membranes, which intervene between the external spot touched, and the Phreno-organs which are supposed to be excited? This objection acquires additional force from the fact that the brain is especially isolated from external influences.

8. The poles or sympathetic points which the *touchers* pretend to find, afford *a most conclusive* argument against the notion that touching proves the *location* of an organ, for it is impossible to know whether you are touching a "*pole*" or an *organ*. How do you know that there is not a "*pole*" of Acquisitiveness in the *integuments* of the head just over Combativeness? Mr. Sunderland says that there is a spot at the top of the head, which, when touched, produces the most exquisite pain. How does Mr. S. know that this is not the pole of Sanativeness?

9. The different *touchers* do not agree. Fowler finds an organ of "Human Nature," where Buchanan finds none. Sunderland finds nothing to contradict Gall and Spurzheim, while Buchanan finds that "one third" of the organs are located wrong by Gall and Spurzheim. Buchanan locates Secretiveness and Acquisitiveness where Gall located Combativeness. Sunderland locates them where Gall did. Some of the organs discovered by Buchanan, are ridiculed by Sunderland as absurd in themselves, and as contradicted by the *Touchological* process. I pronounce the whole a miserable farce, in which insanity and folly are the princi-

pal performers; for, the subject is certainly insane, and the operator who supposes that he is making great discoveries qy such means, is exceedingly foolish.

10. A great parade and flourish of trumpets has been made about the beautiful manner in which the different traits of character have been manifested by subjects, when the organs were excited by touching; but all this amounts to nothing, when it is known that the very same experiments, the same results, with the same beauty of style and manner are produced, by simply saying to the subject, "*you are Macbeth;*" or, "*you are Queen Victoria;*" or, "*you are a saw-mill.*" The subjects will generally assume the character, and act the part according to their conceptions of it, much more perfectly than they could enact the same when in the ordinary state; by this method you can make them angry or merry, reverential or profane, at your pleasure.

My attention has just been drawn to an account of some experiments of Dr. Elliotson of London, a well-written account of which I find in the recently published work of Mr. Lang of Edinburgh. Dr. Elliotson is one of the most distinguished physicians at present in Europe, and as far as mere authority can give influence, his name will have probably more weight on this subject than that of any other man living. I do not understand that he admits any new organs, or new phrenological doctrines as proved, or even rendered probable by the experiments, but he seems to succeed in exciting the very organs which he previously believed in, and no others;—this being the case, even *his* experiments afford an unanswerable argument against the pretensions of Buchanan, Sunderland, Hall, Fowler and all the other discoverers of new organs. If the brain really could be excited in the way Dr. Elliotson supposes that it can, it is no more than reasonable to suppose that some new organs would be excited and discovered, and by

no one more readily than him, since no man in Europe understands phrenology better, or advocates it with more courage and ability than he does. According to the following account, it seems that when Dr. Elliotson *accidentally touched* with his finger one half of the organ of Self-Esteem (called *Imperativeness* in my nomenclature), that the organ was instantly excited. Now, this being the case, what is to prevent the function of any minute spot on the head from being known? And how can there be such an irreconcilable difference between the results produced by different operators? Do not the very results which Dr. Elliotson produced, indicate that his own mind is the origin of them, and that they are the mere echo of his ideas?

I have repeatedly seen subjects whose organs were so easily excited by touching the head, that I could not touch ever so slightly, without something going off; and yet, under the pretence of curing or preventing headache, I have put my fingers on every part of the head, without producing any effect; and I have no doubt such would be the case with any of Dr. Elliotson's subjects. Why is this?

Mr. Lang says,—

"At the meeting of the Phrenological association in 1842, Dr. Elliotson seemed to think that the evidence fell short of proving the truth of Mesmeric Phrenology; but in a letter dated the 1st of September, 1842, addressed to Dr. Engledue, and appended to that gentleman's address, he states that his coviction of the possibility of Mesmerizing distinct cerebral organs is complete. He then proceeds to give the following account of two of his patients:—

"'I have had for some months under my care, for dreadful fits of many years standing, which are yielding satisfactorily to Mesmerism, two charming youthful patients, of excellent cerebral development, and carefully brought up, of high intelligence, and of high moral character—beautifully illustrating the power of good training upon a well developed brain. No poet or moralist could desire finer specimens of all that is delightful in the youthful mind. They have not known each other. They both exhibit exquisite

Mesmeric phenomena. Are thrown into a profound *coma*, which no impression on the senses will dispel, and which soon becomes sleep-waking; their limbs may then be stiffened at pleasure, and endowed with enormous force, which, although not yielding to mechanical violence, gives way to contact, or to the breath, or to movements of the operator's hand, without contact, in the direction opposite to that of the limb's position; the various muscles of the face may be made to twitch as if with electricity, and the eyes be opened, or the body be drawn by movements of the fingers and hands held at a short distance; *the position of each finger of the operator's hand will he minutely imitated, though the eyes be closed, and the experiment be made out of the patient's sphere of vision.* Though showing all the signs of sleep in the breathing, the falling of the head, the aspect and the exquisite positions, they may be roused to talk, but never to recognize the person nor the place. Their dream, if so it may be called, is perfectly rational; but the real place, and person addressing, and even the time, are invariably fancied otherwise than is the fact.'"

It is perfectly obvious from this language that the subjects were in such a condition that the intention of the operator was known. How could they possibly imitate unless the minds of the subjects were in perfect communication with the mind of the operator? He is quite sure that they could not *see*, and yet could "minutely imitate," this is perfect Clairvoyance. He proceeds,—

"I know to a *certainty* that both are *totally ignorant* of phrenology. Without any previous intention, I one day tried to mesmerize some of the cerebral organs in the young lady. On placing the point of a finger on the right organ of attachment, she strongly squeezed my fingers of the other hand, placed in her right hand, and fancied I was her favorite sister; on removing it to the organ of self-esteem, she let go my fingers which were in her right hand, repelled my hand, mistook me for a person she disliked, and talked in the haughtiest manner. On replacing the point of my finger on attachment, she squeezed my fingers of the other hand again, and spoke affectionately. I removed the point of my finger to de-

structiveness, and she let go my fingers again, repelled my hand, mistook me for some one she disliked, and fell into a passion. The finger upon benevolence silenced her instantly; and made her amiable though not attached. I thus could alter her mood, and her conception of my person at pleasure, and play upon her head as upon a piano.

"On repeating these experiments, I soon found that the same results ensued, though not so rapidly, by merely pointing the finger near the organs; and this was the more satisfactory in demonstrating the facts to others; and indeed it has been quite satisfactory to every one, for not only were the eyes closed, but stopped up by a handful of handkerchiefs, held firmly upon each eye, and the experiments were made on organs so situated, that had her eyes been open, I defy her to know to what organ I was pointing. These experiments I have repeated twenty times. But a fact, still more wonderful, is this:—the state of the organ of one side gives evidence of itself on only half of the system."

Why is it *wonderful* that a subject who can perceive and imitate fingers which are beyond the "sphere of vision," could know to what organ those fingers were pointing? And is it not reasonable to suppose that the effects upon one half of the body originated in a suggestion of Dr. Elliotson's own thought-teeming mind? He says,—

"For instance, if I place my fingers in her right hand, and mesmerize Attachment in the *right* side, she squeezes them and mistakes me for a dear friend; if I then mesmerize self-esteem on the *left* side, she still speaks to me kindly, and squeezes my fingers with her right as much as ever. But if I place my fingers in her left hand she repels them, and speaks scornfully to me, mistaking me for some one whom she dislikes. If I take hold of both her hands with one of mine, I can at pleasure make her repel both, by pointing over each organ of self-esteem or destructiveness; squeeze both by pointing over each organ of attachment; or repel one and squeeze the other, right or left, accordingly as I point over the organ of self-esteem or destructiveness on the one side, and that of attachment on the other, at the same time. These simultaneous,

and especially the opposite influences on the two sides are the most astonishing and beautiful experiments that all physiology affords; and the sight of them enraptures every person. *They are the more satisfactory because there is no necessity for me to operate,* —any person, even a skeptic in both phrenology and mesmerism, may point to and mesmerize her respective cerebral organs himself, if standing behind her. Under the opposite states of the two sides of the brain, she will address the person supposed on the one side or the other, and speak affectionately, proudly, or angrily, as attachment on the one hand, or self-esteem or destructiveness on the other, is mesmerized. The expression, the tone, to say nothing of the words or the action of her hands, are exquisitely and rapidly in character. In the youth, the organs at present can be excited by contact only of the point of the finger, or by breathing over them. Attachment, self-esteem, destructiveness, music and color, I have excited in him, and the effects came very slowly and continued long.

"It is very interesting to see the first degree, and the working up of the feelings. When self-esteem begins slowly they think others are proud, and then become haughty themselves; when destructiveness begins slowly, they think others wish to quarrel, and then they quarrel—or they begin to find fault with the fancied person, who is beloved in the waking state, and then mistake him for one disliked in the waking state."

If she could see to imitate the operator so well, any other person's finger would not be much more difficult to perceive than those of the operator. I very lately had a subject in Manchester, N. H., a gentleman whose name I have forgotten, but who is the principal of an academy in that place—this gentleman, when apparently awake, was so far under the influence of my mind, that by my volition—by my merely thinking of his ear being burnt, he acted as if it was actually burnt. I could do the same to his finger or any part I willed. If I stood behind him, and put my finger near his ear, or neck, or his hands (they being held behind him), he immediately shrunk and said that it hurt, yet I

did not touch him, but merely pointed within six inches of the flesh. He did not pretend that he could *see* what I was doing, but said that he experienced a sensation in the part, without knowing the cause : the same happened if any one else pointed. I also lately found a similar subject in Cooperstown, Otsego county, N. Y., named Bates. Mr. Braid, of Manchester, Eng., seems to have noticed similar cases, and he attempts to account for them by supposing that the ordinary function of "feeling is abnormally exalted." It is certain that sometimes the senses are abnormally exalted in the subjects to a wonderful degree, and this exaltation is generally the incipient stage of Clairvoyance. When the currents of Etherium in a galvanic battery become exceedingly *intense* in consequence of *an additional number of plates being brought to bear upon one wire, or avenue*, it will *always* overcome *ordinary* isolation, and spurning its former bounds, overleaping its constitutional limits, it tends to enter into communication with other bodies—to induct them—to make impressions upon them—and, by their *re-action*, to receive impressions in return. If the intensity is increased still more, the *parallel* wires or avenues are inducted, and their currents neutralized, or conformed in such a way that they become *vicarious* in their function—that is, they perform an office and convey a current, which, of right, belongs only to the avenue which has exceeded its limits.

From this analogy it is easy to understand abnormal sensation and Clairvoyance, for this also is produced by bringing an additional number of cerebral plates to bear upon the same avenue or nerve of the subject, and when the currents of both operator and subject take the same direction through the same nerve, there is of course greater *intensity*, and when there is greater intensity there is a tendency to pass the isolating bounds. Hence we have uncommon manifestations of muscular strength, which are, in fact, but modes in which the currents of Etherium are escaping. Hence, also, we

have abnormal manifestations of sensation or Clairvoyance—which are but the *re-actions* that follow the intensity in the nerves of motion—which re-action is aided by the induction of currents from the operator, and from other surrounding bodies—and let us remember that action and re-action are equal. Hence, again, we have *vicarious* function—that is, we have the nerves or avenues of one kind of sensation transposed so as to become the avenues of other kinds of sensation; we have the nerves of *touch* changed to nerves of *sight* or to nerves of *smell;* we have instances of subjects who could smell with the fingers and see with the toes. If any one finds it difficult to conceive the possibility of this, let me remind him that the different sensations are but different motions of the same Etherium; and that nothing is necessary to produce this apparent miracle but to change the motion which is passing through one nerve so as to make it like the motion which is passing through another nerve;—the motion through the nerves of touch like that through the nerves of sight. Hence, too, we have utter insensibility and paralysis produced by the currents of the operator counteracting, neutralizing, reversing and conforming the currents to and from the brain of the subject. Again,—

"A gentleman, who, through the kind invitation of Dr. Elliotson, was enabled to witness some experiments, has given the following account of what fell under his observation:—

"'At the hour appointed, there assembled in Dr. Elliotson's drawing-room a party whom it would be exceedingly difficult to match, for intelligence and beauty, out of the metropolis; for besides that portion of the sterner sex to whom such an exhibition might be supposed to have its attractions, there were present "stores of ladies, whose bright eyes rained influence;" and it argues much for the interest which this subject creates amongst all classes, that a dissertation upon it should have the effect of drawing together however small a portion of the female aristocracy of England, who have, at this season, so many powerful objects of at-

traction of a more congenial nature ; and it argues still more for the worth and intellect of the fair ones of the British Court, that they should endeavor, by a personal inspection, to satisfy themselves of the reality of that condition, which, when once established, bids fair to open up to us new views of the natural history of mankind.

