THE DISSECTOR.

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ARTICLE I.

Magnetic Organisation of the Human System.

It has been truly said, that "life itself, is only known to us empirically. We acquire a knowledge of disease in the same way; and the same method is adopted in the cure;" and it may be doubted whether we shall advance much in a scientific knowledge of diseases, or of the remedies for them, until we first obtain a scientific knowledge of the organisation which constitutes animal life. We have a very accurate knowledge of the anatomical or animal organisation, but none whatever of the invisible motive powers which constitute animal life. Few, very few physicians ever had any conceptions of even the existence of such an organisation —yet there cannot be motive power without such organisation. We can see the ropes, the levers and the pulleys, by which motion is produced, but nothing of the spiritual, sympathetic and invisible forms that use them for the purposes of motion—yet it is on these forms in the different organs and other structures which the immaterial or spiritual powers of medicines act, and it was the obvious importance of a knowledge of these forms that induced us many years since, to commence an investigation of this subject which has at last resulted in a developement of their organisation.

We commenced with the brain, and traced by the direction of its fibres, an organisation representing five magnetic poles; two in the organs of causality, two in the organs of amativeness, and a very large one in the centre of the brain, requiring at least two magnetic axes, which must cross each other in the centre of that organ.

Some of these fibres were seen to be connected with the white and others with the grey substance, divided by a thin neurilema or membrane. Those in the white substance (fig. 1) were also seen to diverge from the centre, or great inferior ganglions (d d) to the neurilema connected with the grey substance, in the circumference of the brain, while those in the grey substance diverged from the circumference to the centre through the corpus collosum and great superior ganglions (p p). The diverging fibres were, therefore, found to connect the white, and the converging fibres the gray substance, which was seen to be a mechanical arrangement of the different fibres, with the different kinds of matter of the brain; for different kinds of matter maintain opposite forces, which are necessary to the production of motion. Having apparently traced the poles of those forces, we resolved to test their identity, and for this purpose it was necessary to know whether the magnetic forces would of themselves without artificial aid, take these forms under favorable circumstances; and for this purpose a circular plate of steel, eight inches in diameter, with a round hole in the middle of one inch, corresponding with a middle section of the brain, was placed on a pole of a large Galvanic Battery, covered with white paper, and iron filings strewed over it, when they were immediately arranged by the forces in the plate, in the manner seen in figure 2.

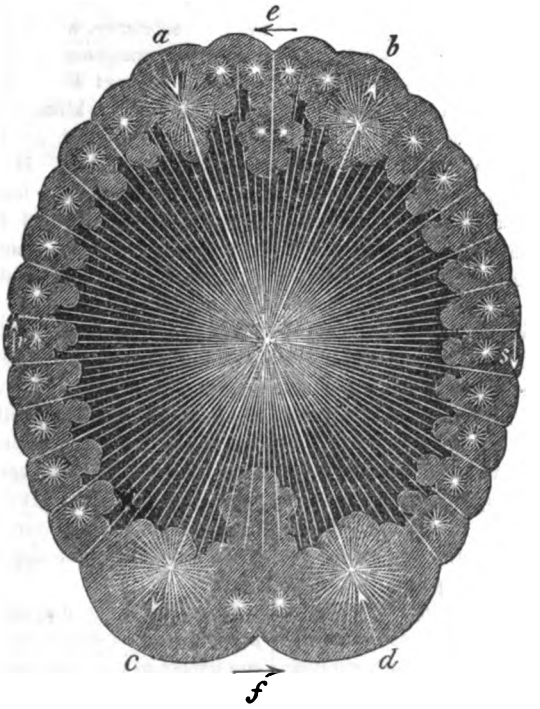
On applying the dipping needle to these poles, that in the centre and those in the circumference at *c c*, were found to be positive, and those at *d d*, negative poles. When, however the order of magnetising on the

different poles of the battery was reversed, the character of the pole in the centre was changed from a positive to a negative pole, and the positions of the positive aud negative poles in the circumference were also changed; the positive occupying the positions of the negative, and the negative those of the positive poles.

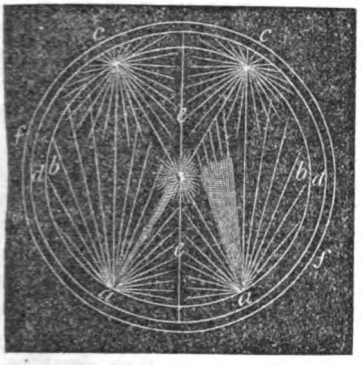
The magnetic axes of the positive and that of the negative satellites cross each other in the centre of the open space in the inside of the disc, each forming two sides of an inverted plane triangle, the base of each of which, from the form of the disc, necessarily forming a spherical side of a triangle, and as the latter is in the circle of the disc, and as this disc is a middle section of a hollow sphere, it necessarily follows that when a hollow sphere or body, more or less round, is magnetised in the same manner, inverted cones are formed. For as the disc is a section of a sphere, so are the plane and spherical sides of the triangles, sections of inverted cones.

This experiment was repeated eleven times on plates of from four to fifteen inches in diameter, and always with the same result. It may therefore be inferred to be constant. It presents one large and strong pole in the centre of the plate, and four smaller and weaker poles in the circumference, like those in the brain.

There is here disclosed the existence of five poles united with two magnetic axes: one in the centre of the space in the centre, and four in the circumference of the plate, corresponding in the most exact manner with those we had traced in the brain by the direction of its fibres, as seen in figure 3, representing a horizontal section of the brain, through the organs of causality, *a b*, and amativeness, *c d*, in which the relative characters of the poles are reversed.



When the heart is laid open and distended in a circular manner (*d d*, walls of the heart; *e e*, septum or division between the auricles and ventricles; *f f*, pericardium) as seen in figure 4, it is found by the manner



in which it is constructed to have four large poles in its circumference; *a a*, and *c c*, the axes of which cross each other in the centre pole of the heart, like those of the circumference of the brain. The forces from *the poles, a a*, radiate along the ligaments or *braces*, called *calumnæ cornea*, to the sides of *the ventricles*; *b b*, and the forces also radiate from the poles in the oracles *c c*, along their ligaments, as seen in the figure: all of which are first expanded and then contracted in the motions of the heart, by the action of the forces from the poles.

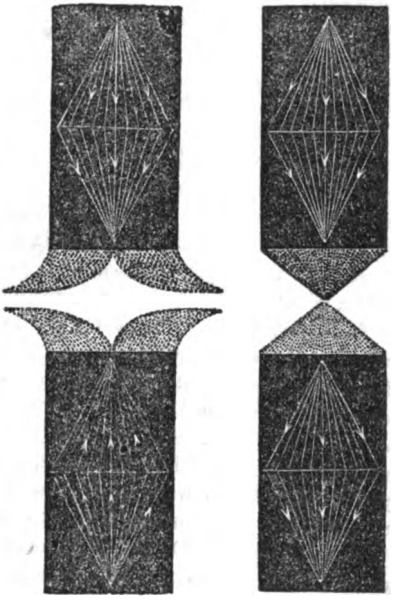
The number and situation of these poles are from this view of the construction of the heart so self-evident as to preclude the necessity of a solitary remark, but it may be asked if the motions of the heart are produced by the action of these poles upon its muscles, from whence are the forces derived which sustain these poles*?

The answer is, from the serious and mucous surfaces of the body, which are maintained in negative and positive states, for such purposes—the serous including the skin supplying the positive and the mucous including the alimentary canal, the negative force, which are conducted to the poles in the organs through the nerves in these surfaces—

* Magnetic poles cannot be long maintained, anywhere, without a constant supply of these forces from some source.

the negative poles attracting the positive, and the positive poles the negative force.

It is a matter of common observation that magnetic poles of the same denomination repel, and those of opposite denominations attract each other, and in order to ascertain the degree of force with which they repel and attract, it is found by experiments, conducted on the most rigid principles of inductive philosophy, that they repel and attract each other with a force proportioned to the quantity of these forces in given spaces, or the spaces they occupy. It is also ascertained, in the same manner, that when they repel, they expand, as seen in the case of iron filings attached to poles of the same denomination.



And when they attract, they contract, as seen in the case of iron filings attached to poles of opposite denominations, with a force proportioned to their quantities in the spaces they occupy. The two poles, then, of the same denomination in the opposite hemispheres of the brain may, through the spinal nerves attached to these hemispheres, expand one set of muscles on one side of

the body, limb, or organ, at the same time that those of the opposite denomination, contract the antagonist muscles on the other; for the muscles, like the organs and nerves are necessarily double for the purpose of producing motion by their simultaneous action.

They may also expand one set of muscles by the repulsive, and contract their antagonists by the attractive force; in the same way that one metallic wire is expanded with the repulsive, and another contracted with the attractive force. Thus when by the mere exercise of an inclination, excited by a sensation, we incline to expand one set of muscles to extend a limb, we incline to contract their fellows at the same time; so that when one muscle expands, its fellow necessarily contracts; and when another contracts its fellow expands.

These motions called attracting and repelling are, in other words, the pushing and pulling motions: and if motion is produced in man and other animals by the action of these forces, we ought to be able to recognise the same motions in the fluids of the body, whether æriform or aqueous, and also in the organs by which they are moved.

On a minute examination of this subject, we find that in the formation of the organs, the same order is observed in the distribution of the membranous surfaces as in the formation of the external and internal surfaces of the body. The brain, heart, lungs, stomach, intestines, liver, spleen, kidneys, uterus, and cystis are all covered with a serous membrane, and their inner surfaces are lined with a mucous membrane. On observing the action of the air and of the lungs in breathing, we instantly recognise those motions

In reflecting on the great power which it was necessary to give to the heart, it was easy to see that the diagram or plan for its construction must conform to that necessity This consideration, however, presented no difficulties, for the sources from which it might derive the necessary strength and durability, under the action of these forces, were abundant and we accordingly find it strong muscles supported by braces and surrounded by additional membranes, presenting extensive surfaces for the accumulation of these forces.

On an attentive examination of the action of this organ, and of the motion of the blood in the arteries, we again recognise in both, and in the clearest manner these motions.

The heart is constructed and acts on the principle of the pump; the fluids being attracted through the veins and other absorbent vessels in steady streams to the heart, with an intensity of force equal to that with which the ventricles repel them through the arteries.

Every repulsion of a fluid, in elastic bodies, produces expansions, and every attraction is succeeded by contractions of these bodies, according to a law of these forces, viz: repulsions expand, and attractions contract with powers proportioned to their quantities in given spaces.

Every repulsion of the heart, repels or pushes the fluids in the arteries, and every attraction pulls the fluids in the absorbent vessels.

The motions of the pulse correspond exactly with these laws and these motions; for every repulsion is succeeded by an expansion in the artery, and every attraction by a contraction of it. The same phenomena is found in the hose of the fire engine when in motion. The water moves in the hose from the cistern or hydrant in a steady stream to the engine, and from the engine through the hose with the motions of the pulse.

Sensations and inclinations, like repulsions and expansions, and attractions and contractions, are attributes of these forces. The inclinations belong to the sensations, whether repulsive or attractive, as the expansions do to the repulsions, and the contractions to the attractions, and follow them in the same order.

These spiritual, or male and female forces, are innate in every kind of matter, without possessing any character in common with it, whether ponderable or imponderable; and in their organised or magnetised state, were the foundations on which matter was laid, in the formation of the solar system, and of the mineral, vegetable, and animal kingdoms. Repulsions, expansions, attractions, contrac-

tions, sensations, inclinations, *sympathetic* action, motion, and form, are then, in this order the attributes of these forces, by which that system and these kingdoms were formed with a precision, and adorned with a beauty that defy imitation.