" ' The first patient introduced was a young girl, who has been operated upon hitherto in spite of herself. She had all along been inclined to treat the subject with ridicule, and, after having been prevailed upon to submit, has since formed one of the best illustrations of its reality.

" ' It took a considerable time to effect the transformation in this instance, in consequence of her extreme state of excitement. The change was at last effected, and, by dint of continued and repeated trials, she was prevailed on to speak. Dr. Elliotson stood beside her chair, and sustained a conversation with her for a considerable period, while another gentleman stood behind her chair, and *pointed* at (not *touched*) the various phrenological developments. The changes in her looks, temper and replies were very apparent, and such as to satisfy any one, since it was impossible that she could form the slightest idea of the effects intended to be produced, even admitting that these results where produced by trickery, which they evidently were not.

" ' The chair on which she reclined was wheeled into a corner, and she was left to awaken at her leisure. The attitudes into which she threw herself while in the course of awakening were very beautiful, and might have afforded models to the painter or sculptor, When awoke, she shook hands with, and described her sensations to, several of the ladies present.

" ' The next case was that of an elderly female, who, it was stated, had been cured by Baron Dupotet of epilepsy, of many years' standing. It is now several years since the cure was effected, and no return of the complaint has yet occurred. The holding of Dr. Elliotson's fingers to her eyes was attended with an immediate convulsive movement all over the system ; in a very few seconds she fell back in a state of intense rigidity, which could be removed by breathing upon any particular limb. In whatever position, however, the limb was placed, it almost instantly assumed the rigid state, exactly resembling the sudden setting of stucco in a mould. Several of the ladies went forward to examine

for themselves, and each expressed their opinion, that it would be impossible for the most expert impostor to imitate such a condition. The pointing to the various organs was now tried, and was attended with even more striking manifestations than in the former case. In short, whoever could believe that these results were the effects of imposture, must have been possessed of even a greater amount of credulity than others who humbly believed what they saw, and trusted to time and patient investigation for an elucidation of the mystery.

"'The position which Dr. Elliotson holds as a man of science, places him far above being benefitted by any mere casual notice of his labors; and it is indeed gratifying to reflect, that although the illiberal and bigoted of his own profession have attempted to impair his means of usefulness, there are many others who, while they have been benefitted by him, have had the gratitude to acknowledge his services.'

"Dr. Elliotson, and others, who believe in both Mesmerism and Phrenology, maintain that the manifestations are so many proofs of the truth of Phrenology; while Mr. Colquhoun, who rejects Phrenology, accounts for them by the supposition that they are produced by the will of the operator; that the latter, in putting his hand upon a particular organ, naturally looks for a certain result, and that it is produced accordingly, through the community of feeling existing between him and the patient. In his letter appended to Dr. Engledue's address already referred to, Dr. Elliotson says, in reference to the question here started,—

"'If it should be urged, that these experiments prove nothing for phrenology, because the excitement of certain ideas in the brain of the patient resulted from the mere will of the operator, and not from his manipulations over particular cerebral organs, the answer is easy. The will of the operator certainly must be influential in producing Mesmeric sleep, if it is true that patients may be Mesmerized to sleep when the Mesmerizer is far away from them; and I presume it is. But this can be only one source of power. I have made experiments in Mesmerism daily, except the two months when I travel in every year, for five years, carefully, with no other desire than that of truth, and in the utmost variety of cases, and have never once discovered the influence of my will. I have

never produced any effect by merely willing. I have never seen reason to believe (and I have made innumerable comparative experiments upon the point) that I have heightened the effect of my processes by exerting the strongest will, or lessened them by thinking intentionally of other things, and endeavoring to bestow no more attention upon what I was about than was just necessary to carry on the process.' "

I do not understand that Dr. Elliotson means to deny that the will of the operator does sometimes produce movements in the subject, but only that he has not himself observed it, yet the subject's minute imitation of his fingers can only be referred to his own will moving his own fingers, and thus by sympathy indirectly moving the fingers of the subject. I confess that I have myself found the effects which I have produced were not in proportion to my *conscious efforts*. I have found that by my will I could produce certain effects; but I have not found those effects *increased* by increasing the energy of my efforts, though I have found them increase by the *continuity* of the efforts, and by repetitions of them at different times. But it is easy to convince any one that his will does produce certain effects which are independent of the imagination of the subject. I have satisfied hundreds in the following manner, which I will take the liberty to recommend to the attention of Dr. Elliotson: Take almost any person who is unacquainted with the subject, or with the object of the experiment—ask him to sit down and close his eyes and keep them closed—take hold of his hands as if you are going to induct him in the usual manner, and, after you have held them about five or ten minutes, let go carefully of one hand; and *will* the thumb to move; and in five cases out of six it will do so, even though the subject is not in the least asleep, and though he is so slightly affected that he stoutly denies that he is affected at all. I have generally found, indeed, in this experiment, that, if there are not witnesses present, the subject is apt to attribute the whole to

accident or fancy, because he feels nothing and experiences no novel sensations.

I succeeded perfectly in performing this experiment a few days ago upon the Hon. Judge Baker, of the Washington Common Pleas. This case is peculiar. I could slightly move any finger by my will, when his eyes were closed, and he was unconscious of the operation. I performed the same afterwards when he was aware of it, and what is still more curious, I could cause the muscles on the back of his hand to move and quiver by my mere will or volition, though he could not produce the same movement with his volition. Judge Howe and Mr. Attorney Baily were present and witnessed the operation.

In Cooperstown, Mr. Bates, when quite awake, in the presence of several citizens—if he closed his eyes and I stood behind him and told him that I was going to will one of his feet or hands to move, without telling him which it was to be, and requested him to remain merely passive—the experiment succeeded to the satisfaction of all present. When I merely wanted to satisfy myself—I willed, and he moved accordingly—but when I wished to satisfy others, I stood behind Bates and made a sign to let them know which limb I intended to move. The Dr. says,—

"So far from willing, I have at first had no idea of what would be the effect of my processes,—one set of phenomena have come *unexpectedly* in one case, and one in another, without my being able to explain the diversity of effect: nay, the same process, *conducted with the same object*, turns out to produce opposite results in different cases. For instance, I can powerfully excite the individual cerebral organs in the young gentleman by breathing over them; but when I breathe over those of the young lady, desiring and expecting the same effects, no excitement is produced; on the contrary, if they are already excited, they at once become inactive. The same effect requires different processes in different persons; point to the epigastrium of some persons, and will with all your

might, and no result comes, but point to their eyes, and they drop asleep; make passes, or point at the back of the head, and will with all your might, and either no effect will ensue, or sleep will not take place before far longer time has elapsed than if you operate before the face; you may make passes in vain with all your might before the face of some persons, who drop senseless presently if you merely point; and hence is apparent the error of those who gratuitously assert, that the processes merely heighten the will of the operator. As to the influence of the operator's will in exciting the *cerebral organs*, the effect ensues as well in my female patient, though the manipulator be a skeptic, and may therefore be presumed not to wish the proper result to ensue, and though I stand aside and do not know what organ he has in view: I have never excited them by the mere will: I have excited them with my fingers just as well when thinking of other matters with my friends, and momentarily forgetting what I was about: I have always failed, however much I willed, when I have directed the finger to another organ than that which I willed to excite intentionally, or have accidentally misdirected my finger."

The true explanation of these cases, and of many similar puzzling phenomena is in my opinion to be found in the caprice and Credencive imagination of the subjects. I have found that where a subject gets any unfounded notion into his head, either from the suggestion of any one else, from his own reasoning, or from the practice of the operator, this notion will have the effect to prevent the success of every experiment which does not accord with it. This is the reason why different processes succeed with different subjects. There is a love of forms and ceremonies in superstitious minds, (and the best subjects are generally predisposed to superstition,) a disposition to connect effects with certain peculiar mysterious processes, so that I think it important in performing experiments, not to neglect any ceremony or movement which is calculated to produce an effect upon the Credenciveness and Submissiveness of the subject. This is especially important when the object is to

improve the health of the subject, and I commend it to the serious consideration of physicians as a valuable auxiliary to their *forces medicatrix.* Again,—

"I was taken quite by surprise when I found that I Mesmerized an organ, self-esteem, for instance, in the half only to which my finger happened to be pointed."

After subjects have learned that touching or pointing at a certain part is to be followed by certain movements; that is, as soon as they have learned to know the sign, and to interpret it, they will always afterwards act in accordance with their "first lessons," a subject therefore who by sympathy and by Clairvoyance has learned what the sign is, and what it means, does not afterwards need to know any thing, but that the sign is made; and I have already shown that subjects such as this which Dr. Elliotson has, can tell when a finger is held or pointed near them. What I mean is, that they use Clairvoyance to learn the intention of the operator the first time the experiment succeeds, (provided that they previously did not know any thing of Phrenology,) and afterwards they know by an exaltation of the senses, when and where the finger is pointing at them, after the manner of my subject at Manchester, N. H., and Bates at Cooperstown. How would Dr. Elliotson himself explain it? Would he say that his fingers and the fingers of any person evolve a stimulus which excites Phreno-organs against the will of the operator? He has left us no other alternative, and we know that this is not true, since we can put our fingers upon the heads of any of these subjects to cure their head-ache, and under other pretences without exciting their organs at all until we excite their suspicions.

"We are unable," says Mr. Lang, "to agree entirely either with Mr. Colquhoun or Dr. Elliotson. The will of the operator we conceive to be totally insufficient to account for the varied manifestations of Phreno-Mesmerism, The individual placing his hand

upon the organs may be an utter skeptic in phrenology, or he may be ignorant of their position, and therefore not aware of the effect about to be produced, and yet the manifestation may be correctly produced. On the other hand, we think Dr. Elliotson mistaken in placing so little reliance on the power of the operator's will. That his own experience is faithfully related, there cannot be a doubt, but it has been different with many others.

"We have seen many curious results flow from the *mentally* expressed wish of the operator, some of which have been recorded in the cases in this volume. In that of Catherine M———, on one occasion when her brother had excited the organ of love of approbation, she began to decorate her person, took down her hair, and commenced to comb it. The manifestation stopped the instant the finger was removed. We quietly requested him, without again going near the patient, to proceed to a distant part of the room, and there to wish that the manifestation should be resumed. On his doing so, she commenced at the part she broke off, went on with the duties of the toilet, and did not stop until he again came near her. He was then requested, also in such a manner that the patient could not be aware of what was about to be done, to put his fingers upon Conscientiousness, but firmly to *will* the manifestation of Acquisitiveness. It appeared to some present, that there was a conflict going on for a time in the mind of the patient, but the practical result of the experiment was, that she picked her brother's pockets. He then ceased to wish, keeping his fingers still unmoved upon Conscientiousness, when she threw away the the articles of which she had possessed herself, and exhibited strong marks of shame at having been detected in an improper act. We do not bring forward these facts for the purpose of disproving the organology of phrenology, but merely to show that the will of the operator—his *wish* unexpressed in ordinary language—has a powerful effect upon the minds of certain patients.

"Again, patients have been led into erroneous manifestations, through conversations carried on by those around them. Thus, an operator and patient, alike ignorant of phrenology, being selected for the purpose of testing the truth of that science, results such as the following were induced: A gentleman present undertook to guide the operator, and stating aloud that he intended that Veneration should be touched, directed the hand of the operator to

the organ of Acquisitiveness. The manifestation was that of Veneration. In the same manner, the patient picked pockets on Veneration being touched, and the manifestation was invariably that *talked* of by the gentleman who directed, and not that of the organ which the operator *touched*. We have seen patients who danced whenever a particular part of the leg was touched; discovered smells, upon the hand of the operator being applied to the nose; and spectators might almost have been led to fancy that there were organs in every corner of the face. In these cases, we should suppose that there must have been some sort of previous teaching, and that the patient, associating the idea of a particular manifestation with being touched in a particular spot, thus came to repeat it. We must recollect, that the memory of sleep-wakers is much more acute than in their ordinary state, and that the most trifling occurrence is recalled by them with the greatest accuracy.

"These hints are thrown out principally for the purpose of inducing caution. In the hands of some operators, organs are multiplying at a wonderfully rapid rate, such as it is difficult to follow; and inquirers would do well to proceed with the utmost care in the investigation, We neither admit nor reject Mesmerism as a proof of the truth of phrenology. We certainly incline to the opinion that the connection between the two doctrines will ultimately be established; but, meanwhile, we should like to see the question submitted to the test of further careful experiment."

Mr. Lang, like a shrewd Scotchman, as he is, seems to be a little suspicious that all is not right, though he lacks the courage and decision to attack and overturn the error. His remark in regard to the memory of *sleep-wakers*, (an awkward term for subjects whose external senses are inducted) is just and important. There are many instances of subjects recollecting, when the brain is in an *intense* excitement, what they had forgotten for many years; and in some well attested cases even recollecting every word of what they had heard read but once, and that in another language many years before—a language too with which they were not acquainted either then or afterwards. If

such statements are to be believed, how much dependence are we to place upon the general assertion that the subject knows nothing of phrenology, and yet is "an intelligent" person. What intelligent person has not seen busts and phrenological works and pictures, &c., when the works of Spurzheim and Combe, like the blessed light of heaven, illuminate every palace, mansion and cottage throughout the country. Though they may know comparatively little about it now, they *once* did know, and may recall the impression in some instances, and cause it, like a false light—an *ignis fatuus*, to lead the confident experimentalist astray.

Mr. James Braid, of Manchester, Eng., has published a work during the last year entitled Neurypnology, or Hypnotism, or the rationale of nervous sleep considered in relation to Animal Magnetism. There is nothing novel in the *principles* advanced by this gentleman, nor in the *facts* which he brings forward in support of them; but he has a singular way of viewing the subject, and has attracted attention by professing to have made a discovery by which he can put a majority of persons to sleep in a few minutes, by causing them to look upwardly and inwardly in such a way as to tire the eye and the mind. His discovery, however, amounts to nothing, that I can perceive, more than we knew before. He labors throughout his work with the zeal of a young convert, but he also betrays the inexperience of a neophyte. Yet there is an evident candor and honesty in his style which wins our good opinion, and besides, he has interwoven much interesting matter into his treatise. He rejects the idea of a fluid or Etherium of any kind being the agent by which the phenomena are produced; but at the same time candidly admits that he is puzzled to account for them. He has never had an opportunity to witness any cases of Clairvoyance which were of so extreme and decided a character as to satisfy him that it is more than an abnormal exaltation of the senses, it is therefore plain that his observations have

been quite limited. Some of his experiments seem to puzzle him exceedingly, which are easily explained by the principle of Credencive induction; a principle, in truth, which explains many of the most mysterious of the cases which Etheropathy presents. On page 4, he says :—

"There were certain phenomena, which I could readily induce by particular manipulations, whilst I candidly confessed myself unable to explain the *modus operandi* by which they were induced. I referred particularly to the extraordinary rapidity with which dormant functions, and a state of cataleptiform rigidity, may be changed to the extreme opposite condition, by a simple waft of wind, either from the lips, a pair of bellows, or by any other mechanical means. I solicited information on these points, both privately and publicly, from all the eminently scientific gentlemen who honored me with their company during the meetings of the British Association in this town; but no one ventured to express a decided opinion as to the causes of these remarkable phenomena. I now beg to assure every reader of this treatise, that I shall esteem it a great favor to be enlightened on points which I confess are, at present, still above my comprehension."

This experiment is well calculated at first view to excite surprise; but when it is known that not only a "simple waft of wind" but a simple ceremony of any other kind, such as whistling, or snapping of the fingers, or any thing else, will produce the same effect, we shall begin to look to that power of the mind which believes in and submits to ceremonies and processes, in full confidence that they are potent in themselves. In this particular case, I take it that Credenciveness was the agent which produced the rigidity, and which so readily changed it to a natural condition. Mr. Braid himself says, in his preface, that the fact that some patients operated upon themselves "and produced results precisely the same as when done by any one else, seems the most decisive proof possible that the whole results from the mind and body of the patient's acting and re-acting on

each other, and that it has no dependence on any special influence emanating from another." Now this is the same conclusion to which many others have arrived, from an imperfect view of the subject; but none of these have attempted to explain the *modus operandi* in which it is possible that the mind or the imagination produces the effects. I believe that I am the first to attempt to give an explanation, and on this ground I claim some indulgence. I think that I have shown that those gentlemen are mistaken who attribute all the effects produced to the imagination of the subject, and on the other hand I have explained how it is that the mind of the subject is capable of producing those phenomena which have hitherto seemed so very mysterious. He says:

"I have also had the state of the patient tested before, during and after being hypnotized [mesmerized], to ascertain if there was any alteration in the magnetic or electric condition, but although tested by excellent instruments, and with great care, no appreciable difference could be detected Patients have been hypnotized whilst positively, and also whilst negatively, electrified, without any appreciable difference in the phenomena; so that they appear to be excited independently of electric or magnetic change. I have also repeatedly made two patients hypnotize each other, at the same time, by personal contact. How could this be reconciled with the theory of a special influence transmitted being the cause of the phenomena, *plus* and *minus* being equally efficient?"

Many seem to stumble over this difficulty. They think that because in applying common electricity, or magnetism, they can perceive no effect from it, either one way or the other, therefore, there can be no "special influence transmitted." But this reasoning is not in harmony with the well known facts in Etherology. Light and heat are, by modern philosophers, considered as the motions of the same substance; both are referred to a "special influence transmitted;" yet, a room warms when light or dark, and it is lighted when cold or warm, "without any appreciable

difference" in the phenomena. So, also, magnetic electricity operates through glass, without any apparent diminution of power; but electricity which is evolved by the friction of a common electric machine, will not produce any effect whatever through glass, nor shellac, nor resin; yet, there is no doubt, in the minds of our most eminent chemists, that the electric machine and the magnet both depend upon modifications of the same "special influence transmitted."

A common bar magnet will attract iron and produce all its phenomena, "whilst positively, and also whilst negatively, electrified, without any appreciable difference," but it by no means follows that they are independent of any electric or magnetic change.

As for the fact which seems to puzzle Mr. Braid, that "two patients" induct, or "hypnotize each other at the same time, by personal contact," it is explained by *credencive induction.* The truth is, personal contact is not necessary in such cases; nothing is necessary but signs, ceremonies and assertions, by which to excite the conforming socials, especially Credenciveness.

The argument against the agency of Etherium in Etheropathy, drawn from these difficulties of Mr. Braid and others, amount to nothing, unless they apply it equally to refute the idea of a fluid in magnetic or electric phenomena. Let them explain, if they can, why a magnet can be made of no metal but iron or cobalt, and yet that electro-magnetism can be produced by the combination of acid with any metal? If a fluid draws a piece of iron, why should it have no effect upon silver?

At page 37, Mr. Braid says:—

"The supposed power of seeing with other parts of the body than the eyes, I consider is a misnomer, so far as I have yet personally witnessed. It is quite certain, however, that some patients can tell the shape of what is held at an inch and a half from the

skin, on the back of the neck, crown of the head, arm, or hand, or other parts of the body, but it is from *feeling* they do so; the extremely exalted sensibility of the skin enabling them to discern the shape of the object so presented, from its tendency to emit or absorb caloric. This, however, is not *sight*, but *feeling*.

"In like manner I have satisfied myself and others, that patients are drawn, or induced to obey the motions of the operator, not from any peculiar inherent magnetic power in him, but from their exalted state of feeling enabling them to discern the currents of air, which they advance to, or retire from, according to their direction. This I clearly proved to be the case to-day, and that a patient could feel and obey the motion of a glass funnel passed through the air at a distance of *fifteen feet*."

This gentleman tells us something here which is quite as difficult to conceive and to admit as anything in Clairvoyance:—that a person can perceive the shape of a thing by the back of the neck, without contact, merely by the feeling of warmth or coldness. And when the distance is fifteen feet, finding that the variation of temperature will not be a plausible theory, he adopts another, which is, that it is the perception of the touch of the air!! Really, his skepticism is of a most credulous kind—to avoid Scylla, he betakes himself to Charybdis. He proceeds,—

"To remove all sources of fallacy as to the extent of influence exercised by the patient herself, independently of any personal or mental influence on my part, whilst I was otherwise engaged, my daughter requested the patient to go into a room by herself, and, when alone, try whether she could hypnotize herself. In a short time I was told the patient was found fast asleep in my drawing-room. I went to her, bandaged her eyes, and then, with the glass funnel, (which I used to avoid the chance of electric or magnetic influence being passed from my person to that of the patient,) elevated, or drew up her arms, and then her whole body. I now retired fifteen feet from her, and found every time I drew the funnel *towards* me, she approached nearer, but when it was forced sharply *from* me, she invariably retired; and if it was moved laterally, she moved to the right or left accordingly."

In this country, I can assure Mr. Braid, that every chemical tyro, and almost every schoolboy, knows that magnetism *will* pass through a glass funnel just as well as through a steel funnel; although electricity will not pass through glass, magnetism will.

Page 65, Mr. Braid says:—

"There is another most remarkable circumstance, that whilst the patient is in the state of torpor and rigidity, we may pass powerful shocks of the galvanic battery through the arms, so as to cause violent contortions of them, without his evincing the slightest symptom of perceiving the shocks, either by movement of the head or neck, or expression of the countenance. On partially arousing the head and neck, as by gentle pressure on the eyes, or passing a current of air against the face, the same shocks *will* be felt, as evinced by the movements of the head and neck, the contortions of the face, and the whine, moan, or scream of the patient. All this may happen, as I have witnessed innumerable times, and the patient be altogether unconscious of it when roused from the hypnotic condition."

All this is no more remarkable than that pinching, cutting, or burning will not be felt by a subject in the same condition. As for his "current of air" to rouse the subject, any other ceremony will do as well. To prove that currents of air are without effect, unless through the Credenciveness of the subject, I have only to say that I have put them into this condition when the wind was blowing freely upon them, and it made no difference. I have many subjects who, when perfectly awake, if I tell them that an electric shock will have no effect upon them unless they whistle or sing, such will be the case; and, on the other hand, if I tell them that a grindstone or a coffee-mill is an electric machine, and will give them severe shocks when they touch it, they will be shocked accordingly, and seem to experience the same sensations as if it was really an electric machine. Will Mr. Braid try this?

SECTION XV.

COMMUNION WITH SPIRITS.

The belief of many very honest persons, in the communion of subjects with the spirits of the departed dead, is undoubtedly a delusion into which they have been led by their own credulity, and the peculiar condition and superstition of the subjects. When a subject is under Etheropathic influence to a certain extent, he can be easily made to believe that he sees or hears the supernatural inhabitants of heaven or hell. He can be inspired, and generally is, with the notions of the operator, especially if he is Clairvoyant enough to perceive the state of the operator's mind. Under these circumstances, if the subject is questioned, he will sometimes surprise, delight, or horrify the operator, by merely echoing back to him his own superstitions. I am acquainted with a most respectable gentleman who was a Universalist, but became converted to a belief in the existence of perdition, by a subject who described to him the exact appearance of his mother, and several other dear relatives who were dead, and who had never in life been seen by the subject. It did not occur to the credulous gentleman that his own mind was like a mirror to the mind of the subject, and that his own thoughts reflected the images of his departed friends. But he really supposed that by Clairvoyance the subject actually looked into the eternal world, and from its countless myriads selected his relatives and described them

with perfect accuracy. He therefore proceeded to question the subject as to what his mother said, and whether she had any communication to make to him. He was informed by the subject, in reply, that his mother was in heaven, and was desirous to warn her son of his errors, and to assure him of his imminent danger of falling into eternal perdition. Overwhelmed with awe, and terrified with these solemn revelations, he sunk on his knees, and in an agony of conviction surrendered his former faith, and from that day to this has acted consistently with the resolves of reformation which he then made.

There is at this moment a large number of very respectable persons in this State, who sincerely believe in the reality of communion with spirits by means of Etheropathy; to ridicule it will only make their belief stronger by exciting the principle of stubborn opposition; but I think they will become convinced of their error when they find that subjects can be made to believe or to see any thing which whim or caprice may suggest, provided they have not been previously committed for or against it. Many persons have become convinced of the existence of supernatural spirits from the evidence afforded by mesmerism who were previously skeptical, and on the other hand many have become convinced of the reality of mesmerism from the supposition that it proved the existence of spirits, and was therefore favorable to religious belief. The truth, however, is that mesmerism or Etheropathy sheds no light whatever on this subject. It leaves it where it finds it.

Emanuel Swedenborg was undoubtedly one of the greatest men that ever lived; and possessed the extraordinary power of exercising Clairvoyance whenever he pleased. He was literally a "Seer." I suspect that he obtained some of his wonderful scientific knowledge of nature by the exercise of this power; but his supposed communion with spirits and many of his other peculiar ideas *probably* originated in his own Credencive fancy. It was perfectly natural for one

who had been educated in the popular belief concerning supernatural beings, to imagine, when he found himself possessed of Clairvoyant perception, that he was indebted to these beings for his peculiar advantages over his fellowmen. If he was a good and virtuous man like the Baron Swedenborg, he would imagine that his inspirations proceeded from good and happy spirits, who condescended to sympathize with him. But if he was conscious of his own moral depravity, he would be likely to clothe the spirits,—whom his creative fancy called "from the vasty deep" of superstition—with characters like his own. He would conceive them to be selfish, malignant and revengeful like himself.

I have little doubt that the ancient *witches*, spoken of in the Bible, were persons who ignorantly made use of induction and Clairvoyance for wicked and malicious purposes, and this is the reason of the command, "*Thou shalt not suffer a witch to live.*" It is also evident that the witches themselves attributed their success to their alliance with infernal beings. Some of the Salem witches confessed that they had been aided by the devil, and admitted the justice of the sentence of death which followed the confession. These poor witches were unquestionably insane in mind and peculiarly diseased in body, while the whole surrounding community considered them as willful rebels against God and allies of the Prince of darkness.