Nothing can therefore equal the adaptation of these forces to produce such results; for besides their unlimited power, which can make a world tremble like a leaf, the great velocity of their motions and their great and almost inconceivable tenuity, enable them to penetrate the most minute orifices, and construct an infinite variety of bodies of every form and size, and produce motion in the smallest with the same geometrical accuracy as in the largest structures.

These views of the dynamics, or moving powers in animate and inanimate matter may at first appear very strange and unaccountable to even men of science who have little or no knowledge of this subject, and I may therefore direct their attention to another example of the repelling and expanding and attracting and contracting powers of these forces, in illustration of these views, and which may be seen and tested in the most satisfactory manner in the recently discovered process of gilding metals by the action of these forces in solutions of gold.

I may also direct the attention of physicians and surgeons to the experiments of Doctors Laroche and Crusell of St. Petersburgh, given in our last number, in which cataracts were formed in the eye with the attractive and contractive force, and were afterwards dispelled, in two minutes, with the repulsive and expansive force, and which cannot fail to suggest to them not only the great importance of a knowledge of the magnetic organization of the human system, but that of the magnetic character of their remedies for diseases.

THE VAGUS NERVE THE MOTOR OF THE STOMACH.—Longet experimented on dogs. He irritated the vagus nerve by galvanism, or mechanically, and found that contractions of the stomach followed, which constricted itself into two portions, a cardiac and pyloric, and aliment was forced through the pylorus. The organ was most susceptible of such stimulus and movement during digestion. Irritants applied to the *semilunar ganglion* or splanchnic nerves produced little, if any, movement of the muscular fibres of the stomach.—*Annales Med. Psych.*

SEAT OF TUBERCLES IN PHTHISIS.—In M. Lousis' experience, out of 80 cases of pulmonary tubercle, the cervical glands also were found the seat of tuberculous matter in 8 instances; out of 102 cases, the mesenteric glands were tuberculous in 23 instances; the meso-cæcal and meso-colic glands were similarly affected a little less frequently than the mesenteric; and out of 60 cases, the lumbar glands were found tuberculons in 5 instances. Attention is naturally excited to the eminent frequency of tubercle in the lacteal glands, and some authors have asserted that they are the original seat of tubercles in consumption. M. Louis states, however, that all his experience has gone to confirm that after the age of fifteen, tuberculous matter never presents itself in any tissue or organ unless it exist also in the lungs.—

A LECTURE

On the Magnetism of the Human Body,

Delivered before the Apprentices' Library Society of Charleston, by ROBERT W. GIBBES, M. D. OF COLUMBIA, S. C., 1843.

"The facts of nature, not the theories of man, are the only infallible tests of the verity of alleged discoveries."—*Bacon.*

"The power and corrigible authority of this, lies in our WILLS."—*Shakespeare.*

Sir David Brewster has said truly, "Man has, in all ages, sought for a sign from heaven, and yet he has been habitually blind to the million of wonders with which he is surrounded. Modern science may be regarded as one vast miracle, whether we view it in its relation to the Almighty Being by whom its objects and its laws were formed, or to the feeble intellect of man, by which its depths have been sounded, and its mysteries explored; and if the philosopher who is familiarized with its wonders, and who has studied them as necessary results of general laws, never ceases to admire and adore their author, how great should be their effect upon less gifted minds, who must ever view them in the light of inexplicable prodigies." And what is there more deserving of our attention than the beautiful and wonderful structure and relations of the human body? "Know thyself" was a maxim of antiquity in relation to moral man. As truly may we call for its application to his physical attributes, and say with the poet,

"The proper study of mankind is man."

Having lately directed my attention to the investigation of the curious phenomena of Mesmerism or Animal Magnetism, by which powerful physical influence is exerted by

one man over another, producing extraordinary effects, both on his mind and body, I became particularly interested in experiments with the magnet.

It had been stated, that during the peculiar cataleptic condition induced by this remarkable influence, the head and hands of the subject were attracted by the magnet—and that the brain possesses *polarity*, one side of the head being attracted by one pole of the magnet, while the other was repelled; and that opposite results were apparent from the application of the other pole. I made the experiment, and found that if the N. pole of a strong magnet be placed near the upper part of the forehead, on the right side, it produces, in a few minutes, a sensation of "pushing" the head from it, and in some cases, a strong repulsion; if placed on the opposite side of the head, it produces a feeling of "pulling" the head towards it. The opposite effects are produced by the S. pole. This experiment I have repeated on seven or eight susceptible subjects with similar results. On two young ladies, who are very sensitive of mesmeric influence, I find these results appreciated by them in their waking state—and the experiments having been repeated under circumstances when there could be no suspicion of deception, I became entirely convinced of the fact, *that the human body is magnetic, and possesses polarity.*

Dr. Sherwood, of New York, in a pamphlet on "the motive power of the human system," has given experiments of an ingenious character, which tend to shew that the brain has polarity, reasoning by analogy from magnetic experiments, and comparing them with the knowledge derived from the action of the magnet on mesmerised subjects. The Rev. Mr. Sunderland, of New York, is satisfied of the fact, and reasons upon it, in his publication "The Magnet," to the construction of various theories, in relation to the "*magnetic nature*" of man.

The phenomena of mesmerism, however, being still denied by those who have not had proper opportunities of personal experience of its truth, no influences observed in that state can be considered strictly as settled, which are not supported by direct experiment on the body in its ordinary condition. I will, therefore, for the present, refer to no farther effects on mesmerized subjects, until I give you the opinions of others in support of my proposition.

The influence of the magnet on the body, has been recorded in the works of many medical men of established character, but scientific men have denied it, because the reciprocal influence of the body on the magnet, has never been shewn. This is the *experimentum crusis* which has been called for to settle the question, but has never been exhibited. Prof. Henry, of Princeton, N. J., who has rendered himself eminent by his discoveries in magnetic philosophy, in a lately published letter says, "Of the electro-magnetism of the human body I know nothing, and I can say, with certainty, that no branch of science bearing this name, has an existence in the circle of the positive sciences of the present day. Nothing like *polarity*, has, as yet, been shewn to exist in connection with the brain."*

I have discovered a mode of shewing *upon the needle directly* the magnetic polarity of the human body—and I anticipate that the study of the magnetic properties of the nervous system will furnish us with a key to unlock the mysteries of Animal Magnetism.

The limits of a single lecture will not allow me to go into a full consideration of the arguments which have been brought forward, founded upon experiment, to prove the identity of Electricity, Galvanism and Magnetism, but such a belief is very general among scientific men of the present day. Nor can I enter very fully into the enquiry as to the identity of the nervous fluid with this power or these powers. Dr. Faraday, who is high authority, says of the former:

"After an examination of the experiments of Walsh, Ingenhous, Cavendish, Sir H. Davy, and Dr. Davy, no doubt remains on my mind as to the identity of the electricity of the torpedo, (*animal electricity,*) with common and voltaic electricity." Yet he candidly goes on:

"Notwithstanding the general impression of the identity of electricities, it is evident that the proofs have not been sufficiently clear and distinct to obtain the assent of all those who are competent to consider the subject."

Whether this be so or not, is not of much importance to my proposition, as I think it will be apparent that, whether there be one or several agents involved in electric, galvanic and magnetic effects, the human body exhibits the results of the several modes of procuring these influences. I am not satisfied, myself, of there being different states of intensity of one fluid, but my opinion should have no weight against the mass of authority on the other side. With regard to the identity of the nervous fluid, or power, with galvanism, electricity and magnetism, in the present state of our knowledge, we have not enough facts to settle that question; still there is much to induce a belief of it.

* Magnet. p. 39. vol. 1. July, 1842.

That the animal body is *electric*, is probably within the knowledge of all who hear me. The phenomena of sparks being seen to follow the removal of flannel or silk from the person in dry weather, and the stroking of the back of a cat, dog or rabbit, are common. Some individuals appear to have less conducting power than others, although their bodies are generally good conductors. In proportion as they are so, they shew the presence of electricity in a stronger degree. Perhaps deficient perspiratory function may be the cause of the accumulation of it.

A correspondent of Silliman's Journal states that, "On the evening of January 25th, 1837, during a somewhat extraordinary display of the northern lights, a respectable lady became so highly charged with electricity, as to give out vivid electrical sparks from the end of each finger to the face of each of the company present. This did not cease with the heavenly phenomenon, but continued several months, during which time she was constantly charged and giving off electrical sparks to every conductor she approached. This was extremely vexatious, as she could not touch the stove, or any metallic utensil, without first giving off an electrical spark, with the consequent twinge. The state most favorable to this phenomenon, was an atmosphere of about 80° F, moderate exercise and social enjoyment. It disappeared in an atmosphere approaching zero, and under the debilitating effects of fear. When seated by the stove, reading, with her feet upon the fender, she gave sparks, at the rate of three or four a minute; and under the most favorable circumstances, a spark that could be seen, heard or felt, passed every second. She could charge others in the same way when insulated, who could then give sparks to others. To make it satisfactory that her dress did not produce it, it was changed to cotton and woollen, without altering the phenomenon." Similar cases are occasionally reported to our medical journals—and I was consulted, professionally, by a gentleman, as to the reason why his wife should attract a great many fire-flies around her when in the dark, and no others of his family be similarly troubled. She was much annoyed at times, by observing so many sparks about her, and was afraid, for some time, to mention it, as she thought she would be ridiculed.

"Saussure and his companions, while ascending the Alps, were caught in the midst of thunder clouds, and were astonished to find their bodies filled with electricity, and every part of them so saturated that sparks were emitted with a crackling noise, accompanied by the same painful sensations which are felt by those who are electrified by art."

Larrey, in his memoirs of the Russian Campaign, mentions his having seen similar effects. On one occasion, he says, when the cold was excessive, the manes of the horses were found electrified, in a manner similar to that mentioned by Saussure. Rousseau has described eloquently the extraordinary elasticity of spirits which he experienced in ascending some of the higher regions of the Alps. Dr. Madden asks:

"Who has ever experienced the effects of the sirocco of the South of Europe, the poisonous Kamsin of the East, or even the summer S. E. wind of our own climate, (England,) without feelings of indescribable lassitude, not to be accounted for by any alteration of temperature, but obviously owing to the electrical changes superinduced? During the prevalence of these winds, the atmosphere is almost altogether deprived of electricity, and the nervous system simultaneously is deprived of its vigor. In damp weather, likewise, when electricity is absorbed rapidly by the surrounding moisture, every invalid is aware how unaccountably dejected his spirits become, and how feebly the various functions of the body are performed, especially those of the digestive organs. This state of morbid irritability in the whole frame, continues till the north or west wind "awakes," as Brydone has well expressed it, "the activity of the animating power of electricity, which soon restores energy, and enlivens all nature."

In 1835 I was called to see a young lady who had been struck by lightning. She had been sitting near a window, stringing beads. A storm arose, with thunder and lightning—suddenly she saw a blaze of light in her lap, felt hot and became insensible—she fell, and was caught by her mother, who was near—cold water was thrown over her, and she was put to bed—had spasms in the arms and legs. She recovered her consciousness in about ten minutes. When I saw her, a half hour after the occurrence, she complained of great intolerance of light—could not bear to unclose the eye-lids, although the room had very little light in it—complained of stricture across her chest—numbness in the head, neck, and sides of the face. She had, occasionally, for two days, spasms; but on the third was relieved, and felt better. Although the room was closed from light, *whenever rain clouds passed* near the house, she felt very much oppressed, and when another storm arose, she again had violent spasms, which lasted two hours. On the fifth day she seemed as well as usual, and had no return of the nervous irritability.