Some modern fortune-tellers have been supposed to be in league with Satan, on account not only of their successful impostures, but from their actual performances and revelations. Some have the power when looking into a particular stone or piece of semi-transparent glass to perceive in a Clairvoyant manner, which is well calculated to excite astonishment in a superstitious and ignorant mind, some again have a faculty of *talking* to sores, felons and burns, in such a way as to "take the soreness out," they actually

perform this apparent miracle whenever the patient is in any degree susceptible to Etheropathic induction, but not otherwise. It is my opinion that there are peculiar kinds of susceptibility which have not yet been noticed by scientific men, and which will explain many strange things that now are deemed as mere idle dreams or striking coincidences. I suspect that some persons are Clairvoyant when asleep and dreaming who are not so when awake, and that therefore in their dreams they perceive things which seem like communications from spirits of another world, warning them of the death, or sickness, or treachery of friends, or of any thing else which concerns them : this would account for the truthfulness of some remarkable dreams.

I also suspect that some persons are Clairvoyant in a peculiar and singular manner and at certain times, while at other times and in other modes they are not so. I know a lady who is not considered susceptible, and yet she has repeatedly foretold the coming of friends at a certain hour, and declared in the most positive manner that she felt certain (she knew not why) that they would arrive at a certain time, although letters had just been received stating that they would not come under several weeks ; yet she was right, and they actually arrived at the time she predicted. Once she arose in the morning and told a friend to his astonishment what he had been thinking about. It was a subject upon which he had never uttered a word, and it was impossible for any one to conjecture that such a thing occupied his mind. This same lady frequently has an impression concerning the character or designs of her acquaintances which is perfectly correct, but which can only be accounted for by a kind of peculiar and imperfect Clairvoyance.

The impressions which some persons have had that they were to die at a certain time, may also be sometimes

derived from a species of Clairvoyant or abnormal perception, producing what is called a presentiment. This subject is full of interest, and well deserves the attention of scientific and inquiring minds, but I cannot pursue it further at present.

SECTION XVI.

ABUSES OF ETHEROPATHY.

The abuses of Etheropathy have been few as yet, but I feel bound to warn the unwary of the dangers to which they *may* be exposed.

I have had many subjects, who, when to all appearance perfectly awake, would believe that a piece of blank paper was a bank note of any denomination which I asserted it to be. At Saratoga Spa, in the presence of Judge Marvin and many other gentlemen, I made a young man of excellent character take worthless waste paper for bank notes, and give me a written obligation for a large amount of money which he supposed he had received. Suppose him to be the cashier of a bank—would not this be a dangerous power in the hands of a dishonest man? Or suppose him to be worth a large amount of property in real estate—he might be made to transfer it by deed in the presence of witnesses, while he was under this influence, and the witnesses not suspect that he was in a state different from usual. The witnesses would go into court and swear that he seemed perfectly rational and master of himself, and yet he would be in such a condition that he could not perceive anything to be different from what it was asserted to be by the operator. Black would look white, if the operator declared it to be so. Copper would look and feel and sound like gold, if the operator affirmed it. In a word, the subject and all his property and other legal rights would be at the mercy of the operator.

He could be made to sign anything—a deed, or marriage contract—a confession of murder, or anything else.

Others can judge as well as I how far this power will in future be abused; but I perform my duty in giving a warning to susceptible subjects. Let them not lightly disregard it. They should know that when once *thoroughly* inducted by one person they can *easily* be inducted by *any* person who is *permitted* to attempt it. They should know that they may be made to perform very improper actions without being aware of it, and without afterwards recollecting it. They should know that they may be made to commit actions which in the eye of the law are criminal, without really intending to do any wrong whatever. A woman may be made to believe that the operator is her father, or brother, or sister, or husband, andshe will act accordingly; and afterwards she will have no recollection excepting such as the operator pleases. It is my opinion, founded upon experiment, that one person in twenty is susceptible of this peculiar influence.

It may be said, that this is dangerous knowledge and had better not be communicated publicly. I confess that it would be safer if it could be confined to the medical profession; but this is impossible. It will necessarily be known to a sufficient number to render the knowledge dangerous. Nothing can prevent unprincipled and dishonest persons from gradually learning to avail themselves of this power to the injury of the unsuspecting. The only remedy is to let the public know at once the real nature of the power which the operator wills, and then every one will be upon his guard.

In some European countries laws have been enacted forbidding any person to practice Etheropathy, excepting regular medical professors or physicians, and I would respectfully recommend some such enactment in this country, to protect the innocent from the consequences of their own ignorance and the arts of accomplished knaves.

I would also suggest the propriety of a law rendering any

contract voidable which is made by an operator with a subject, except when sanctioned by a physician in the presence of a magistrate.

IMMORAL INDUCTION.

There is another abuse of Etheropathy to which I deem it my duty to allude. I refer to the influence of immoral associates upon susceptible persons. I have in several instances seen persons whose organization indicated honesty, sobriety and virtue, but who were notwithstanding reputed to be the very reverse. These persons were highly susceptible to Etheropathic influence, and having fallen into vicious society were unfortunately inducted and vitiated so as to conform to the will of their vicious companions. It is true that neither the subject nor the companions intended to produce this result, nor even suspected the nature of the agent which was active between them; perhaps neither of them ever heard of mesmerism, nor Etheropathy, nor animal magnetism, yet they unconsciously employed it, and the subject was innocently inducted and seduced by its agency. I would therefore advise those who are aware of their susceptibility or that of their friends, especially the young, to avoid the society of those whose examples or conversation are of an immoral character. Vice and virtue are capable of being imbibed with wonderful facility by persons susceptible of etherean induction, and this fact being known may be of infinite service to some who would otherwise be ruined.

Some observations which I have made incline me to the opinion that many persons are susceptible to abnormal induction of a peculiar kind, which has not hitherto been suspected to exist—an induction which is gradual and insidious, and the process of which is complicated. I would denominate it *gradual social induction*.

Many persons acquire the habits of their associates with a degree of facility which cannot be accounted for by their phreno-organic developments, the organs of Imitativeness

and Approbativeness, &c., being below medium, yet on trial they are not readily inducted in the ordinary manner, and are therefore not supposed to be susceptible persons. The fact is, that they are susceptible to *gradual* and *continued* induction, but not to sudden induction. They become inducted by long continuance in the society of persons of superior energy, and if they are young, a bias is thus given to their characters which becomes incorporated into their constitutions, never to be effaced. A thousand reflections naturally arise in the mind of any one, who feels an interest in the cause of education and of good morals, from the above considerations. We are more than ever impressed with the importance of selecting proper teachers and companions for the young, and of securing them from improper influences.

Local Induction.

I suspect that there is in some localities a greater tendency to susceptibility than in others, and I have endeavored, though without much success, to ascertain the local causes of susceptibility. I have found blacksmiths, iron-workers and printers, more susceptible as a class than soldiers and farmers. Is it because those who work among metals become, in some degree, inducted by them ? I found that of thirty U. S. officers at West Point not one was susceptible. Is it on account of their habits of self-control, and of controlling others ? their manly exercises ? their skeptical, mathematical, unimaginative education ? or is it all these causes combined ? I have often found persons susceptible in a high degree, who had injured their constitutions by habits of intemperance. Why is this so ? On this point, as well as many others in Etherology, we need statistical information, derived from long continued and extended observations carefully made and recorded by a Society of Ethereans.

Was not the Salem witchcraft caused in some measure by the food, or the state of the atmosphere ? Was it not an

endemic *disease?* May not local causes, or diet, or occupation, or medicine, have an important agency in producing susceptibility by weakening the isolation? May not certain kinds of medicine be discovered which may produce susceptibility? May not some diseases (especially those of the mind) have their origin in Etheropathic susceptibility and induction produced spontaneously, and may they not be cured by the same means? These things deserve investigation.

SECTION XVII.

RULES FOR EXPERIMENTS.

CREDENCIVE EXPERIMENTS.

1. TELL the subject that you intend to operate upon him, and get his consent to it.

2. Tell him that you are actually operating on him.

3. Perform some ceremonies which he supposes are essential to the success of the operation.

4. Be serious, firm and *kind*, and assume a manner which prevents trifling, either on the part of the subject, or the persons who may be present.

5. If the subject has any reluctance to submit to the operation, excuse him at once; do not persuade him as if it is to do you a favor. Say but little to him except what is useful to the success of the operation.

6. If the subject has a guardian, you had better not operate unless the guardian or *loco parentis* requests it, and during the operation, if any friends are alarmed, or begin to dictate, it is better to restore the subject and decline to operate upon him more; but while you do operate, allow of no superior. A commanding imperativeness and firmness is as important in the operator, as conformity is in the subject. The operator should for the time be perfectly "master of his subject" and of every one else who is present, so far as to require order, and a conformity to regulations; but the operator should in no case lose his temper or manifest any irritability; his motto should be "mildly but firmly."

7. Let the subject sit down in a common chair without resting his head. Let him incline his head slightly forward, close his eyes, and keep them gently closed. Let him not speak, nor move unless it is necessary to his comfort. Let him not cross his legs, as it will interrupt the circulation.

8. Sit down before him and take hold of his hands in any way you please, provided it conveys to the subject the impression that you are making an effort to affect him, and that your taking hold is a useful part of the operation.

9. You may sit thus before some persons an hour, without perceiving any effect whatever, and afterwards succeed; but, as a general rule, more than fifteen minutes is a waste of time. The first symptoms which subjects exhibit, are various, and often depend upon their fancy, their previous knowledge or reading, or what they have *heard* is the first effect. But there are some symptoms which are evidently involuntary—one is a slight tremor, which sometimes, though rarely, is increased to convulsive twitchings. If the convulsions become alarming, the operator should never lose his coolness and self-command under any circumstances, but rouse the subject and restore him. I have never had but two such cases, and both were caused by previous nervous disease. Another common and favorable symptom is the breaking out of perspiration, which is of course involuntary. Another symptom is that when the operator places his hands upon the top of the head and passes them down to the shoulders, the subject breathes louder every time you do so. In some cases none of these symptoms are exhibited, and yet the subject is perfectly inducted in five minutes.

10. When you wish to ascertain whether you have succeeded in inducting the subject, press your fore-finger on the forehead where it joins the nose, or press one finger on one eye-brow and another finger on the other brow, and, in a low voice, say to the subject, "*you cannot open your eyes*,"

and if he is sufficiently affected, he cannot open them ; he is not asleep, and, perhaps, he had no idea till this moment that he was in any degree affected. Now tell him to open his eyes and to put his hands together ; lay your finger across them and say, " you cannot get your hands apart," and he cannot ; or, perhaps, he can with a great effort. Now tell him to extend his arm, and when he has done so, tell him that he cannot put it down, and he cannot. If he is well inducted, you may tell him that he cannot step, or speak, or see, or hear, or taste, and he cannot do it. Tell him that water is rum, or ink, or hot, or cold. Tell him that black is white, that he cannot lift a feather, or a penny, and it will seem so to him. Tell him that a cent is gold, or silver, and he will receive it as such, and give you the change. Tell him that he is a negro, a female, a dog, a fish, a post, a steam-engine—that his head is a coffee-mill—that he is Richard, Hamlet, Jackson, Clay, or what you please, and he is transformed instantly and verily believes your assertion to be true. Tell him that he can walk until he gets to such a line, but cannot pass over it, and he cannot.

11. If any other person besides the operator makes the assertion, it has no effect ; but if the operator says to the subject—" such a person has influence over you," then the person or persons mentioned can influence the subject in the same manner.

12. There is considerable difference in subjects in respect to how far the delusion can be carried—some cannot open their eyes, or step, or move any muscle, yet they cannot be deceived concerning colors, or their own identity ; some can only be deluded in one way, and some can in all ways.

13. The influence will pass off from some subjects within five minutes and cannot be regained, but in most cases it continues several hours and in many cases several days. I have made them stop in the street, a week after induction, by a single word.

14. A large majority of those persons who have ever been inducted or mesmerized in the usual way, can be made to perform these experiments when perfectly awake, and when no one would suppose from their appearance that they were in any degree affected or under any peculiar influence. Five minutes are enough to induct them sufficiently for this purpose.

15. Any person acquainted with Etheropathy, can feign and imitate all these experiments, so that no sagacity can detect it. The reality of the whole matter can be proved only by the *testimony* of the subject himself. If he is ambitious to enjoy the character of an impostor, he may be gratified by first becoming a liar. When the subject says that he cannot open his eyes, and pledges his honor to the truth of his assertion, the only way is to assume that you believe him. If you doubt him, it is better not to tell him nor any one else of your doubts : you *may* do him injustice. Let every one present judge for himself. The operator should never say that he knows that the subject is not deceiving, he should only answer for himself—for his own integrity. He may say, if he thinks proper, what he knows about the character of the subject for truth and honesty ; but he cannot truly say that the subject is not deceiving, and he should not risk his own reputation by doing so.

16. The advantage in performing Credencive experiments, is, that they are successful upon about one person in twelve or twenty throughout any community ; so that it is easy for any persevering man to convince the community, where he happens to be, of the truth of Etheropathy by the testimony of their own citizens. Sometimes it will happen that the first persons attempted are found susceptible, and again fifty may be tried in vain. I find that about five in every six are slightly affected, so that I can perceive it myself, but not more than one in twelve or twenty will manifest the Credencive experiments perfectly.

17. If a whole audience consents to be tried, the operator has only to say to them, that if there is any one among them who is susceptible he will be affected while the operator is lecturing, or doing something else—and every one in the room who is both susceptible and rather Credencive will be affected accordingly. The success of this experiment depends upon the character of the audience and the tact of the operator. It is better to say, that those who are willing to be inducted may occupy certain reserved seats—this will prevent the rest from becoming alarmed and leaving the room.

18. The success of Credencive experiments is greatly retarded by the presence and hostile conduct of skeptics, and of proud, imperious and contemptuous persons, or any persons who do not conceal their incredulity.

EXPERIMENTS IN SOMNAMBULISM.

19. If the subject seems to be in a high degree susceptible, so as to be inclined to go to sleep, let him alone awhile, and then ask him if he is asleep; if he says that he is asleep, then he is so; but if not, ask him if he is going to sleep; if he says *yes*, then tell him to *go to sleep*, and wait a while longer, then ask him the questions again as before, until he says he is asleep.

20. When the subject is asleep, ask him concerning his health and the health of yourself, and your peculiar feelings. Pinch your own hand, and see if he shrinks as if it were his own hand. Taste of something, and ask him what he tastes. Move your features and limbs, and see if he does the same. Ask him who else is in the room, or who is in the next room. If he cannot answer any of these questions in a satisfactory manner, he is not in a Clairvoyant nor sympathetic state.

21. Tell the subject to open his eyes without waking, and they will generally do so. If the subject is skillful in

any thing in his ordinary state, he will be much more so now. He will sing, or paint, or dance, or declaim better than ever and with less embarrassment; but he is apt to become sleepy. I have found that such performances are best when the subject is awake, but under Credencive influence.

22. When you restore the subject, look him in the eye, and tell him not to have any head-ache, nor tremor, nor sickness, nor rheumatism, nor melancholy, &c., and he generally will not, as long as the influence remains in any degree.

EXPERIMENTS UPON DISEASED PERSONS

23. If the person to be operated upon is affected with some disease, and the object is to effect a cure, you should begin by making yourself acquainted with the history and symptoms of the case, and, if convenient, consult with a physician, before proceeding to induct him.

24. Get rid, if possible, of all curious and inquisitive persons, and those who have never seen experiments. It is better still, if you can have the room exclusively for the use of yourself and your patient.

25. Whatever effect you wish to produce, tell the patient that it will probably be produced, *if* he is in a proper state of susceptibility and of conformity. Tell him not to trouble his mind by *trying* to be affected, but to merely keep his mind upon the probability that he will.

26. After having tried fifteen minutes, if you find you have produced no *apparent* effect, tell the subject that you have affected him in some degree, and that by repeating the operation several times, his *debility* will be relieved. For it is undoubtedly true, that a healthy person always benefits a debilitated one.

27. If you find that you have a Credencive control over the patient, *assert* that his disease is cured, or that it is

relieved, as the case may require. If his disease is *local*, make local passes and applications, and assert that they will certainly be efficacious, and they generally will be so.

28. If the subject is much inducted and under perfect control, no other medicine is necessary; though the medicine may be taken if the physician insists upon it, and the operator can generally modify its effects at his pleasure.

29. If the patient is but little affected and the influence acquired is but slight, then medicines must be used as usual; but the medicines may be inducted in the presence of the subject, and he himself may be inducted also and told that the medicines will have a favorable effect, and they will actually have a much more beneficial effect than if no such ceremonies were performed.

30. Electricity may be applied to a slightly inducted subject and have much more effect upon him, to cure him, than if he is not inducted.

31. A Magneto-Electric contrivance is now in use, in which a current of Electricity is interrupted for an instant, and then continued, and then interrupted again, in such a way as to cause a rapid succession of slight shocks to be produced in any part of the head or body desired. This method of using Electricity was first introduced in Germany. In this country, I believe, the present most approved machines were first manufactured and are still made and sold by Benjamin Pike, Jr., 294 Broadway, N. Y. The machines used by Dr. Sherwood are in imitation of Mr. Pike's. Dr. Sherwood professes to *mesmerize* with his machine, but this is probably an error into which the Dr. has been led by effects which were produced by Credencive induction.

32. Electricity is often useful in those cases where the nerves have ceased to perform their function with proper vigor, and I would advise its use when mesmeric induction fails to produce sufficient effect. It may be used in addition

to the mesmeric induction, and thus render essential service in the hands of a skillful person.

33. If a subject is Clairvoyant, and in that state gives advice and prescribes medicine, I would recommend you to apply to a physician and get his consent before following the direction of the Clairvoyant.

34. It is my opinion (though I advance it with diffidence) that Homeopathy produces its cures by the aid of Credencive induction; for it is certain that if a subject is in a very slight degree inducted, it requires much less medicine to produce a given effect than when he is in the normal condition.

SECTION XVIII.

INDUCTION OF BRUTE ANIMALS.

It is seldom, if ever, that brute animals can be inducted so as to present the phenomena of Etheropathy. One reason why they are not as susceptible as man, is, that they are deficient in Credenciveness ; and this is doubtless also one reason why infants and idiots are rarely as susceptible as other persons. We perceive here the necessity of making a broad distinction between *Credencive* induction and *external* induction. Animals, infants and idiots cannot be affected by their own Credencive imaginations, as those of superior intellect often are. Whenever, therefore, they are actually affected, it must be by forces actually evolved from the operator.

There are so many traditions and anecdotes relating to the *charming* power of serpents, that it scarcely seems fair to get rid of them by resorting to a skeptical denial of the authenticity of the statements, especially when they are found to harmonize so perfectly with analogous facts in the history of man. Some suppose that the existence of the power ascribed to animals, of charming birds, toads, &c., is perfectly disproved, because, when serpents have been confined in cages, they could never be made to *charm* the birds which were placed near them for the very purpose. But it should be remembered, that among men few try to exert this power, and few persons among those tried are found sufficiently susceptible to manifest that perfect conformity to the will of the operator, which it is said birds

sometimes exhibit when spell-bound by the fascination of the serpent.

It is even supposed by many, that serpents have the power to charm human beings; and I can readily admit, that if it is true that one animal is capable of exerting this influence over another animal, he might also exert it over a human being, more especially if the person influenced actually *believed* in the power of the serpent.

Gen. Morris has embodied the spirit, both of tradition and philosophy, on this subject, in a song which he has introduced into his "*Maid of Saxony.*"

"When I behold that lowering brow,
Which indicates the mind within,
I marvel much that woman's vow
A man like that could ever win.
Yet, it is said, in rustic bower—
The fable I have often heard—
A serpent has mysterious power
To captivate a timid bird.

"This moral then I sadly trace,
That love's a fluttering thing of air;
And yonder stands the viper base
Who would my timid bird ensnare.
'Twas in the shade of Eden's bower
This fascination had its birth,
And even there possessed the power
To lure the paragon of earth."

Another reason, it may be presumed, why brutes are not more susceptible, is, that the *isolation* is more perfect in them. Isolation is a principle of all organized beings, vegetable and animal, without which they could not maintain their independent existence and identity; and, like every other principle which is common to *all* organized beings, it is found in greater perfection the lower we descend in the scale.

I have never tried but one experiment of this kind which is worth mentioning and that was upon a cat. I found that when I put my finger within an inch of her ear, she felt it although I was certain she could not see it, and she made a motion of the ear as if I had touched it. It occurred to me that this might be common electricity, with which these creatures are generally so much charged. I also noticed some very slight movements of the muscles as I passed my fingers over her limbs without touching them, her eyes being closed at the time. It is really worth some trouble to ascertain whether brute animals can be decidedly affected; I am free to confess that I am not at present satisfied on this point. Mr. Lang has given us some extracts from a work published in 1839, by Dr. Wilson, physician to the Middlesex Hospital, Eng., by which it appears that he has tried experiments with a wonderful patience and perseverance upon various animals. The account is given with much simplicity and apparent honesty, but it strikes me as exceedingly ludicrous. It is not easy to realize that he is perfectly serious in his statements; and when we are satisfied that he is quite in earnest, it is equally difficult to avoid a suspicion that he has allowed himself to be misled by his extraordinary enthusiasm. His experiments are, however, quite as rational, if not more so, than those of Dr. Buchanan, or Mr. Sunderland, or Mr. Spencer T. Hall. Mr. Lang introduces the extracts from the work of Dr. Philips with approbation. He says,—

"The Rev. Mr. Townsend, Mr. Braid and other writers, allude in general terms to the fact of Mesmerism having been tried on the brute creation.

"Dr. Elliotson is reported to have stated at a meeting of the London Phrenological Society, that the Duke of Marlborough had informed him that while at the Marquis of Ely's seat in Ireland, and strolling out in the morning, he came upon a very ferocious dog, chained in a farm-yard. The Duke durst not approach, but

standing at a respectable distance Mesmerized him, and going up, actually embraced the sleeping animal.

" Mr. Borrow, in his fascinating work, ' The Bible in Spain,' relates that he averted in an analogous manner the attack of a large dog which flew at him.

" The only regular series of experiments on brutes, of which, so far as we are aware, any account has been given to the world, were those performed by Dr. Wilson, physician to the Middlesex Hospital. As Dr. Wilson's work* is but ltttle known among general readers, we trust it is unnecessary to make any apology for drawing pretty largely upon its pages. Dr. Wilson states, that having applied Mesmerism with the most beneficial effects upon several of his patients, he nevertheless felt himself restrained from proceeding further, and was induced by various considerations to institute some experiments, with the view of ascertaining what effects could be produced by it upon the brute creation. He goes on to say :—

" ' My first experiments on animals were made on cats, but as they were more or less connected with the cases of my patients which I have not entered upon here, I may briefly notice that many experiments were made on four cats and kittens, at intervals, from the 16th May to the 3d October, 1838, and each of them was put to sleep at the first trial ; and ultimately I was able to put first one and then another to sleep, and at the end to leave three sleeping together, being as many as could ordinarily be brought together at once.

" ' One of these, a tom, the first of them that was magnetised, and on which that operation had been most frequently repeated, became easily and strongly influenced by them, so that he has been pulled about, lifted up by the nape of the neck, and the ears tickled with a pen, during which he would remain motionless, and the cat was then said to be in a state of catalepsy ; sometimes when lifted up by the head or tail, the eyes might partially open without the limbs moving, and when dropped down, the eyes again closed, and he continued to sleep, without making any effort to move from the place where he had been dropped.

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* *Trials of Animal Magnetism on the Brute Creation.* By John Wilson, Physician to the Middlesex Hospital. London: Sherwood, Gilbert and Piper. 1839.

"'My other experiments at the following places were not carried to the same extent, as I was generally satisfied to cease the operations as soon as sleep came on.'

"Dr. Wilson's work is in the form of a journal, from which we proceed to extract as follows:—

"'*September* 26, 1838.—White Will, a tom cat, age about a year. Kitty, a female cat, tortoise-shell, eight months. Fuzzy, a female cat, French, two months. Vick, a female terrier, six months.

"'Made the passes on Kitty and Fuzzy, on my lap, both for the first time, and both were put to sleep in about a quarter of an hour.

"'*September* 28.—Magnetised Fuzzy and Vick on the hearth-rug. Both were put to sleep in five minutes, and both slept an hour and a half; being the first trial on Vick and the second on Fuzzy. Afterwards White Will was magnetised on the rug; in about ten minutes or more he was put to sleep, and Vick coming in the way and annoying White Will, I directed the passes towards her at the same time that I was acting on White Will, and again, after becoming very irritable, and biting the fender, she was put to sleep. Both awoke on some one coming into the room.

"'The same morning I made passes on a drake and three ducks. They were difficult of approach at first, but they soon became quiet, and allowed themselves to be acted on in a mass, with my hands quite close to their heads; at other times they became very restless, struggled, and bit each other's necks, and tried to escape, as it were, from the passes; the wings of all, but those of the drake in particular, made convulsive twitchings as the hand moved over them. One or two became apparently drowsy, eyes half closed, and sat down two or three times. One or two yawned at different times. The time occupied was about half an hour, when I was obliged to go away.

"'About a month after the last passes were made one of the ducks died; and a fortnight after that the drake died. The cause of their deaths was not known. They did not die suddenly, but were said to have pined away gradually.