"In the south of France, there are whole vineyards in which numerous electrical conductors are attached to the plants, for the purpose of increasing the progress of vegetation, and of invigorating the vines. In the same manner does electricity act upon the animal body, quickening the circulation by its stimulus," &c.

We all know the sensible influences of change of weather on rheumatic and paralytic patients, and old persons, with most chronic diseases.

Sir Humphry Davy speaks thus:

"*Electricity* seems to be an inlet into the internal structure of bodies, on which all their sensible properties depend; by pursuing, therefore, this new light, the bounds of natural science may possibly be extended beyond what we can now form any idea of; new worlds may be opened to our view, and the glory of the great Newton himself, may be eclipsed by a new set of philosophers, in quite a new field of speculation." Dr. Paris, in his biography of Sir H. Davy, mentions that "Sir H. supposed the heat of the animal frame to be engendered by electricity; taking it furthermore to be *identical* with the *nervous fluid—sensation being*, in his view, motions of the nervous ether exciting medullary substance of the nerves and brain."

The experiments of Prevost and Dumas induced the expression of the opinion, that "muscular contractions result from the action of a nervous fluid, which, if it be not the electric fluid, possesses at least the same properties; and the analogy which exists between the phenomena of secretion and those produced by the action of an electric pile, is, they say, very remarkable; for when an electric current traverses a liquid containing salts and albumen, serum for example, an acid will be produced at one end of the pile, and an alkali at the other, and the animal substances the liquid contains, change their natures. Now this is precisely what takes place in the organs of secretion; though secreted entirely by the blood, the liquids these organs contain, differ from it in their chemical qualities. The physiologist Milne Edwards says:

"The recent experiments of M. Becquerel on the influence of electricity upon the vegetation of plants, support the opinion at present entertained by many physiologists, that the nutritive as well as the muscular movements of the living body, are carried on by a nervous influence analogous, and perhaps identical with the physical force that produces the electro-chemical phenomena."

Professor Miller of Baltimore, from experiments, has found that a stream of electricity passed through dark venous blood, will change it at once to a rich colored arterial fluid. This effect is usually attributed to the action of oxygen in the lungs, combining with carbon, and, according to Leibig, with iron. Now carbon and iron are the perfect conductors of electricity, and are *positively* electric—oxygen is negatively so, and we know that it is the agent of essential importance to the support of life. Sir Humphrey Davy, and chemists generally, consider its elasticity owing to electricity, and during its combination in respiration and in the blood, as in all cases of chemical action, there is no doubt *electricity* is set free.

"Pouillet states that all gases, in combining with other elements, give out a certain amount of electricity. He illustrates this proposition by the case of *carbon*, 15 grains of which, in becoming carbonic acid gas, by union with oxygen, give out enough electricity to charge a common sized Leyden jar. By this estimate, how much electricity would be formed in the body? Let us see—it is estimated that 17,811 grains of carbonic acid escape from the lungs in 24 hours; then, by calculation, enough electricity would be generated by the formation of this gas, to charge 333 common sized Leyden jars, which average two feet each of coated glass. If we assume but half of this, we shall still have a very large quantity of electricity, formed by the union of oxygen with carbon, in the various tissues of the body, traversed by good arterialised blood." (W. H. Muller, M. D., in the Magnet, vol. 1, p. 194.)

Galvanic phenomena are witnessed in animals. Humboldt discovered that the muscles of a frog have contractions excited in them by touching the nerve and muscle at the same moment, with a fresh portion of muscle. Muller, of Berlin, has repeated this experiment several times, and confirms its accuracy. Buntzen formed a weak galvanic pile with alternate layers of muscle and nerve; and Prevost and Dumas state that a circle, formed simply of one metal, fresh muscle, and a saline solution of blood, affects the galvanometer. If to the conductors of the galvanometer, plates of platinum are fixed, and a piece of muscle of several ounces weight is placed upon one of these plates, the conductors being then immersed in blood, or a saline solution, a deviation of the magnetic needle of the instrument takes place; or if to one of the conductors a piece of platinum, moistened with muriate of ammonia, or nitric acid is attached, and to the other a portion of nerve, muscle or brain, and the two conductors are made to communicate, the same deviation of the needle is produced." Mejendie, Journ. tom, 111.

"Kaemtz has shewn that efficient galvanic

piles can be constructed from organic substances, without any concurrence of metals." Schweigger. Jour. 56, 1.

The magnetism of the living human body has never been satisfactorily shewn, before my experiment. The following one we find in the Medico-Chirurgical Review for January, 1837, but thermo-electricity is here concerned, and we have not seen it noticed elsewhere, nor had an opportunity of trying it.

Dr. Donne of Paris, publishes the results of his enquiries, of which one of his corrollaries is,

"The external acid and internal alkaline membranes of the body represent the two poles of a galvanic pile, whose effects are appreciable by a galvanometer. For if one of the conductors of this instrument be placed in contact with the mucous membrane of the mouth, and the other conductor be applied to the skin, the magnetic needle will be found to shew a deviation of from 15 to 20, or even 30 degrees; and the direction of the needle proves that the mucous or alkaline membrane indicates a *negative* electricity, and the cutaneous or acid membrane a *positive* electricity.

My experiment was brought about by the following circumstance. I observed that mesmerizers (or rather *magnetisers*) after throwing their subjects into the *magnetic state*, direct their fingers with energy towards their eyes, as they say, to render that state more intense, or, in common language, to deepen the sleep. I thought it not improbable that magnetism (motive power,) which is not apparent while the limbs are at rest, might shew its peculiar influence during muscular action. I procured a long delicate magnetic needle, made a strong effort as if throwing off something from the fingers, and brought them carefully to the needle, avoiding to produce vibration of the air, and to my satisfaction, I found *my right hand repel its North pole.* I repeated the experiment, and found it *attract the South pole*, proving *north polarity* in that land. I now tried the left hand, and found it to exhibit *opposite polarity*, attracting *the North* and repelling the *South pole* of the needle.

I have practised the experiment repeatedly, and seen a great many do so, and the fact is positively shewn. The influence is only momentary, but clearly apparent. If it were the result of a current of air, the effects on both ends of the needle would be similar.

This is an important fact in magnetic philosophy, and I think will assist us materially in explaining many interesting phenomena, and most likely give us the means of understanding those of *Mesmerism.*

Bodies similarly electrified or magnetised repel each other, while in opposite states they attract. The *North* pole of a magnet attracts the *South* of another, and repels the *North*, &c. Electrified bodies have a tendency to impart electricity to all surrounding bodies. The magnet communicates magnetism to iron or steel, if placed in contact with it, inducing in the former temporarily, and in the latter permanently, a state similar to its own. All bodies may be more or less magnetic, but not exhibit effects, except under certain circumstances, iron and steel having a greater capacity than others, to acquire and to give out the influence.

The North pole imparts S. polarity, and the S. pole, N. polarity, and the process is called *Induction.* Now, if the right side of the body possesses different polarity from the left, when the magnetizer sits opposite to his subject, they are rightly placed to produce the phenomena of attraction, and for the former to impart to the latter his magnetism. It would seem here, however, to be expected, that the individual of strongest magnetic force would charge the other, as the stronger magnet controls the weaker, and changes its poles—which is the case. The fact of subjects putting the operators into the magnetic state is common, and assists our theory, and the subsequent attraction of the magnetized subject by the magnetizer, is a result to be expected.

A gentleman who is in the practice of magnetism had three attempts made by different persons to influence him, two out of the three fell into the magnetic sleep themselves. I have personal knowledge of one case, where a lady attempted to magnetize her husband, and he, to amuse himself, exerted his will strongly to put her to sleep, and she fell into it herself.

The magnetizer's influence over his subjects is lost if he is exhausted, or becomes weak—if his nervous power is weak, he cannot put them into the magnetic state, or if he should, he cannot keep them so—they wake up immediately on being spoken to or shaken by others. Frequently when I have felt badly and dull, the subject would be sluggish, upon my taking a glass of wine, I could then make them act with more spirit and animation.

Before I attempt to deduce any practical inferences from the success of the experiment detailed, I will continue my reference to others, that will support my proposition.

The facts which I have mentioned being known, the phenomena exhibited by *electric fishes* appear less extraordinary, although the power of producing electric discharges exists

only during life and an undisturbed state of the nervous system. The experiments of Walsh, Fahlenburg, Gay, Lussac and Humboldt are our sources of information relative to these fishes; the *torpedo orcellatá* and *marmorata* in the seas of the south of Europe —the electric Eel, *gymnotus electricus*, found in several rivers in South America—the *silurus electricus*, met with in the Nile and in Senegal. Several others have been named, but are less known.

The effects produced by them on animals are perfectly analogous to electric discharges. The shock from the Torpedo, when the fish is touched with the hand, reaches to the upper part of the arm. My late friend, Dr. Cooper, had personal experience of its shocks, which I have frequently heard him describe.

Muller, in his late work on Physiology, observes:

"Substances which are conductors or non-conductors of electricity, *are equally so* to the influence communicated by the Torpedo or Gymnotus, which are the only electric fishes that have been hitherto accurately examined with reference to their electric action; a shock is propagated through a chain of several persons when those at the extremities of the chain touched the fish. Walsh procured sparks from the Gymnotus, which were seen by Pringle, Magellan and Ingenhous. Fahlenburg also procured them by the same experiment. More recently, Linari and Matteucci, have succeeded in obtaining sparks from the Torpedo."

Although no effect has been observed on the electrometer, Dr. J. Davy discovered that the electric organs of the Torpedo have really an action on the galvanometer. He also succeeded in decomposing water, and in rendering *needles magnetic*, and found that the electric discharge was conducted through a bar of iron several feet long. Linari and Matteucci have also communicated the magnetic property to needles, have decomposed water, and have observed marked deviations of the galvanometer at the moment of the discharges. A very remarkable fact is also stated by Muller.

"The power of producing the discharge, is quite *voluntary*, and depended on the integrity of the nerves of the electric organs, which are largely supplied with them. The heart may be removed, and the shocks will be continued, but with the destruction of the brain, or division of the nerves going to the organs, the power ceases. The discharge does not take place every time the fish is touched, but depends on a voluntary power, hence it is necessary to irritate it."* Some think it has power to direct the shock, as when Humboldt and Bonpland held the head and tail, both did not always receive the shock. Matteucci, who experimented on one hundred and sixteen torpedoes on the shores of the Adriatic, during two months, is convinced that they can discharge their shocks *when* they please, but not *where*. He says:

"Where the animal is endowed with a great vitality, the shock is felt, whatever part of the body is touched. In the proportion as the vitality ceases the region of its body in which the discharge is perceptible is reduced to that which corresponds to the organs commonly called electrical."

This fact accords with the loss of nervous power in the human body—the extreme filaments losing their power first. He made a number of interesting experiments which shew that the electric power of the fish increased with the acceleration of the circulation and respiration. Among them was this: He took a very small and weak torpedo whose respiratory motion was at times scarcely perceptible, and from which it was very difficult to obtain a discharge. He placed this torpedo under a bell full of oxygen gas. The animal immediately became agitated, opened its mouth several times, making strong contractions, and at the same time gave him five or six strong electrical discharges, after which it died.*

He also found that cutting, or tying and compressing the nerves of one of the organs, the discharge ceases on that side, while it continues on the opposite side. Does not this have an analogy with the paralysis of the human body?