"'*October* 19.—Had a dozen fish, (roach, dace, gudgeons and loach,) from one to three ounces in weight, caught in the Thames this morning. Passes being made on them when in a large tub of water, they soon came to the top of the water, put their noses out, and allowed me to touch their heads, stroke them down the backs,

and pop their heads under the water, when they came to the top again immediately, and, instead of seeming afraid of the motion of my hand, they appeared more desirous of getting near to it than avoiding it.

"'*October* 29.—Put a Bantam cock with a Bantam hen under the cage, near to a she-goat, eighteen months old, when William and I both made passes together, and separately, for more than half an hour before the goat was put to sleep, and then only slightly. The cock at first chuckled, and made much noise; then he became quiet, and remained so; sometimes sat down and closed his eyes; but towards the end he stood upright for a considerable time like a statue, and neither moved head nor foot; and when the cage was taken away, he moved not in the least, allowed me to touch and pull his comb and gills, and to stroke him down without making the least movement of his feet, head, or neck. As night was coming on, he was brought in, and placed before the kitchen fire, where there were dogs near to him, and the same teasing means were repeated with like results, when he began to evince sensation and motion by degrees, and finally aroused up, and clawed my hands. The hen was somewhat similarly affected, but in a much less marked manner. It will be observed that it was about their roosting time.

"'*October* 28.—At twelve o'clock, made passes at a distance on a wild, fierce, Chinese gander and a common goose, and they gradually allowed me to approach them though they were at large in the farm-yard; and when the gander let me come up to him to make the passes close along his head and neck, his neck quivered obedient to the passes, which quiverings I stopped and renewed at pleasure. I could touch and stroke his head and neck as I wished: he remained a quarter of an hour erect, with his head raised in the air, and never, during that time, once moved a foot. He frequently gaped during the whole time, as well as the goose; and, when he seemed most susceptible, kept continually uttering a sort of plaintive noise as the passes were made.

"'The goose made no noise. At last I directed the passes from the head of the gander to the head of the goose, and then the goose's neck quivered: it lay down several times, held its head down, and put it under some wood, while I continued the passes down its neck.

I did not notice its eyes being closed. The gander never lay down.'

" The following experiments were made at a third station The notes, at the time of trying to affect two pigs of a large breed, were drawn up, Dr. Wilson states, by a spectator :—

" ' *July* 21,1838.—The pigs were about nine months old, healthy, fat and very lively. The sty in which they were confined consisted of two parts—a small oblong court uncovered, and an inner sty roofed, and partly boarded in front. They were magnetised across the outer court into the inclosed sty, at the door of which they presented their heads ; about half an hour after, they began to sweat about the ears and neck, and to utter a peculiar shrill plaintive squeak. After being operated upon for about an hour, one of them lay down ; and the other, though standing, suffered the operator to enter the inner sty, and magnetise them quite close, without their being disturbed.'

" The following experiments were made in the Zoological Gardens, Surrey, on two Ceylon elephants, male and female, Rajah and Hadgee, each about ten years old, and both kept together in the same stall.

" ' *March* 13, 1839.—Began the passes along the head and trunk (proboscis) of the female elephant, Hadgee, as she stood ; in about five minutes she curved her trunk, previous to raising her head, to strike me with the trunk ; which the keeper noticing, warned me of what she was preparing to do, so that afterwards I kept at a distance where she could not hit me with her trunk, though several times she attempted to do so, by raising her head and lashing out her trunk at the same time. Twice she turned her back on me, but I continued the passes. Once she struck her hind-leg out towards me ; she also yawned several times : the striking her trunk out, with the design of hitting a stranger, was unusual with her. Time of operation, a quarter of an hour, when, strangers coming in, it was discontinued.

" ' Then I went to see the other wild beasts fed, but found that they had already begun feeding. As I stopped before a lioness, lying down tearing a half devoured joint, which she held between her paws, and growling at me, I began making passes towards her head ; she very soon, almost immediately, ceased eating, grasped the joint between her jaws, and ceased growling ; her eyes began

to twinkle, and soon closed at times, for short intervals; when some strangers came up, and asked me how it was that I seemed to affect the lioness. I gave them an evasive reply, in hopes of their going away, and ceased the passes, but held my hands out a little towards her, as she continued in the same position; but her eyes were much less closed than when I made the passes. After these visitors went, I renewed the passes; when other visitors came, and again I ceased, and held my hands out steadily before me; she then got up and walked about, and then lay down again. As the company remained standing there, I ceased all trials and retired, as the lioness began to tear the joint, after having retained it full twenty minutes in her mouth, without once relaxing hold of it.'

"After giving the details of several experiments, Dr. Wilson concludes—

"'No further trials were made on the elephants and other wild beasts, from my unwillingness to carry the experiments beyond a certain point; for I had no means of judging what the consequences might be, should such animals as the elephants, and other beasts, after repetitions of Magnetism, get into the irritable stage, or should they, after being put to sleep, pass into the state of somnambulism or delirium.'"

APPENDIX.

EXPRESSIONS OF OPINION.

UNION COLLEGE, *October* 23, 1844.

PROF. J. STANLEY GRIMES:

Dear Sir—At the conclusion of your lectures, just delivered before a portion of the students of this Institution, a meeting o the class was duly organized, and the following resolutions were adopted, as expressive of their sentiments in reference to your lectures.

Resolved, That we have listened with deep interest and the highest satisfaction, to the series of lectures on the Philosophy of Mesmerism, just delivered before us by Mr. Grimes, and that we unanimously concur in tendering to him this testimony of our approbation and respect.

Resolved, That the experiments delivered before us, have without exception been of such a character—the subjects being our fellow students and classmates, known to us to be men of intelligence, firmness, and Christian integrity—as to forbid a doubt of the facts, and leave us not the slightest ground for skepticism.

Resolved, That so far as we are competent to judge, the theory of Mesmerism, as presented by Mr. Grimes, is not only novel and excitingly interesting, but in perfect accordance with admitted principles of science.

Resolved, That should Mr. Grimes, as we understand it is his

intention to do, publish to the world his views upon this subject, we believe they will meet with that favor from the public, and from men of science in particular, which, in our judgment at least, their present novely demands.

Resolved, That wherever Mr. Grimes may go, we would respectfully solicit for him a candid hearing from an enlightened public, feeling assured that their experience will accord with our own, and prejudice give place to conviction, and skepticism to confirmed belief.

Resolved, That a copy of these resolutions be presented to Mr. Grimes, to be used according to his discretion.

A. NEWKIRK LITTLEJOHN, *Chairman.*

REPORT *on the Phrenological Classification of* J. STANLEY GRIMES. By E. N. Horsford, *Professor of Natural History and Mathematics in the Albany Female Academy. Adopted by the Albany Phrenological Society, September* 3, 1840.

"The committee to whom was referred the letter of Mr. Grimes, requesting an examination of his classification, as exhibited in his "New System of Phrenology," and a comparison of it with the classification of Dr. Spurzheim, beg leave to submit the following REPORT:—

"The importance of arranging the principles of a science in accordance with the laws of natural relationship, has been recognized from the days of the earliest philosophers to the present time. It has been acknowledged in astronomy, geology, and the other branches of natural science. The productions of the great men in these several departments of investigation are the monuments of a desire to improve and perfect classification. A like feeling has been manifested by writers upon the powers of the mind. Succeeding generations, enlightened by discoveries, and quickened thereby to the perception of defects in previous systems, attempted improvements; and the whole history of mental philosophy, from Pythagoras to the commencement of the last century, is but little more than the record of changes in nomenclature and arrangement of the attributes of mind.

"The actual discovery of twenty-six of the fundamental facul-

ties of the mind, and the organs through which they manifested themselves, was the first great step towards a proper classification. But the life of Dr. Gall was too short for the labor of founding and perfecting a science. Although he speaks of *propensities*, *mechanical aptitudes*, *intellectual dispositions*, and *moral qualities;* yet, besides the record of his invaluable discoveries, he has left us little more than a simple arrangement of the powers. In this he seems to have been guided merely by the relative position of the organs, commencing at the base, and proceeding regularly to the top. Accordingly, Amativeness is placed first, and Firmness last; while Cautiousness and Educability (Individuality and Eventuality of Spurzheim,) are associated together. Dr. Gall maintained that all the faculties have the same modes of action; and that a separation of them into two orders, founded upon their different modes of action, could not be made. Dr. Spurzheim, however, guided by the accumulated opinions of philosophers who had gone before him, was enabled to recognize two distinct classes of powers; and the two orders of Affective and Intellectual Facultifs proposed by him, have received the sanction of the greater portion of the phrenological world. Dr. Spurzheim maintained that perception, memory, and imagination, are attributes of the Intellect, and that the affective faculties have sensation alone. These views were rejected by Gall. Dr. Spurzheim divided the Affective Faculties into *Propensities*, or those internal impulses which invite to certain actions, and *Sentiments*, which, besides inviting to certain actions, are attended when active by a peculiar emotion.

The Intellectual Faculties he subdivided into four genera: the external senses; the faculties which perceive existence and physical qualities; those which perceive the relations of external objects; and the reflecting faculties. The following is Dr. Spurzheim's classification, as drawn out in Mr. Combe's last work.

ORDER I. — FEELINGS.

GENUS I.—PROPENSITIES.

1. Amativeness,
2. Philoprogenitiveness,
3. Concentrativeness, or Inhabitiveness,
4. Adhesiveness,
5. Combativeness,
6. Destructiveness,
* Alimentiveness,
† Love of Life,
7. Secretiveness,
8. Acquisitiveness,
9. Constructiveness.

GENUS II.—SENTIMENTS.

I. *Sentiments common to man with lower animals.*

10. Self-esteem,
11. Approbativeness,
12. Cautiousness,

II. *Sentiments proper to man.*

13. Benevolence,
14. Veneration,
15. Firmness,
16. Conscientiousness,
17 Hope,
18. Wonder,
19. Ideality,
20. Mirthfulness,
21. Imitation.

ORDER II.—INTELLECTUAL FACULTIES.

GENUS I.—EXTERNAL SENSES.

Feeling, or Touch,
Taste,
Smell,
Hearing,
Sight.

GENUS II.—INTELLECTUAL FACULTIES,

Which perceive existence and physical qualities.

22. Individuality,
23. Form,
24. Size,
25. Weight,
26. Coloring.

GENUS III.—INTELLECTUAL FACULTIES,

Which perceive relations of external objects.

27. Locality,
28. Number,
29. Order,
30. Eventuality,
31. Time,
32. Tune,
33. Language.

GENUS IV.—REFLECTING FACULTIES.

34. Comparison,
35. Causality.

In expressiug an opinion upon the merits of this classification, the committee feel deeply the responsibility of their situation. The work of a profoundly analytical mind is before them; and with scarcely an alteration, it has received the sanction of the most distinguished advocates of the science, in Britain, France and America. It is the standard classification; it is one of the many monuments of a distinguished genius, and we are bound to revere it. The committee are also aware, that the ultimate functions of all the powers are not yet established, and that there is still a broad field

for discovery. Nevertheless, the following quotations from Spurzheim and Combe, show not only their own consciousness of imperfections in this classification, but appear to point out to us the path we should pursue. 'If,' says Spurzheim, 'under any head of the nomenclature, there be a better name than I employ, * * * * I shall be glad to use it; for I am always disposed to acknowledge truth, and obey real improvement.' 'It appears impossible,' says Mr. Combe, 'to arrive at a correct classification until all the organs, and also the primitive faculty or ultimate function of each, shall be definitely ascertained, which is not at present the case. Till this end shall be accomplished, every interim arrangement will be in danger of being overturned by subsequent discoveries.'

"From these remarks, the duty of pointing out defects, that in the very nature of things belong to progressive science, when necessary to the exhibition of improvement, becomes abundantly apparent.

"Dr. Spurzheim's first division into Intellectual and Affective Faculties, is the link by which phrenology is attached to the mental philosophy of the old school. His division of the affective faculties into propensities and sentiments, nearly corresponds with Brown's Prospective and Immediate Emotions. It is based upon a conceived difference in their attributes. "Propensities," Spurzheim remarks, "invite *only* to certain actions;" but sentiments are not limited to inclination alone; "they have an emotion of a peculiar kind superadded." After comparing the views of writers who have recognized this distinction with the actual manifestations of the affective powers, the committee are unable to believe that grounds for this division exist. Each of these faculties has its own sphere of action, but some of the spheres are higher than others. Philoprogenitiveness has its nursery; Adhesiveness its limited circle of friends; and Benevolence, the entire world. Alimentiveness impels attention to the wants of the nutritive system; Cautiousness induces general guardianship over both the corporeal and mental constitutions; and Hope excites to action under bright views of a cloudless future. When these powers are aroused by their appropriate stimuli, their activity is attended in all by a feeling or an emotion, differing in the different faculties as widely as the spheres in which they act.

"Now that, to Benevolence and the group of powers with which it is associated, this attribute should be extended, while to Adhesiveness and the whole genus of animal propensities it is denied, is considered a position unfounded in nature.