He shows that the chief electric organ is the last lobe of the brain, which he calls "the swelling of the elongated marrow, from whence the nerves proceed," &c., answering to our *medulla oblongata*, which gives our nerves of motion.

He also shews, by experiment, that no trace of electricity is found in the fish, except when it discharges itself. This is very extraordinary, and adds to our theory of the electric or magnetic action of our bodies being under our will, and only apparent during muscular motion. The very curious experiments of Matteucci, may be found in Sturgeon's Annals of Electricity, vol. 2. 1838.

In the last number of the *Medico Chirurgical Review*, which I received a few days

* Professor ELLETT, of the South Carolina College, last summer, had an opportunity of experimenting with a Gymnotus about four feet long, in New York. He informs me that he procured the spark from it, and that the power of the fish is certainly voluntary.

* I trust I may be excused in tracing the influence of facts on mesmeric action. Mr. Townsend mentions that his mesmeric influence is stronger and developed more quickly when he breathes rapidly.

ago, is an excellent review of a late work of Dr. Carpenter, on physiology, which is lauded in very high terms Dr. C. mentions of electrical fishes, that their electric nerves have an origin similar to that of the 8th pair in the human body.

The Reviewer remarks, "Now, the circumstance that the electrical nerves in the Torpedo should be analogous to the 8th pair in the higher vertebrata, is one of a highly striking nature. Of all nerves in the human subject, the 8th pair, (*par vagum*) is that which, with the organs to which it is distributed, appears to exhibit the most intimate *sympathizing* connection with cerebral impressions. The influences of fear and anger, (which are probably the chief exciting causes of the instinctive electric discharges) of hope, affection, and indeed, of all passions, whether of an exciting or depressing kind, are inevitably manifested more or less on the heart, lungs, and stomach, larynx, &c., and which derive their nervous influence, partly through the branches of the *par vagum*. The analogy is even farther carried out by pathology. For in hydrophobia, a disease in which the nervous energy is in paroxysms, exalted to the highest pitch, and the secretions of parts, to which the 8th pair is supplied, are exasperated into a poisonous quality—the chief lesion discovered after death, has been said to be found in the trunk of the 8th pair, where it issues from the skull."

Dr. Davy observed, that after the removal of the brain of a Torpedo, no more shocks were given when the nerves of the electric organs were irritated. In one instance, when a small portion of brain had accidentally been left in connection with the electric nerves of one side, the fish gave a shock when irritated.

Muller expresses the belief that, "electricity is generated in living bodies," and that it "does not appear possible for the various chemical changes which take place in them, to occur without some development of electricity."

The experiments of Pfaf and Ahrens, reported in Meckel's Archives, (v. iii. p. 161) among other results shewed, that the electricity of the human body in a healthy state is positive—that excitable persons of a sanguine temperament, have more free electricity than indolent persons of a phlegmatic temperament—that when the body is cold, no evidence of electricity is shewn, but gradually it becomes manifest as warmth is restored—that during the continuance of rheumatic affections, the electricity of the body is reduced to zero, but is manifested again as the disease subsides. Humboldt also thinks, that rheumatic patients have an insulating action action on the feeble current produced by a single galvanic circle.*

To be Continued.

The Major Periods of Development in Man, being a sixth contribution to Proleptics,

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The course of human life has been divided into periods from a very remote antiquity. The most casual observer must see that there is a progressive evolution of each individual, through infancy, youth, and puberty, to the climax of complete development, both mental and corporeal; and from thence a gradual involution of the system, and a decline of all the powers, until the man descends into what has been expressively termed his second childhood, and, at last, into the grave. This cycle of change, looked at as a whole, gives to the mind the idea of ascent and descent,—not quickly or irregularly, but step by step; and since certain points are well marked in the course of life (as dentition, puberty, the decline of the sexual functions, &c.), and divide it into distinct periods, these were termed by the Greeks, with reference to this idea, *climacteric*, from *gradus, scala*, a step, or series of steps. The modern German term for the climacteric years, *stufenjahre*, step-years, expresses the same idea. These years and periods have also been termed septenary, from an early age, because the latter were supposed to comprise a lapse of seven years, so that the climacteric and septenary periods are synonymous. The origin of this idea of periods of seven years is lost in remote antiquity. It formed a part of the doctrines of Pygathoras, who, it appears, was not the founder, but only the European propagator of these doctrines, he having derived them from the ancient Egyptian or Chaldeans. As applied by the latter, they referred not only to the health, but to the events of a man's life. "Pericula quoque vitæ fortunarumque hominum quæ *climacteras* Chaldæi appellant, gravissima quæque fieri affirmat Aristides Samius septenariis." (Aulus Gellius, lib. iii., cap. x.) This doctrine of septenniads and septenaries has come down to modern times almost unchanged. Its history presents the singular phenomenon of a mere philosophical dogma passing uninjured through the most extensive revolutions in human society, and surviving the utter overthrow of empires and religions. Long after the age of Pygathoras we trace it in the Hippocratic writings; it is

* I find since this lecture was written in the Magnet, vol 1, p. 193, that Dr Muller, of Pittsburgh, has published experiments to prove that the electricity of the body is developed during motion, so that the electrometer is affected.

prominent in those of the later Greeks; it flourished in the middle ages; and it is extensively adopted by modern physicians. The editor of the "Medico Chirurgical Review," for example, divides life into ten septenniads, after the ancient mode, asserting, further, that there is a difference of seven years between the two sexes, not in the actual duration of life, but in the stamina of the constitution, the symmetry of the form, and the lineaments of the face. (Economy of Health, second edition, p. 66.) It is manifest that the major vital periods can only be marked by changes in structure or function. By the observation of these changes the ancients professed to subdivide the whole period of life; and this plan, indeed, is the only safe plan for the modern scientific inquirer. He must observe the evolution of structure, of function, and of disease.

Diocles, the successor of Hippocrates both in fame and skill, wrote a book "concerning weeks." Macrobius has a notice of his doctrines, which describe the development of the individual man as follows:—The limbs of the male fœtus are distinct at the seventh week and the birth takes place at the ninth month, but if they be distinct at the fifth week, birth takes place at the seventh month. If the infant survive the seventh hour, it will probably live; at the end of seven days the umbilical cord sloughs off; in 2x7 days the infant perceives the light, and in 7x7 days it turns its head to follow with its eyes the objects presented to it. When seven months old, its teeth begin to develop; in 2x7 months it can sit without fear of falling; after 3x7 months it speaks; in 4x7 months it is sufficiently strong to walk firmly; and at 5x7 months it has an aversion for the breast. At the age of seven years it loses its first teeth and speaks distinctly; at 2x7 years it attains the age of puberty; at 3x7 the beard appears and the youth ceases to grow in height; and at 4x7 he ceases to increase in size. In 5x7 years the man is at his full strength, and so continues at 6x7; but at 7x7 the strength somewhat diminishes. Lastly, at 10x7 (the two most perfect numbers) are the limits of life, and those who have passed this term are exempt from all labour. (Le Clerc, Histoire de la Medecine, p. 281.) "The days of our years are three-score years and ten." So wrote Moses, a philosopher, poet, historian, and statesman, the supposed fellow-student of Hermes in the college of On, and undoubtedly a man learned in all the learning of the Egyptians; and he adds, almost immediately, "so teach us to number our days that we may apply our hearts unto wisdom," as if he had been pondering over the philosophy then current, and thinking how stoically it calculated the duration of the health and life of man, numbered his days, and hopelessly demonstrated their termination.

The doctrines of Diocles are distinctly laid down in the Hippocratic writings, especially in the book entitled "De Carnibus," and in those "De Septimestri Partu" and "De Octimestri Partu," written apparently by the same author. The writer refers to the septennial phases, and specially notes the teeth developed in the fourth septenary, which he terms *moderatores*. That the life of man is circumscribed by the number of seven days is manifest, he observes, and then refers, like Diocles, to the periods of fœtal development, but introduces *decades of weeks*, and observes that the period of utero-gestation is four decades of weeks. He also states the doctrine of equal and unequal days; connects the periods of fevers with the periods of development; and refers to the full moon as having influence.

Some critics have remarked that the book termed "De Carnibus," ought to be entitled "De Principiis," *concerning principles*. It is very probable that this and the two following books constitute an exposition of the Pygathorean doctrines as they were applied to transcendental physiology and medicine when the author wrote.* Hippocrates was thoroughly imbued with these views, and has left several practical observations. For example, he says that convulsions do not accompany fever in patients above the age of seven years, and that if they do, they indicate danger. According to him, the following diseases do not attack individuals under the age of puberty, or fourteen years:—inflammations of the lungs, pains in the side, gout, diseases of the kidneys, varicose veins of the legs, menorrhagia, cancer, a species of leprosy (vitiligo), a disease termed deflexion on the medulla spinalis, hæmorrhoids, and a disease of the intestines termed *chordapsus*. From the fourteenth to the forty-second year, any kind of disease may attack the system, but from the latter to the sixty-third it is exempt from struma, from calculus in the bladder (unless it existed previously), from defluxion on the spinal medulla, from diseases of the kidneys, unless arising in previous years, from bleeding piles, and from menorrhagia, except when connected with antecedent disease. These statements, whether considered physiologi-

* Burdach, the German physiologist, adopts the decade numeration in a work he has published on the periods of life, entitled "Die Zeitrechnung des Menschlichen Lebens;" Leipzig, 1829. According to M. Quetelet (for I have not seen the book) he divides life into ten periods of four hundred weeks each, and thus makes an age of the first dentition, adolescence, &c. In the first period is a secondary one of forty weeks, the age of lactation.

cally or pathologically, are correct upon the whole.

The preceding remarks must serve as an exposition of the doctrine of the ancients regarding septenaries. It now remains to inquire how far these doctrines are true, and what practical benefits can be derived from them.

In man, life may be divided into three great periods. The first may be defined as extending from the commencement of intra-uterine existence to the *complete* evolution of the sexual organs; the second comprises the period in which those organs are active; and the third extends from the period when they cease to act to the termination of life. These are clear and well-defined epochs, but it is difficult to fix their precise dates, for *all* vital changes are gradual, and do not admit of exact limitation. Similar difficulty is experienced in the attempt at a natural classification of animals, and is only overcome by having transition or inosculent groups. We may adopt a like expedient here. The first period may be stated as comprising 21 years, the second 28 years, and the third 21 years. The secondary periods of the first great period will be seven, namely,—1, intra-uterine life; 2, the period between birth and the first dentition; 3, the time occupied by the first dentition; 4, the period between the first and second dentitions; 5, the time of the second dentition; 6, the period between the latter and commencing puberty; 7, the time occupied in the evolution of the reproductive organs. The second great period will comprise three minor periods. First, the perfecting of adolescence from 21 to 28; secondly, the climax of development, or status of life, from 21 to 42; and thirdly, the septenary of decline in the reproductive powers, extending from 42 to 49, after which latter age conception rarely takes place. The third comprises also three periods, the first from 49 to 63, the grand climacteric; the second from 63 to 70, or old age; and the third from 70 to death, the years of *ætas ingravescens*, or decrepitude. In fixing these epochs I have followed the generally received septennial division, being reluctant to make any innovation thereon. It would, I think, however, be more in accordance with modern science to date, not from the birth, but the conception of the individual. If this be done, each great period should be calculated as commencing nine solar months earlier.

Those of the readers of THE LANCET who may have perused the first paper in my series would observe that the periods of development in insects were more particularly alluded to as establishing the minor periods, namely, those in relation with critical days, the catamenial period, &c. These phases of development, in birds, are indicated in most instances by moulting, a process in which the mucous membrane of the whole system is implicated, as well as the skin and its appendages. In all birds a moult takes place sooner or later after being hatched, but it does not clearly appear what dentition (for this is analogous to moulting) corresponds to this moult. I am inclined to think, however, that its analogue is neither the first nor the second dentition, but both. The plumage characteristic of the sexes begins to appear at this moult, and it is always a period of danger to domesticated birds, as peacocks, turkeys, pheasants, canaries, &c. As iron is recommended for their cure, the state of health seems analogous to the chlorotic condition of young people. Buffon remarks that the period is analogous to dentition in children, meaning, I suppose, the first. In turkeys it occurs in six or eight weeks after the hatch; in peacocks, four weeks; in partridges twelve weeks; in canaries, five or six weeks. The period during which the eyes of some mammals are closed after birth is worthy notice, this being evidently heptal. In whelps it is fourteen days; in bear-cubs, twenty-eight days. It may be possible that the idea of Diocles, respecting the first use of the eyes after birth, may have some foundation in truth. That some change takes place in the infant in the eighth week may be fairly inferred from the fact that the man with ichthyosis, (the porcupine man) whose history is detailed in an early volume of the "Philosophical Transactions," (1731), and who transmitted his disease to his progeny, stated that the cutaneous affection appeared in himself when about seven or eight weeks old; and we find, subsequently, that his six children had the disease first at the same age. The tusks of young elephants are shed in the twelfth or thirteenth year, but the cheek-teeth appear six or seven weeks after birth. But the seventh and fourteenth days of infants seem to constitute periods. M. Quetelet finds that the weight of an infant diminishes sensibly immediately after birth, and does not begin to increase until after the seventh day. In 1810, Dr. Holland published a table of deaths in newly-born infants from tetanus in the Westmann islands, Iceland, and denoted the days most fatal: in 185 deaths, 75 took place on the seventh day. A few hours must be allowed for retarded labor and errors in computation, but if we take the sixth, seventh, and eighth days, the average of deaths is 37 2-3 daily, while the average of the remaining 18 days is only 4. An increased

mortality took place on the fourteenth day after birth. (Edin. Med. and Surg. Jour. vol. viii., p. 207.) The fourteenth day after birth is marked also by changes in the lower animals.

The order of development of the teeth in man is an interesting subject, as upon it we must principally rely for determining the periods of development in the system generally. Mr. Goodsir's researches are exceedingly interesting, as marking their gradual hebdomadal evolution in the embryo and fœtus, but are not sufficiently accurate for our purpose as to the *time* when the changes occur. Previously to the *eruptive* stage, or common dentition, there are three phases of development: the *papillary*, commencing about the seventh week of fœtal life, the *follicular* in the tenth, and the *saccular* in the fourteenth week, which continue until the eruptive stage, about the seventh month after birth, when the four central incisors present themselves. After this period the other teeth appear at intervals not yet precisely fixed, the first dentition being terminated, however, by the end of the thirty-sixth month. All is then quiescent for three or four years, or until about the middle or end of the seventh year, when the first true molar makes its appearance, and which, according to Mr. Goodsir, is analogous to the milk-teeth in its mode of formation, the permanent central incisors appearing about the same time. Mr. Saunders has proposed to make use of the development of the permanent teeth to ascertain the ages of factory children, and his table, deduced from several hundreds of observations, is as follows:—

The first true molars appear at the age of	7 years.
The central incisors	8
lateral incisors	9
first bicuspids	10
second bicuspid	11
canine	12 to 12½
second true molars	12½ to 14

The third pair of molars, the *dentes sapientæ*, appear later; according to Meckel and Goodsir, at from 16 to 20 years.

In animals generally the development of the teeth is closely connected with the evolution of the reproductive organs. The tusks of the stallion, wild boar, and walrus, are sexual, and are simply canine teeth of an unusual size Upon inquiring how far the teeth are related to the reproductive organs in man, it is interesting to observe that there is occasionally a coincidence of development between the two, which, *a priori*, would seem improbable. From time to time instances of precocious puberty have been recorded, and it would appear that the change in the ovaria or testes, and in the system generally, has occurred concurrently with a period of about forty weeks after birth, or with the first or second dentition. I have collected 17 instances of this kind, with the following results:—5 were males and 12 females; of these, 3 males and 1 female were more fully developed than usual at birth; of the remaining, 1 male and 3 females exhibited the phenomena of incipient puberty at the age of eight or nine months, 1 at two years, 1 at two years and a half; 6 had the catamenia or were fully developed at three or four years, and 3 were perfect women at 8 years. Two of the latter were pregnant at that age, and the remaining one lived to have a numerous family. In all these instances in which the growth of the teeth is alluded to, it is sufficient to state that it was irregular. (*Vide* Lond. Med. and Phys. Jour., vols. vii., xxiv., xxv., lxv.; New Lond. Med. and Phys. Jour., vol. ii.: Med. Chir. Transactions, vol. i., ii., xii., &c.)

It is probable, indeed, that sexual development takes place in these cases, as well as normally, *per saltum*, an effort being made just at the time when certain teeth are appearing; after the tooth is perfected, and the constitutional effort has ceased, so also will the nisus in the ovaria or testes. Occasionally the catamenia appear in young females about the age of twelve or thirteen, for once or twice, when the canine teeth are protruding; and then cease, to re-appear only when puberty fairly commences, about the age of fourteen, the period at which the second molars burst forth. Taking the appearance of the teeth as indicating the periods of a constitutional nisus, we must look upon the third molar teeth as marking the commencement of that last stage of development in which the individual is perfected.

Upon a review of dental development it will be observed that the periods lengthen as age advances First, the primary papillæ appear hebdomadally in the fœtal state; then, during the eruptive stage, the teeth succeed each other at intervals of six or eight weeks, but afterwards of three or four months. During the second dentition the interval is at first a year, then a year and a half, or two years, then four or five years. The dentition observed at an advanced age I shall notice subsequently.

What relations have these dental periods to functions, disease, and death? First, as regards function. The development of the thorax in males, concurrently with the testes, alters the functions of the lungs; besides, as plants consume a larger quantity of oxygen while flowering, or, in other words, when at puberty, we may look for an increased consumption in animals and man at puberty. Now, M. Andral has found that the excretion

of carbonic acid from the lungs is greater in males than in females after eight years of age; in the former, at puberty, the quantity suddenly increases, while in the latter, when the catamenia commence, the excretion is as suddenly arrested, and remains stationary in quantity, and almost as small as in childhood, so long as the monthly uisus continues: when this ceases, or when pregnancy takes place, the quantity immediately increases. In males the excretion begins to diminish in quantity at the age of 30; between 16 and that age it is double that excreted by the female. M. Bourgery made experiments on the *capacity of the lungs* in the two sexes at different ages. He found that the volume of the respiration of the male doubles that of the female, and that the plenitude in both sexes occurs at the age of 30. The volume of air required by an individual in an ordinary respiration augments gradually with the age. The relations between the ages of 7, 15, 20, and 80, are geometrical, and represented by the numbers 1, 2, 4, 8. (Dublin Medical Press, March 15, 1843.)

The muscular system acquires additional development during the second dentition, and in boys the respiratory movements are proportionally active; but it appears that they are not so in girls, and we can thus explain the greater prevalence of chorea in the latter sex at the second dentition. The less liability to convulsions, on the access of febrile affections, may be connected with this increased muscularity. According to Quetelet, during childhood the lumbar power of boys is about one-third more than that of girls; towards the age of puberty one-half; and the strength of a developed man is double that of a woman. These data correspond so closely with those of Bourgery and Andral, on the respiratory functions, that the coincidence cannot be casual.

M. Quetelet also shows that the ratio of growth of a child in height diminishes as its age increases, until the end of the first dentition. From the fourth or fifth year the increase of stature is almost the same in each year up to the sixteenth, when it diminishes gradually until the attainment of the 25th year, if a male, but earlier if a female. The weight follows the same rate of increase as the height.

According to Quetelet the viability between birth and complete puberty varies considerably at different ages. From birth to the completion of the first dentition the mortality is great; it then diminishes, and at the age of five years the *probability of life* attains its maximum. At 13 or 14 a favorable change is again observed; *viability* is then at its maximum, or in other words, it is the period when man can most depend upon his actual existence. The periods of dentition (and also the analogous periods of moult in animals) are the times when the individual is most liable to disease, and, during the first dentition at least, to death. Mr. Farr's tables show this very strikingly. The eruption of each individual tooth, both in the first and second dentition, is invariably attended with considerable constitutional disturbance in delicate persons, so considerable, indeed, during even the eruption of the third molars, or *dentes sapientiæ*, as sometimes to create alarm. The great mortality in the first four months of infantile existence seems to be connected rather with congenital debility, many only breathing once or twice; or with extraneous circumstances, as early exposure to cold, &c. Antecedently to the first dentition infants are remarkably free from the attacks of prevalent and fatal epidemics.

The development of the reproductive organs has a secondary influence on the system at large, and modifies its diseases. In males (as just stated) the thoracic region is more fully developed, the respiration and circulation becoming more active. We can thus explain the liability of youths to diseases of the heart, and to hæmoptysis and other pulmonary affections. In both sexes the kidneys are acted upon by the ovaria and testes, and their functional activity is exalted or diminished. Hence a class of diseases is observed in youth analogous to those observed in spring and autumn. In females with the gouty diathesis this ovarian action upon the kidneys develops those irregular forms of hysteria which so often baffle the skill of the routinist. The irritation set up in various organs connected anatomically or physiologically with the ovaria, as, for example, the organs of voice, the mammæ, the pelvic viscera, the dorso-lumbar cord, and those parts of the encephalon associated with the sexual instinct, is so great as to stimulate inflammation, and being founded on an arthritic diathesis it assumes the migratory character of arthritic disease. Thus the diagnosis and the treatment are rendered hopelessly difficult to the practitioner whose "practical" knowledge is not derived from the true source of practical skill, namely, a knowledge and just appreciation of physiological laws.

These views respecting the ovarian and renal origin of the anomalous forms of hysteria are developed at length in my published work; as they are based on the solid foundation of physiology applied to pathology, I venture to hope that in proportion as the solido-humoral pathology of the day is per-

fected, their correctness will be admitted. It is manifest that as the due evolution of the system in youth is necessary to healthy and useful manhood, and to a comfortable old age, the laws of development and their bearing on pathology are of the first importance.

To consider the remaining periods of life, namely, the *status* and decline, would be to review the whole domain of pathology. After the age of 30 or 35 the abdominal viscera play a more important part in health and disease, and often give the latter its distinguishing characteristics. It is worthy of remark, that just as precocious puberty is occasionally seen in infancy, so an attempt at rejuvenescence is sometimes made in old age, about the grand climacteric, or later. There is a fresh eruption of teeth, a complete set sometimes protruding, the reproductive organs reassume their activity, and the catamenia again appear, as well as other phenomena, observed only during the evolution of the system. Stoll, Good, and others, have recorded instances of this kind. That this is not mere chance is shown by the fact that a similar change is observed in the lower animals. Gallinaceous albinos—pheasants, for example,—according to Temminck, will assume all their former brilliancy of plumage, proving (since the latter is strictly sexual) that the reproductive organs are again active. The hen of the gallinaceous and other birds occasionally approximates in plumage to the cock, and ceases laying. It has been shown by Yarrell that this change is connected with a shrinking of the ovaries; but sometimes the male plumage falls off, and that of the female is redeveloped, and then the bird lays eggs again. Nature herself here exhibits something like perpetual youth, and those who wish for this grand desideratum would do well to inquire closely into the circumstances which accompany the rejuvenescence described.