"The subdivision into sentiments common to man and the lower animals and those proper to man, is very clearly defective. Spurzheim has given drawings showing that some dogs and horses have a developement of Benevolence; and Gall remarked that lions were more full in the region of this organ than tigers. Imitation is admitted by Spurzheim to be a faculty of some of the monkey tribe; and Mr. Combe remarks, that the organ is found in the brains of both parrots and monkeys. It has also been suggested, that the proverbial stubbornness of asses has its source in Firmness. These examples show that the last division, though it may be convenient, is not strictly philosophical. In the genus *animal propensities*, Spurzheim has classed together powers, at least as little associated as are the superior and inferior sentiments. Alimentiveness, a faculty related exclusively to the individual, is placed beside Amativeness and Philoprogenitiveness, which are clearly related to the species. In the arrangement of the intellectual faculties, Language,* one of the lowest organs, and one which, according to Bessieres, becomes fibrous immediately after Individuality and Form, is elevated to a place directly below the reflectives.

"Mr. Grimes' classification, as presented in his 'New System of Phrenology,' retains Spurzheim's first division of the powers of the mind under the heads of PROPENSITIES and INTELLECTUAL FACULTIES. The PROPENSITIES he divides into two classes, which he denominates *Ipseal* and *Social*. He denies the distinction between propensities and sentiments maintained by Spurzheim. His classification follows:—

CLASS I.

IPSEAL, OR SELF-RELATIVE PROPENSITIES.

CLASS II.

SOCIAL, OR SOCIETY-RELATIVE PROPENSITIES.

CLASS III.

INTELLECTUAL, OR KNOWLEDGE-RELATIVE FACULTIES.

* I consider this the organ of Sound.

CLASS I.—IPSEALS.

1. Corporeal Range.

1. Pneumativeness,
2. Alimentiveness,
3. Sanativeness.

2. Carnivorous Range

4. Destructiveness,
5. Combativeness.

3. Herbivorous Range.

6. Secretiveness,
7. Cautiousness.

4. Rodentia Range.

8. Constructiveness,
9. Acquisitiveness.

5. Human Range.

10. Playfulness,
11. Perfectiveness,
12. Hopefulness.

CLASS II.—SOCIALS.

Establishing Group.

1. Amativeness,
2. Parentiveness,
3. Inhabitiveness,
4. Adhesiveness.

Governing Group.

5. Imperativeness,
6. Approbativeness,
7. Firmness,
8. Conscientiousness.

Conforming Group.

9. Submissiveness,
10. Kindness,
11. Imitativeness,
12. Credenciveness.

CLASS III.—INTELLECTUALS.

Lower Range.

1. Individuality,
2. Chemicality,
3. Language,
4. Form,
5. Size,
6. Weight,
7. Color,
8. Order,
9. Number.

Middle Range.

10. Direction,
11. Eventuality,
12. Time,
13. Tune.

Upper Range.

14. Comparison,
15. Causality.

"This division into three classes, *Ipseal*, *Social* and *Intellectual*, is founded," says the author, "upon the following considerations:

"'First. *Anatomy* points to three grand divisions.

"'1. The spinal cord is in three columns, anterior, middle and posterior; and Mr. Charles Bell demonstrated that all the nerves which proceed from one column are destined to perform one class of functions. The nerves from the anterior column are for volition; those from the middle for respiration aud nutrition; and those from the posterior for sensation.

"'2. The medulla oblongata, Mr. Bell considered as a continuation of the same three columns of the spinal cord. It has three bodies,

The pyramidal, in the anterior;
The olivary, in the middle, and
The restiform in the posterior column.

"'3. The brain has always been divided into three lobes—anterior, middle and posterior—and the division may be found strongly marked in the brains of all the higher animals. Spurzheim found by dissection, that the fibres of the anterior pyramidal bodies of the oblongata expanded into and constituted the anterior lobes of the brain. And he contended that the middle and posterior lobes originated in the other two parts of the oblongata.

"'4. Each hemisphere has a great lateral ventricle, and this ventricle presents an appearance which has been denominated tricornes, or three horns—anterior, middle and posterior."

"'5. In a note which the committee have received from Mr. Grimes, it is said that Spurzheim considered the spinal cord as having three commissures, anterior, middle and posterior. And also, that the functions of the body are subdivided by some physiologists into three classes. Richard divides them into those that relate to the individual, those that relate to the species, and those that relate to the acquisition of knowledge.

"'Second. The natural history of animals is all in harmony with this classification.

"'4. The three powers, viz. Amativeness, Alimentiveness and Individuality, which constitute the foundation of the three classes, are manifested by all animals. No animal, however low in the scale of beings, is destitute of these three.

The organs of these powers are found in the very base of the brain.
Amativeness at the lowest posterior;
Alimentiveness at the lowest middle, and
Individuality in the centre of the lowest front part of the brain.

" ' 3. In the social class, if we begin at Amativeness, we find it manifested by all animals. If we proceed upward and forward, according to the arrangement of the powers, until we arrive at Credenciveness, we shall trace the progress of society, from its very lowest stage, up through every grade of animals, to its highest perfection in the most polished circles of human society.

" ' In the Ipseal class, if we commence at Alimentiveness, we see it manifested by all animals; and if we proceed upward, according to the arrangement of the powers, we find the first and second ranges of Ipseals manifested by the lowest classes of animals; the third range is manifested by the higher and more sagacious animals; and the fourth range is fully manifested only in man, and in his brain only is it found fully developed.

" ' In the intellectual class, if we commence at Individuality, we see it manifested by the very lowest animals! and if we proceed upwards, according to the arrangement of the powers, we shall perceive that the organs rise and expand out of each other, in a manner strictly agreeing with the progressive intelligence of animals; Causality, the highest of this class, being manifested in a vigorous and efficient manner only by man, the very highest and most complicated of organized beings.

" ' THIRD. 1. The Ipseal propensities produce those actions only which have for their object the nourishment, protection, improvement and happiness of the individual.

" ' 2. The Social propensities originate those actions only, which have for their object, the production, the establishment, and the government of society, and conformity to its useful regulations.

" ' 3. The intellectual faculties acquire knowledge, and point out the means by which the propensities may be gratified.'

" The considerations which Mr. Grimes has presented in support of his division of the cerebral organs into three classes are of three kinds:—ANATOMICAL STRUCTURE, NATURAL HISTORY OF ANIMALS, and ANALYSIS OF THE MENTAL POWERS. Of these, the committee have been unable to perceive the value which Mr. Grimes seems to attach to the *anatomical facts*. As a class of truths, they harmonize with this classification, and may therefore be said to lend it some support; but alone they must be regarded as far from contributing sufficient ground for this division. The occurrence of the fundamental organs of each class at the base of

the brain, and the regular gradation of the powers, from Amativeness to Credenciveness, through the socials; from Alimentiveness to Hopefulness, through the Ipseals; and from Individuality to Causality, through the Intellectuals, corresponding with the succession of animals in the scale of beings, from the lowest orders up to man, are certainly in beautiful harmony with, and go to sustain the last and most important consideration upon which the classification rests. In the analysis, Mr. Grimes shows that all the powers of each class perform certain specific functions that have a generic character in common. All the powers of the Ipseal class are related to the individual, those of the Social class to society, and those of the Intellectual class to knowledge. He also shows that each of the powers of the several groups in each class have a subgeneric character in common. The first four socials, Amativeness, Parentiveness, Adhesiveness and Inhabitiveness, have for their object the continuation of the species and the establishment of society; those of the governing group, Imperativeness, Approbativeness, Firmness and Conscientiousness, have for their object the maintenance of government in society, and the administration of justice; those of the conforming group, Submissiveness, Kindness, Imitativeness and Credenciveness, have for their object the perfection of society, by "obedience to government, condescension and kindness to all our associates, and conformity to their manners, habits and opinions." In the Ipseal class he shows, that the powers of the corporeal range are related to the nourishment and preservation of the body; that those of the carnivorous range are most strongly manifested in the animals that feed upon flesh, and procure it by the destruction of life; that Cautiousness in the herbivorous range characterizes the peace-seeking, ruminating animals;* that those of the rodentia range distinguish the whole order of animals to which the beaver and squirrel belong; that those of the human range are fully developed only in man. He makes Playfulness the link in the Ipseal chain, which connects man with the lower animals; the other organs of this range being exclusively human. He shows that men who have a developemeut corresponding

* Secretiveness is thought by Mr. Grimes to distinguish the Herbivora. It is also manifested in a high degree by the Carnivora. The essential question, however, is whether the associated organs perform analogous functions.

with that of animals belonging to either the carnivora, herbivora, or rodentia, are, so far as their Ipseal character is concerned, enstamped with the dispositions peculiar to the carnivorous, herbivorous, or gnawing animals. The Intellectual class, with the exception of a division into ranges, he considers as a whole, and treats the organs in their order of succession, commencing at Individuality, and proceeding through the first and second ranges of perceptives to the reflectives.

"From this hasty view of the principal systems of arrangement among the powers of the mind which have hitherto received attention, the committee pass to the more direct comparison of the classification of Mr. Grimes with that of Dr. Spurzheim. In doing this, it may be well to notice some of the principles of classification in nature, since correspondence with them can alone give perpetuity to any system, and since they constitute the only true standard of merit. Among those which, in phrenology, are obviously important, may be enumerated the following:

"I. Powers immediately related in functional character should be arranged in the same division.

"II. Powers not directly related, but differing in attributes, should be arranged in different divisions.

"III. The order of succession of the organs anatomically considered, and the relationship of the powers according to metaphysical analysis, should harmonize with each other.

"If a classification is defective when viewed in the light of either of these principles, it is manifestly imperfect; and that classification against which, when tested by these principles, there are found fewest objections, is the most perfect.

"In noticing Spurzheim's classification, it was observed that Language, manifestly low in the scale of perceptives—inasmuch as it is possessed by almost every individual of the animal kingdom, and the organ of which is at the very base of the brain—is ranked next to the reflectives. It was also seen, that Alimentiveness, a propensity related wholly to the individual, is associated with Amativeness and Philoprogenitiveness, which are beyond question related to the species. He has placed in separate subdivisions, Adhesiveness, Approbativeness and Benevolence, making the first an animal propensity proper, the second an affective power common to man and animals, and the last a power

proper to man. While it is plain that Adhesiveness characterizes man, even in his higher walks, as much as animals, and more so than most, and that Approbativeness, though common to man and some animals, cannot be claimed to be possessed by all inferior creatures, it is equally plain, from facts adduced by Gall, Spurzheim and Combe, that Benevolence distinguishes several orders of lower animals. This view leaves the alternative of regarding those instances where animals present a development of the powers not in conformity with the classification as exceptions to a general rule, or as considering the lines of distinction as improperly drawn. As no arrangement like the above is proposed by Mr Grimes, none of the above objections apply with force to his classification.

"Since the authors of the classification before us draw the same line, and give it the same direction between the intellectual faculties and the affective faculties, or propensities, the further question of relative merit resolves itself into the following inquiries.

"1. Is the distinction between sentiments and propensities maintained by Spurzheim, founded in nature?

"2. If it be not founded in nature, are all the powers of the Ipseal class according to Grimes, related to the individual; and are all the powers of the Social class related to society?

"1. Combe says in his remarks upon what distinguish sentiments from propensities, that 'Acquisitiveness is a mere impulse to acquire; but Veneration gives a tendency to worship, accompanied with a particular emotion.' Acquisitiveness is made the representative of all the animal propensities, and Veneration of the moral sentiments; and the argument based upon them is applied to the two genera.

It is true that the evidence here to be adduced is in Consciousness, and therefore may perhaps be thought difficult to present; but as the laws of the mind are immutable, and as the germ of every mental power is possessed by every sound mind, it may be fairly presumed that testimony upon a point of such importance is not altogether shut out from view. Let there be taken Firmness from the moral sentiments, and Combativeness from the animal propensities. When the former is in action, the possessor feels an impulse to resist the influence of others, and to maintain any position he may have assumed—a tendency to fixedness—and this feeling or impulse is called an emotion. When the latter is aroused, the

possessor feels an impulse to oppose whatever may be in his pathway. Now between the two, is there any difference beyond the particular *character* of the attribute? Is there any thing amounting to a superaddition? If there be not, this distinction of Spurzheim is without existence in nature.

2. Are all the powers of the Ipseal class, according to Grimes, related to the individual, and those of the Social class to society? In other language, it may be asked, could each power of the Ipseal class be brought into legitimate exercise, though the whole species besides the individual were annihilated—and could any of the Social class be legitimately exercised without the being of society?

A detailed reply to these interrogatories would involve an analysis of all the powers of the two classes, a task whose execution it cannot be conceived could be brought within the limits of this report.