The periods of life have a much more important and practical bearing on the periodic development of hereditary disease. It is as certainly true that *all* the peculiarities of the parent are transmitted to the offspring, as that the whole is equal to the sum of all its parts. Some or many of the peculiarities derived from the one parent may be negatived by peculiarities derived from the other, or even by extraneous circumstances, and not be manifest in the offspring; but they are not the less surely there, and may and do reappear in the third or fourth generation. In a previous paper I observed that as conception took place at a minor period (the catamenial), the minor periods, at least, of the offspring, would correspond to those of the mother, and that if twins dated their conception from the same hour, the periods of their life would be coincident. I gave, also, an illustration of this inference, in which twins (two boys) went through dentition, and were attacked by indisposition and infantile disease always at the same time. Stoll seems to have suspected some coincidences of this kind when he remarked—"Utile est observare necne semper eo tempore quo infans corripitur epilepsia matri fluant menses, necne." (Ratio Medendi, Aphor. 209.) What is true of the minor periods is true of the major, and examples in proof are numerous. Phthisis carries off the members of a family as they successively arrive at a certain stage of development; insanity appears at a known age in all the members of another; apoplexy and paralysis in those of a third, &c. Dr. Martin has recorded a striking example of this periodic development of hereditary disease. A person named Moses Le Compte, who was blind, had *thirty-seven* children and grand-children that became blind like himself. The blindness is described as commencing in all about the age of fifteen or sixteen, and terminating in total deprivation of sight about twenty-two. (Quoted from the Baltimore Med. and Phys. Jour., vol. 1., p. 394.) But, indeed, many similar instances might be quoted from numerous writers, which, if less striking, are equally instructive. Such may be found, for example, in Dr. Holland's interesting essay on the Hereditary Transmission of Disease. (*Vide* Medical Notes and Reflections, p. 27, 1st edition.) The assiduous cultivation of this branch of vital proleptics promises the most valuable and practical results. Every family should possess its medical history, with exact dates, just as a nation its archives, and illustrated by a series of Daguerreotype portraits. The physician could then have data that might enable him to anticipate hereditary disease, and if not to prevent its development, at least to predict its occurrence and modify its influence. But, indeed, if the laws regulating the hereditary transmission and periodic evolution of morbid states be once clearly ascertained *in all their relations*, much of the imperfection of medical science would be obviated, and its value proportionally exalted.

With our countryman, CLIFTON WINTRINGHAM, the school of *mathematical physicians* seemed to expire. With section A, that of "Mathematics and Physics," in the BRITISH ASSOCIATION of Cork, the labours of medical men have as little connection as with any of the departments into which the meetings were divided. Yet the time may come when the data of physiologists will be submitted to mathematicians, and figures be allowed to express the mysterious laws of organic life.—*Edit. L. Lancet.*

NEW ERA IN THE PRACTICE OF MEDICINE.

Lectures delivered at the Egyptian Hall, *Piccadilly, London*, 1840.

By Samuel Dickson, M. D.*

LECTURE I.

Fallacies of the Faculty.

Introduction—Phenomena of Health and Sleep—Disease and its Type—Causes.

Gentlemen,—We daily hear of the march of intellect, of the progress of perfection of many branches of science. Has Medicine kept pace with the other arts of life—has it fallen short or excelled them in the rivalry of improvement? Satisfactorily to solve this question, we must look a little deeper than the surface—for Truth, as the ancients said, lies in a well,—meaning thereby that few people are *deep*-sighted enough to find it out. In the case of Medicine, we must neither be mystified by the boasting assertions of disingenuous teachers, nor suffer ourselves to be misled by the constant misrepresentation of the medical press—for these publications for the most part are nothing better than mere organs of party, and, like the newspapers of the day, do often little more than crush and cry down any truths that militate against the interest of the schools and *coteries* they are *employed to* serve. The late Sir William *Knighton* was at the head of his profession; he was, moreover, physician to George the Fourth. Joining, as he did, much worldly wisdom and sagacity to a competent knowledge of the medical science of his age, his opinion of the state of our art in these later times may be worth your knowing; more especially as it was given in private, and at a period when he had ceased to be pecuniarily interested in its practice. In one of his *private* letters, published after his death, he thus delivers himself:—"It is somewhat strange that, though in many arts and sciences improvement has advanced in a step of regular progression from the first, in others, it has kept no pace with time; and we look back to ancient excellence with wonder not unmixed with awe. Medicine seems to be one of those ill-fated arts whose improvement bears no proportion to its antiquity. This is lamentably true, although Anatomy has been better illustrated, the Materia Medica enlarged, and Chemistry better understood."* Dr. James Gregory, a man accomplished in all the science and literature of his time, was for many years the leading physician of Edinburgh; but he nevertheless held his profession in contempt. On visiting London, he had an opportunity of being introduced to his equally celebrated countryman and contemporary Baillie. Curious to know Gregory's opinion of the man who then swayed the medical sceptre of the metropolis, his friends asked him what he thought of Baillie. "Baillie," he replied, knows *nothing* but physic;" in revenge for which, Ballie afterwards wittily rejoined, "Gregory knows *every thing* but Physic." But what was Dr. Baillie's own opinion of his profession after all? I do not now allude to his language during the many years he was in full practice; then, doubtless, with the multitude who thronged his door, he really believed he knew a great deal; but what did he say when he retired from practice, and settled at his country seat in Gloucestershire? *Then*, without the slightest hesitation, he declared he had no faith in Physic whatever! Gentlemen, you must not from this imagine that the fortunate doctor intended to say that the world all along had been dreaming when it believed Opium could produce sleep, Mercury salivate, and Rhubarb purge. No such thing—he only confessed that he knew nothing of the manner of action of these substances on the body, nor the principle upon which they should be used. Now, what would you think of a sailor who should express himself in the same way, in regard to the rudder and compass,—who should tell you that he had no faith in either instrument as a guide to steer a vessel by?—why, certainly that he knew nothing of the profession by which he gained his living. And such really was Dr. Baillie's case. The great bulk of mankind measure the professional abilities of individuals solely by their degree of reputation—forgetting Shakspeare's remark, that a name is very often got without merit, and lost without a fault. That Baillie actually attained to the eminence he did, without any very great desert of his, what better proof than his own declaration?—a declaration which fully bears out what Johnson tells us in his life of Akenside: "A physician in a great city, seems to be the mere plaything of fortune; his degree of reputation is for the most part totally casual; they that employ him know not his excellence—they that reject him know not his deficiency." But still, some of you may very naturally ask, how could Dr. Baillie, in such a blissful state of ignorance or uncertainty, contrive to preserve for so long a period his high position with the *professional* public? This I take to be the true answer: the world, like individuals, has its *childhood*—a period when, knowing nothing, it may fairly be excused for believing any thing. When Baillie began practice,

* The readers of the Dissector will find these Lectures extremely rich.

the profession were slowly and tardily groping their way in the dark; a few practical points they of course knew; but of the true principles of the application of those points, they were, as I shall afterwards show you, entirely ignorant. Most of them were, therefore, very ready to follow any one of their number who should most lustily cry, *Eureka—I have found it!*—that was what Dr. Baillie did. At the commencement of his career, few medical men opened the bodies of their dead patients; for Sydenham, the English Hippocrates, had long before ridiculed the practice. It was, therefore, all but in disuse, and all but forgotten, when Dr. Baillie published his book on Morbid Anatomy,—a book wherein, with a praisworthy minuteness and assiduity, he detailed a great many of the curious appearances so usually found in the dissection of dead bodies. Had he stopped here, Dr. Baillie would have done Medicine some little service; but by doing more he accomplished less—more for himself, less for the public; for by further teaching that the only way to learn the cure of the living is to dissect the bodies of the dead he put the profession on a wrong path,—one from which it will be long before the unthinking majority can in all likelihood be easily reclaimed. In the earlier part of his career, Dr. Baillie, it is only fair to suppose, believed what he wrote, though by his after-declaration he admitted himself wrong. His arguments nevertheless succeded but too well with the profession; proving the truth of Savage Langdor's observation, that, "In the intellectual as in the physical, men grasp you firmly and tenaciously by the hand, creeping close at your side, step by step, while you lead them into *darkness*, but when you lead them into sudden light, they start and quit you!" To impose upon the world is to secure your fortune; to tell it a truth it did not know before is to make your ruin equally sure. How was the exposition of the Circulation of the Blood first received? Harvey, its discoverer, was persecuted through life; his enemies in derision styled him the *Circulator*,—a word in its original Latin signifying vagabond or quack; and their efforts to destroy him were so far successful, that he lost the greater part of his practice, through their united machinations. "Morbi non eloquentia sed remediis curantur" is an observation some of you may have met in Celsus, which, if you will allow me, I will translate:—Diseases are cured by *Remedies*, not by *Rhodomontade*. Yet strange to say, the generality of great professors who have successively obtained the public ear since the time of the Roman physician, have been most inveterate against every thing savoring of innovation in the shape of remedies. Let me give you examples. When a limb is amputated, the surgeons, to prevent their patient bleeding to death, as you all well know, tie the arteries. In the time of Francis the First, they followed another fashion: then, and formerly, they were in the habit of stanching the blood by the application of boiling pitch to the surface of the stump. Ambrose Pare principal surgeon to that king, introduced the *ligature* as a substitute—he first tied the arteries. Mark the reward of Ambrose Pare: he was hooted and howled down by the Faculty of Physic, who ridiculed the idea of hanging human life upon a thread, when boiling pitch had stood the test of centuries. In vain he pleaded the agony of the old application; in vain he showed the success of the ligature. Corporations, colleges, or coteries of whatsoever kind, seldom forgive merit in an adversary; they continued to persecute him with the most remorseless rancour: luckily he had a spirit to despise and a master to protect him against all the efforts of their malice. What physician now-a-days would dispute the value of antimony as a medicine? Yet, when first introduced, its employment was voted a crime. But was there no reason! Yes it was introduced by Paracelsus—Paracelsus the arch-enemy of the established practice. At the instigation of the college, the French parliament accordingly passed an act making it penal to prescribe it. To the Jesuites of Peru, Protestant England owes the invaluable bark; how did Protestant England first receive this gift of the Jesuites? Being a popish remedy, they at once rejected the drug as the invention of the father of all papists—the devil. In 1693, Dr. Groenvelt discovered the curative power of Cantharides in dropsy; what an excellent thing for Dr. Groenvelt!—Excellent indeed; for no sooner did his cures begin to make a noise than he was at once committed to Newgate, by warrant of the president of the College of Physicians, for prescribing cantharides internally. Blush! most sapient College of Physicians—your actual president, Sir Henry Halford, is a humble imitator of the ruined Groenvelt!—Before the discovery of vaccination, *Inoculation* for Small Pox was found greatly to mitigate that terrible disease. Who first introduced small pox innoculation? Lady Mary Montague, who had seen its success in Turkey. Happy Lady Mary Montague! Rank, sex, beauty, genius—these all doubtless conspired to bring the practice into notice. Listen to Lord Wharncliffe, who has written her life, and learn from his story this

terrible truth—that *persecution* ever has been, and ever will be the only reward of the benefactors of the human race. "Lady Mary," says his Lordship, "protested that in the four or five years immediately succeeding her arrival at home, she seldom passed a day without repenting of her patriotic undertaking; and she vowed she never would have attempted it if she had foreseen the vexation, the persecution, and even the obloquy it brought upon her. The clamours raised against the practice, and of course against her, were beyond belief. The faculty all rose in arms to a man, foretelling failure and the most disastrous consequences; the clergy descanted from their pulpits on the impiety of thus seeking to take events out of the hands of Providence; and the common people were taught to hoot at her as an unnatural mother who had risked the lives of her own children. We now read in grave medical biography, that the discovery was instantly hailed, and the method adopted by the principal members of that profession. Very likely they left this recorded—for, whenever an invention or a project, and the same may be said of persons, has made its way so well by itself as to establish a certain reputation, most people are sure to find out that they always *patronized it from the beginning*, and a happy gift of forgetfulness enables many to believe their own assertion. But what said *Lady Mary* of the actual fact and actual time? Why, that the four great physicians deputed by government to watch the progress of her *daughter's* inoculation, betrayed not only such incredulity as to its success, but such *an unwillingness to have it succeed*—such an evident spirit of rancor and malignity, that she never cared to leave the child alone with them one second, lest it should in some secret way suffer from their interference."

Gentlemen, how was the still greater discovery of the immortal Jenner received—Vaccination? Like every other discovery—with ridicule and contempt. By the Royal College of Physicians, not only was Jenner persecuted and oppressed; but long even after the benefits which his practice had conferred upon mankind had been universally admitted, the pedants of that most pedantic of bodies refused to give him their license to practice his profession in London; because, with a proper feeling of self-respect, he declined to undergo at their hands a schoolboy examination in Greek and Latin. The qualifications of the schoolmaster, not the attainments of the physician; the locality of study, rather than the extent of information possessed by the candidate, were, till very lately, the indispensable preliminaries to the honours of the College. Public opinion has since forced them to a more liberal course. But, to return to Jenner;—even religion and the Bible were made engines of attack against him. From these Errham of Frankfort deduced his chief grounds of accusation against the new practice; and he gravely attempted to prove from quotations of the prophetical parts of Scripture, and the writings of the fathers of the church, that Vaccination was the real *Anti-christ!* Can you wonder that medicine should have made so little progress, if those only make fortunes by means of it who know nothing more than the jargon and crudities which pass for medical science with the vulgar? How true are the words of the Son of Sirach,—after searching the world he "returned and saw *under the sun, that there was neither bread to the wise, nor riches to men of understanding, nor favor to men of skill.*"

Gentlemen, the ancients endeavored to elevate physic to the dignity of a science, but failed. The moderns, with more success, have endeavored to reduce it to the level of a trade. Till the emoluments of those who chiefly practise it cease to depend upon the quantity of useless drugs they mercilessly inflict upon their deluded patients—till surgeons shall be other than mechanics, and physicians something more than mere puppets of the apothecary—till the terrible system of collusion, which at present prevails under the name of a "good understanding among the different branches of the profession" be exposed, the medical art must continue to be a source of destruction to the many—a butt for the ridicule of the discerning few. The wits of every age and country have amused themselves at the expense of the physician; against his science they have directed all the shafts of their satire; and in the numerous inconsistencies and contradictions of its professors they have found matter for some of their richest scenes. Moliere, so long the terror of the apothecaries of Paris, makes one of his *dramatis personæ* say to another, "Call in a doctor, and if you do not like his physic, I'll soon find you another who will condemn it." Rousseau showed his distrust of the entire faculty, when he said, "Science which instructs, and physic which cures us, are excellent certainly; but science which misleads, and physic which destroys, are equally execrable; teach us how to distinguish them." Equally sceptical and rather more sarcastic in his satire of the profession was Le Sage. "Death," says he, "has two wings; on one are painted war, plague, famine, fire, shipwreck, with all the other miseries that present him, at every instant, with a new prey. On the other wing you behold

a crowd of young physicians about to take their degree before him. Death with a demon smile, dubs them doctors, (*leur donne le bonnet*) having first made them swear never in any way to alter the established practice of physic." But it is not our continental neighbors only who have labored to expose medical pretensions. Locke, Smollet, Goldsmith, (all three physicians) held their art in contempt. Swift, Temple, Hume, Adam Smith,—to say nothing of Beron, Hazlitt, and other cotemporaries—were equally severe on its professors. Byron, indeed, anathematised it as "the destructive art of healing;" and when writing to a friend the details of a fever from which he had suffered, he tells him, "I got well by the blessings of barley water, and refusing to see my physician!"—Gentlemen, do you think that all these great men were inferior in observation and reflection, to the herd of doctors and apothecaries who swarm in these times?

But so completely at variance with each other are even the greatest *medical* authorities on every subject in medicine, that I do not know a single disease in which you will find any two of them agreeing. Take the subject of Pulmonary Consumption, for example: "The celebrated Stohl attributed the frequency of consumption to the introduction of the Peruvian bark. The equally celebrated Morton considered the bark an effectual cure. Reid ascribed its frequency to the use of mercury. Brillonet asserted that it is only curable by this mineral. Rush says, that consumption is an inflammatory disease, and should be treated by bleeding, purging, cooling medicines, and starvation. With a greater show of reason, Salvadori maintained the disease to be one of debility, and that it should be treated by tonics, stimulating remedies, and a generous diet. Galen, among the ancients, recommended vinegar as the best preventive of consumption. Dessault, and other modern writers, assert that consumption is often brought on by a common practice of young people taking vinegar to prevent their getting fat. Dr. Beddoes recommended foxglove as a specific in consumption. Dr. Parr, with equal confidence, declared that he found foxglove more injurious in his practice than beneficial! Now, what are we to infer from all this? Not, as some of you might be tempted to believe, that the science is deceptive or incomprehensible throughout, but that its professors to this very hour have neglected to make themselves acquainted with the true principles upon which remedies act, and know as little of the true nature of the diseases whose treatment they so confidently undertake. And what is the daily, the hourly result of this terrible ignorance and uncertainty? In the words of Frank "*thousands are slaughtered in the quiet sick-room.*" "Governments," continues the same physician, "should at once either banish medical men and their art, or they should take proper means that the lives of people may be safer than at present, when they look far less after the practice of this dangerous professsion, *and the murders* committed in it, than after the lowest trades."

"If false facts," says Lord Bacon, "be once on foot, what through neglect of examination, the countenance of antiquity, and the use made of them in discourse, they are scarce ever retracted." The late professor Gregory used often to declare in his classroom, that ninety-nine out of a hundred medical facts were so many medical lies, and that medical doctrines were for the most part little better than stark-staring nonsense;—and this, Gentlemen, we shall have some amusement in proving to you. In the mean time, we may observe, that nothing can more clearly explain the difficulties which beset the student of physic—for who can understand nonsense, and, when clothed in phrases which now admit one sense, now another, what so difficult to refute? "Nothing," says Sir Humphrey Davy, "has so much checked the progress of philosophy, as the confidence of teachers in delivering dogmas as truths, which it would be presumptuous to question. It was this spirit which, for more than ten centuries, made the crude physics of Aristotle the natural philosophy of the whole of Europe. It was this spirit which produced the imprisonment of the elder Bacon and the recantation of Galileo. It *is* this spirit, notwithstanding the example of the second Bacon assisted by his reproof, his genius, and his influence, which has, even in later times, attached men to imaginary systems,—to mere abstracted combinations of words, rather than to the *visible* and *living* world; and which has often induced them to delight more in brilliant dreams than in beautiful and grand realities."

Imposed upon by these abstracted combinations of words, we find it difficult to divest ourselves of the erroneous aud mystical distinctions by which our teachers have too often endeavored to conceal their own ignorance:—for in the "physical sciences,"—I again quote Sir Humphrey Davy, "there are much greater obstacles in overcoming old errors, than in discovering new truths—the mind in the first case being fettered; in the last perfectly free in its progress." "To say that any class of opinions shall not be impunged—that their truth shall not be called

in question, is at once to declare that these opinions are infallible, and that their authors cannot err. What can be more egregiously absurd and presumptuous? It is fixing bounds to human knowledge, and saying man cannot learn by experience—that they can never be wiser in future than they are to-day. The vanity and folly of this is sufficiently evinced by the history of religion and philosophy. Great changes have taken place in both, and what our ancestors considered indisputable truths, their posterity discovered to be gross errors. To continue the work of improvement, no dogmas, however plausible, ought to be protected from investigation."

In the early history of every people, we find the priest exercising the functions of the physician.—Looking upon the throes of disease as the workings of devils, his resource was prayer and exorcism; the maniac and epileptic were termed by him *demonicas*, and when a cure was accomplished, the *demon* was said to be cast out.—Even now, the traces of clerical influence on our art are not extinct in England; for though our churchmen have long ceased to arrogate to themselves the exclusive right, as well as the exclusive power of healing, an Archbishop of Canterbury *is* still permitted, by the laws of *his country*, to confer degrees in physic! nor *does he fail* even in these days to avail himself occasionally of his prerogative.*

In the course of these Lectures, gentlemen, it shall be my business to prove to you the UNITY OF IDENTITY of all morbid action, and the unity and identity of the source of power of the various agencies by which disease of every kind may be caused or cured.

More than twenty-three centuries have elapsed since Hippocrates distinctly announced the Unity of Morbid Action,—"*Omnium morborum unus et idem modus est.*" The type of ALL DISEASE IS ONE AND IDENTICAL. These are his words, and that is my Case. That is the cause upon which unprejudiced and disinterested posterity will one day pronounce a verdict in my favor, for the evidence I am prepared to adduce in its support will be found to be as perfect a chain of positive and circumstantial proof as ever was offered to human investigation.

The more you can explain and facilitate the attainment of any science the more you will find that science approach perfection.—The true philosopher has always studied to find out relations and *resemblances* in nature, thus simplifying the apparently wonderful; the schools, on the contrary, have as invariably endeavored to draw fine-spun distinctions and *differences*, the more effectually to perplex and make the most simple things difficult of access. "In universities and colleges," says Lord Bacon, "men's studies are almost confined to certain authors, from which if any dissenteth or propoundeth matter of redargution, it is enough to make him be thought a person turbulent." Any exposition of the singleness of principle which pervades a particular science will be sure to meet the censure of schools and colleges; nor will their disciples always forgive you for making that easy which they themselves after years of study, have declared to be incomprehensible.

The most perfect system has ever been allowed to be that which can reconcile and bring together the greatest number of facts that come within the sphere of the subject of it.

IN THE STATE OF HEALTH,

an equal and medium temperature prevails throughout the frame. The voluntary and other muscles obey with the requisite alacrity the several necessities that call them into action. The mind neither sinks nor rises but upon great emergencies; the respiration, easy and continuous, requires no hurried effort,—no lengthened sigh The heart is equal in its beats, and not easily disturbed; the appetite moderate and uniform. At their appointed *period*, the various secreting organs perform their office. The structures of the body, so far as bulk is concerned, remain to appearance, though not in reality, unchanged; their possessor being neither encumbered with obesity, nor wasted to a shadow. His sensorium is neither painfully acute nor morbidly apathetic; he preserves in this instance, as in every other a happy moderation. His sleep is tranquil, dreamless.