That these two generic functions are respectively characteristic of the two classes, it may be remarked, is not denied, since Carmichael and Besseires have admitted its truth among the lower powers of the two classes, though they were unable to perceive its extension through the whole. From a careful examination of the analyses, the ground of distinction between the two classes, and their limits seem to be well established. The subdivisions of the two classes appear among the obvious arrangements of nature. Of the Ipseals, the corporeal range has relation clearly to the demands of the physical system. So nearly allied in function are Combativeness and Destructiveness, that the language of their respective analyses almost seems to be applicable to a single power. No two, in many respects, appear so nearly related as Secretiveness and Cautiousness; and the propriety of associating Acquisitiveness and Constructiveness is obvious, for the hoarding of possessions demands a place of reception. The powers of the last range, according to Mr. Grimes' analyses, appear all related to the improvement and the perfection of the individual; they seem to point to higher and nobler spheres of action than any of the preceding ranges, and are therefore justly separated from the lower powers.

Of the Socials, all the powers of the *establishing* group have the distinguishing generic character expressed in the name under which they are arranged. This remark is equally true of the *governing* and the *conforming* groups.

While the division of the powers into three classes, and their subdivision into ranges and groups, may be considered important and useful, the distinguishing feature, and that which to the committee constitutes the highest merit of the new classification, consists in this, that it traces the chain of functional relationship, from the lowest organ to the highest of each class.

If Mr. Grimes' classification is founded in nature, the following are some of the advantages which may be expected from its adoption.

1. It will facilitate the application of phrenological principles in deciding upon character from an examination of the head. Upon noticing the predominance of one class of organs, it may be said of the individual thus marked, he is Ipseal, Social, or Intellectual; or, upon observing two classes prevailing over the third, it may be said, he is Ipseal and Intellectual, or Social and Intellectual, or both Ipseal and Social. The same principle will be applicable in speaking of the developement of one group, or of two groups of the Socials, and also of the ranges of Ipseals and Intellectuals. The effects of a combined developement of particular groups in the different classes will be more readily understood.

2. It will aid analysis, in ascertaining the ultimate function of each organ. Upon knowing its position, and the relation it sustains to others—with what organ it would probably act, and whether in the centre of a class, or joined to organs of other classes, its manifestations will be more readily perceived, and more clearly comprehended.

3. It will aid in discovery, by directing the eyes of all phrenologists to limited regions of the brain, when in search for the seat of a faculty, in whose existence they have been induced to believe. For example, if the seat of a supposed power related to corporeal wants be sought, the attention will be directed to developements and deficiencies in the corporeal range. If the function of the organ occupying the region marked upon the bust of Mr. Combe as unknown, be the object of discovery, several aids will be afforded. It must, in the first place, be either Ipseal or Social; and in the second place, it must be either a Social of the conforming group, or an Ipseal of the human range.

4. It will furnish phrenology with new claims to the character

of an established science; and by its simplicity and consistency, will induce the student to pursue its investigation with the same kind of satisfaction that now attends his study of the older sciences.

In conclusion, the committee state, that distrusting their own abilities to discharge the duties assigned them, they entered into correspondence upon the question to be determined with several phrenological writers. They have also examined all the published works relating to the subject which they could command. And with these materials before them, after weighing the whole matter, the result is the opinion, that the classification of Mr. Grimes is a decided improvement, as it arranges the powers of the mind more nearly in accordance with the laws of natural relationship than any of the systems which have preceded it.

E. N. HORSFORD,
Chairman of Committee on Grimes' Classification.

"At the close of Mr. Grimes' lectures, delivered in the Chapel of the Albany Female Academy, the class organized by appointing Charles D. Townsend, M.D., Chairman, and Thomas W. Olcott, Esq., Secretary. Whereupon Henry Green, M. D., introduced the following resolutions, which were unanimously adopted.

"*Resolved*, That we have listened with exciting interest to the Lectures of Mr. Grimes, President of the Phrenological Society of Buffalo, on the science of phrenology.

"*Resolved*, That we believe Mr. Grimes has made new and important discoveries in Phrenology; that his arrangement of the brain into three classes of organs, viz:—the Ipseal, Social and Intellectual, together with their subdivisions into ranges or groups, is founded in nature, the anatomy of the brain, and the natural gradation of animals as they rise in the scale of being.

"*Resolved*, That we are forced to believe that Phrenology, as taught by Mr. Grimes, may be learned by persons of ordinary intelligence and observation, so as to be useful to them in their every day intercourse with society—that it is destined to improve our race, remodel the present mode of education, become useful in legislation, and in the government of children in families and in schools.

"*Resolved*, That we not only esteem it a duty, but regard it a pleasure, to encourage talents, genius and enterprise, wherever we discover them, and in whatever pursuit, if the object and effect is the improvement of mankind—that we regard Mr. Grimes as possessing the highest order of intellect, as original in his observations and deductions, and as destined to fill a distinguished place in the scientific world.

"*Resolved*, That we confidently recommend Mr. Grimes to the attention of our fellow citizens in different sections of our extended country, believing they will find him an accomplished lecturer, a close, accurate, forcible reasoner, and inimitable in his illustrations of the science he so triumphantly advocates.

"*Resolved*, That Henry Greene, M. D., and Professor McKee, of the Albany Academy, be a committee to present a copy of these resolutions to Mr. Grimes, and request their publication in the daily papers of the city.

"C. D. TOWNSEND, M. D., *Chairman*.

"T. W. OLCOTT, *Secretary*."

"Prof. Grimes, whose lectures on phrenolgoy, at Buffalo, Albany, and other cities, have excited unusual interest, and elicited the warmest approbation, proposes to deliver a course of lectures in this city immediately. His System differs materially in its details from that of Gall, Spurzheim and Combe, though resting on the same general foundation. We have not yet heard him; but from the testimony of friends on whom we can place reliance, we know that he handles his subject like a master, and that those who can find time to attend his lectures will be entertained and edified." —*New Yorker*.

"Professor Grimes, the phrenologian, whose original and ingenious views on phrenological science have caused his lectures to be very much followed in our western cities, has arrived here, and puts up at the Astor. He brings with him most flattering testimonials, from his Excellency the Governor, and others of Albany, where his last course was delivered. He proposes, we are pleased to hear, to give an opportunity to the citizens of New York to judge of the merits of his discoveries and deductions, in what he

justly terms the science of phreno-physiognomy, embracing all the phenomena developed in the brain, features, and whole organization, and character and habits of the individual, as divided into the three great orders of mammalia, viz :—the *carnivoræ*, the *graminivoræ* and the *rodentiæ*—corroborated by illustrations from every tribe of animated nature—the only true and exact base of this interesting science."—*N. Y. Star.*

"*New Theory of Phreno-Physiognomy, by James Stanley Grimes, Esq.*—Mr. Grimes delivered his first lecture last night, at the American Institute, to a respectable and intelligent audience. Every body present seemed impressed with the truth, force and originality of his new views on the science of phreno-physiognomy. Mr. Grimes has the merit of making himself clearly understood, and of presenting his subject under its natural divisions, and with great distinctness. He appealed, in strong and effective declamation, to the common sense of all present, and gave such familiar, graphic illustrations of his analysis of the temperaments, and of the language of the passions, displaying the powers of mimicry and eloquence to great advantage, that all present, we believe we may with truth say, were convinced that the theory of the Professor is based upon practieal sound sense and indisputable facts."—*Ibid.*

"*Lecture on Phrenology.*—Professor Grimes, we are happy to hear, has consented to repeat his introductory lecture on phrenology this evening, at the rooms of the American Institute, rear of the City Hall. The views on the science of phrenology, presented by Professor Grimes on Monday evening, were entitely new, and elicited a universal request from the audience for a repetition on this evening, and we trust all who feel an interest in the subject will attend."—*N. Y. Times.*

"*The Lectures on Phreno-Physiognomy, by Professor Grimes.*—Mr. Grimes will continue his course to-night, at the American Institute. The subject being one of particular interest, viz :—the highest range of the *ipseal* faculties, as he calls them, or those peculiar to man, as distinguished from all other animals. Mr. G.'s last lecture was received with great approbation, and fully sus-

tained his bold original theory, which has the merit of producing conviction, because we have before remarked, its illustrations are drawn from the only sure foundation for these investigations."—*N. Y. Star.*

"Mr. Grimes commences a third course of lectures to night, having been engaged to deliver the same before the Mechanics' Library Association, at their lecture room, in Crosby street, near the corner of Grand. The popularity of this gentleman is increasing daily, as is evinced by the flattering demands upon him by the most respectable literary institutions of our city.

"We understand, the lectures of Mr. Grimes, at the Crosby street Institute, before the Mechanics' and Tradesmens' Library Association, are so crowded that it is next to impossible to obtain admission. Last night a great number had to go away. We felt sure that when this gifted and luminous expounder of the only true laws of phrenological science should have a hearing he would daily gain more and more converts to his views on this interesting subject."—*N. Y. Star.*

UNION COLLEGE, OCT. 21st, 1840.

The following resolutions were passed at a meeting of the Students of Union College, after attending a course of lectures, delivered by J. Stanley Grimes, on the subject of Phrenology.

Resolved, That Professor Grimes, as a Phrenologist and Elocutionist, merits our highest approbation.

Resolved, That we consider his style of lecturing and system of Phrenology, as evincing diversity of talent, originality of thought, and extended observation; and that his is a decided improvement on all the preceding systems of Phrenology.

Resolved, That the President appoint a committee to transmit a copy of the above to Prof. Grimes, and also to one of the editors of the city papers for publication. GEORGE WILSON, Pres.

PATRICK U. MAJOR, Sec'ry.

On Friday Evening last, after J. Stanley Grimes, Esq. had delivered his concluding lecture on Phrenology in the Exchange Saloon of this city, the audience remained and a meeting was organized by calling His Excellency, Gov. EDWARDS, to the Chair, and

appointing W. E. ROBINSON, Secretary. Whereupon the following resolutions were proposed and unanimously adopted:

Resolved, That we have listened with increasing interest and delight to the course of lectures just concluded by James Stanley Grimes, Esq., on the Science of Phrenology.

Resolved, That we believe Mr. Grimes has made many valuable discoveries and improvements in the Science: That we admire his lucid explanation of the connection and harmony between the organs of the brain and those of the body, and that his classification and arrangement of the Phrenological organs appear to be founded in nature.

Resolved, That we take pleasure in recommending Mr. Grimes as a pleasing, original and able lecturer, that, whether in this country or in Europe, where we understand he intends to lecture on this science, he has our best wishes for his success and happiness.

Resolved, That the Secretary of this meeting be appointed to present a copy of these resolutions to Mr. Grimes.

WM. E. ROBINSON, Secretary.

New Haven, Dec, 12, 1840.

MR. GRIMES' LAST LECTURE IN HUDSON.—On Friday evening last Mr. Grimes completed his *second* course of Lectures on Phrenology, in this city, before a numerous and highly respectable audience. At the close of the lecture JOSIAH W. FAIRFIELD, Esq. made a few appropriate remarks complimentary to Mr. GRIMES, and proposed that the audience should resolve itself into a meeting for the purpose of passing resolutions, expressive of its sense in regard to Mr. Grimes' lectures. Whereupon Col. CHARLES DARLING, was called to the Chair, and J. R. S. VAN VLEET appointed Secretary.

J. Sutherland Esq. then rose, and after some remarks expressive of the pleasure and gratification with which he had listened to Mr. GRIMES' able exposition of his system of Phrenology, offered the following resolution, which, on motion of J. W. Fairfield, Esq. was adopted.

Resolved, That we have listened with high gratification to the course of lectures on the science of Phrenology delivered in this city by Professor Grimes, and which have been this evening completed. That we feel it due to Professor Grimes to express our

thanks for the instruction and pleasure his lectures have afforded us, and the interest we have felt in his able exposition of the principles of Phrenology. That his manner of lecturing is admirable, combining amusement with instruction, and well calculated to impress favorably all who hear him with the principles of the science. That we highly commend his zeal and ability in advancing a science the aim of which is more perfect knowledge of intellectual Philosophy and of ourselves.

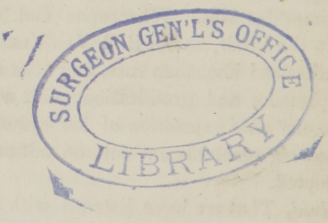
The Secretary of the meeting then offered the following, which, on motion of CYRUS CURTISS, Esq., was also adopted,

Whereas, the labors of Mr. Grimes are for the present ended this city, we deem it a duty we owe to him—to the cause of tru and to ourselves, that we give an expression of the high gratifica tion with which we have listened to his interesting and instructiv lectures. Therefore be it

Resolved, That we approve of his classification of the Phreno logical organs—of his explanation of the temperaments, and o his new system of Phreno-Physiognomy.

Resolved, That we cheerfully recommend Mr. Grimes to the public, as an able advocate for his new and beautiful theory of the human mind, and from whose teachings we have derived in a high degree, intellectual pleasure and instruction.

On motion, it was resolved that the proceedings of this meeting be signed by the Chairman and Secretary, and published in both the newspapers in the city.

CHARLES DARLING, Chairman.
J. R. S. VAN VLEET, Sec'y.

Hudson, June 6th, 1840.