If we analyze these various phenomena, we shall find that they all consist in a series of alternate motions,—motions, for the fulfilment of which various *periods* of time are requisite; some being diurnal, some recurring in a greater or less number of hours,—while others exhibit a minutary or momentary succession. At morn, man rises to his labor; at night, he returns to the repose of sleep; again he wakes and labors—again at the appointed *period* he "steeps his senses in forgetfulness" once more. His lungs now inspire air, now expel it—his heart successively contracts and dilates—his blood brightens into crimson in the arterial circle of its vessels—again to darken and assume the hue of modena in the veins. The female partner of his lot,—she who shares with him the

*The present Sir Charles Mansfield Clark, Bart., M.D., after practising for many years as a London apothecary and accoucher, was dubbed Doctor of *Medicine* by the late Archbishop Manners Sutton. I know not if that be the reason he is sometimes called by his lady-patients the *divine* doctor.

succession of petty joys and sorrows, hopes and fears, which make up the day-dream of life, has yet another revolution, the *Catamenial;* and *Parturition*, or the process by which she brings the mutual offspring into the world, is a series of *periodic* pains and remissions.

Every atom of the material body is constantly undergoing a revolution or alternation;—liquid or aeriform one hour, it becomes solid the next—again to pass into the liquid or aeriform state; and ever and anon varying its properties, colors, and combinations, as, in brief, but regular PERIODIC succession it assumes the nature of every organ, tissue, and secretion entering into, or producing from, the corporeal frame. "It is every thing by turns, and nothing long."

The phenomena of the human body, like every other phenomena in nature have all a three-fold relation,—a relation to MATTER, SPACE, TIME, and there is another word—MOTION, which may be said to bring all three to a unity; for without matter and space, there can be no motion, and motion being either quick or slow, must also express time or *period*.

Moreover, there can be no *motion* in matter without *change of temperature*, and no change of temperature without *motion in matter*. This is so indisputable an axiom in physics, that Bacon and others supposed motion and change of temperature to be one and the same.

The powers by which the corporeal motions are influenced, are the same that influence the motions of every kind of matter, namely, the electric, mechanical, and chemical forces, and the force of gravitation. When rightly considered, the whole of these powers resolve themselves into *attraction* and *repulsion*. It is by *attraction* that the fluid matter of the blood first assumes the solid consistence of an organ; again to pass by *repulsion* into the fluidity of secretion. *From* the earth and *to* the earth, the matter composing our bodies comes and goes many times even in the brief space of our mortal existence. In this, the human system resembles a great city, the inhabitants of which, in the course of years, are constantly changing, while the same city, like the body, betrays no other outward appearance of change than what naturally belongs to the *periods* of its rise, progress, maturity, or tendency to decay.

The last, and one of the most important of the revolutions of the healthy state, is

SLEEP.

Philosophers of all ages have made this an object of their most anxious study, its relation to death perhaps being their chief inducement to do so. "Half our days," says Sir Thomas Browne, "we pass in the shadow of the earth, and sleep, the brother of death, extracteth a third part of our lives." In the state of perfect sleep, the pupil of the eye will not contract on the approach of light—the skin has no feeling—the ear no sense of hearing—the taste and smell are not to be roused by any of the ordinary stimuli. What is this (figuratively speaking) but a periodic *half*-death—speaking truly, but a periodic pa'sy or cessation of internal motion of the nerves by which we maintain a consciousness of existence, and perceive our relationship to the world around us? Broken sleep consists either in brief remissions of the whole sleeping state, or in a wakefulness of one or more of the five senses. There are individuals, for example, who always sleep with their eyes open, and who should see you, were you to enter their chamber with the most noisless tread. These tell you they are always half awake. In the condition of body termed *nightmare*, there is a consciousness of existence with a wakefulness of the nerves of sight or feeling; but with a total inability to influence the voluntary muscles by any effort of the will. The subject of it can neither sleep nor turn himself.—The dreamer, portions of whose brain think, and therefore act or move, is partially awake. The *somnambulist* and *sleep talker*, are dreamers, who, having portions of the brain in a state of action, and others torpid, perform exploits of deed or word, that bring you a mind of the maniac and the drunkard, whose powers of judging are defective. A man may be entirely awake with the exception of a single member; and this we still refer to a torpid state of some portion of the brain. Such a man will tell you that his arm or leg is asleep or dead. But, as this is a soporific subject, and may have a soporific influence on some of you, I may as well wake you up with an anecdote a brother medical officer of the army once told me of himself: While serving in the East Indies, Dr. C—— one night awoke, or I should rather say half awoke suddenly, when his hand at the instant came in contact with a cold animal body. His fears magnifying this into a cobra capel, he called out most lustily, "a snake, a snake." But before his drowsy domestics had time to appear, he found he had mistaken his own sleeping arm for this most unwelcome of oriental intruders!

Gentlemen, the human body in health is never *asleep* throughout, for when *volition* is paralysed—when we are every thing but dead to all that connects us with the external

world, the heart still continues to beat, the lungs perform their office, and the other internal organs, over which volition has no control, keep on their usual harmony of motion—in other words, the digestion of the food, the circulation of the blood, and the other lesser motions of *organic* life, proceed as in the waking state.

DISEASE.

Till the hour of sickness comes, how few non-medical persons ever think of a subject which ought to be of interest to all. The same men who discuss with becoming gravity the artificial inflections of a Greek or Latin verb, neglect to inform themselves of the natural laws that govern the motions of their own bodies! No wonder that the world should be so long kept in darkness on medicine and its mode of action,—no wonder that even educated persons should still know so little of the proper study of mankind—MAN! In the throes of disease, the early priests, as I have already told you, imagined they detected the workings of demons. The medical theorists, on the contrary, attributed them to morbid ingredients in the blood or bowels. One age bowed the knee to an "acrimony" or "putridity;" another acknowledged no cause but a "crudity," or a "humor." The *moderns hold* the notion that a mysterious process, which they term "inflammation," is the head and front of all offending. How absurd each and all of these doctrines, will appear in the sequel! Disease, Gentlemen, is neither a devil to "cast out," an acrimony or crudity to be expelled, nor any fanciful chemical goblin to be chemically neutralized—neither is the state erroneously termed inflammation, so commonly the *cause* as a *coincident part* of general disorder. Disease is an error of action—a greater or less variation in the motion, rest, and revolutions of the different parts of the body—reducible, like the revolutions of Health, into a systematic series of periodic alternations, in the course of which the matter of a structure occasionally by its atomic changes alters its natural character and chemical relations, so much so in some cases, as to become even completely decomposed and disorganised. Whatever be the cause or causes of corporeal aberration, in obedience to the law of all matter, the first effects are change of *motion* and change of *temperature*. The patient accordingly has a feeling of *heat* or *cold*. His muscular *motions*, less under the control of their respective influences, become tremulous, spasmodic; or wearied, palsied, the functions of particular muscles cease. The breathing is hurried on slight exertion, or it is maintained slowly and at intervals, and with a long occasional inspiration and expiration—familiar to you all in the act of sighing. The heart is quick, palpitating; or languid, or remittent in its beats; the appetite craving, capricious, or lost. The secretions are either hurried and increased in quantity, or sluggish, or suppressed. The body shows a partial or general waste; or becomes in part or in whole preternaturally tumid and bloated. Alive to the slightest stimulus, the patient is easily impassioned or depressed; his mind, comprehending in its various relations every shade of unreasonable sadness or gaity, prodigality or cupidity, vaccillation or pertinacity, suspicious caution or too confident security; with every color of imagination, from highly intellectual conception to the dream-like vagaries and reveries of hallucination. His sensations are perceptibly diminished or increased. Light and sound, for example, confuse or distract him; like the soft Sybarite, a rose leaf ruffles him. With the smallest increase in the medium temperature of the atmosphere, he becomes hot and uncomfortable, and the slightest breeze shivers and discomposes him; or, as you may sometimes observe in the case of extreme age and idiotcy, he becomes equally insensible to excess of light, sound, heat, and cold.

CAUSES OF DISEASE.

What are the agencies that give rise to

"———— Maladies
Of ghastly spasms, or racking tortures, qualms,
Of heart-sick agony, all *feverish* kinds,
Convulsions, epilepsies, fierce catarrhs,
Intestine stone, and ulcer, colic pangs,
Demoniac phrenzy, moping melancholy
And moon-struck madness, pining atrophy,
Marasmus, and wide-wasting pestilence,
Dropses and asthmas, and joint-racking rheums?"

MILTON.

Gentlemen, the *Causes* of all these various diseases—*Various* in name, place, and degree—*One* only in their real nature—may be found either in a *deprivation* or *wrong adaptation* of the identical forces which continue life, in health—the same natural agencies, in a word, by which every motion or event is produced throughout the universe. They comprise, therefore, every thing that connects us directly or indirectly, with the external world; and most, if not all of them, act upon us, in the first place, through the different modifications of nervous perception. The causes of disease, then, never originate in any one organ of the body—except in so far as that organ may be predisposed by an inherent weakness of the attractive power of

the atoms of its parts to receive grave impressions from outward agencies that affect the more stable portions of the same body in a slighter manner.

To return to the *causes* of disease,—are they not infinite? The earth and its emanations—the air and its electrical conditions—the degrees of temperature, dryness, and moisture of both—the nature and extent of our food and drink—the passions by which we are agitated, with all the other changes and chances of our social and individual position; these are the elements to which we must look, not only for the causes of disorders, but for the causes of health itself.

We have already analyzed the Life of Health;—we have seen that it consists in a *periodic* alternation of harmonious movements, some long, some short,—greater and lesser movements, otherwise *fits*; in Shakspeare's language, Life is a "*fitful fever.*" If so, what can the morbid modifications of that Life be, but modifications of Fitful or Intermittent Fever? "All diseases," says Hippocrates," "resemble each other in their form, invasion, march, and decline." "The type of all diseases," he adds, "is one and the same." What, then, is that type? If we succeed in proving to you that toothache, asthma, epilepsy, gout, mania, and apoplexy, all come on in *fits;* that all have febrile chills or heats; that *intermissions* or periods of immunity from suffering, more or less complete, are common to each; and that every one of these supposed different diseases may, moreover, be cured by any one of the agents most generally successful in the treatment of Intermittent Fever, popularly termed Ague; to what other conclusion can we possibly come, but that this same Ague is the type which pervades, and the bond which associates together every one of these variously named diseases? If, in the course of these Lectures, we further prove that what are called "inflammations" also come on in fits; that the subjects of them have equally their periods of immunity from pain, and that these yield with equal readiness to the same remedial means;—who can be so unreasonable as to doubt or dispute that Ague is the model or likeness—the *type of all disease!*

Use of Arsenic in Diseases of the Skin.

By John E. Erichsen, Esq.

There is probably no substance in the Materia Medica about which a greater discrepancy of opinion has arisen than arsenic. By some its uses have been highly extolled and used too indiscriminately; by others it has been looked upon only as a last resource, and used when every other remedy has failed.

The arsenious acid, in an uncombined state, is but very seldom employed in this country, although with Biett, and some other continental physicians, it is a favorite remedy in psoriasis inveterata, and other very obstinate cutaneous affections. Its dose, in the form of the "Asiatic pill," varies from the sixteenth up to the fourth of a grain twice a day. The comparatively large quantity of arsenious acid that is required in an uncombined state to produce a beneficial action on the skin, ought, in my opinion, to militate strongly against its employment in this form. The minimum dose of arsenious acid recommended by most writers on the diseases of the skin is one-sixteenth of a grain; now this is equal to the quantity contained in seven and a half minims, almost the maximum dose of the solution of the arsenite of potassa, and certainly too large a quantity of this preparation for us to be justified in commencing with. This difference in effect is probably owing to the greater readiness with which the arsenious acid when presented in solution, must be taken up by any surface, and carried into the general circulation.

Mr. Donavan lays great stress upon the small quantity of arsenic, and of the other elements, that, in his preparation, sometimes effect a cure; but in this I do not think it presents anything peculiar or more remarkable, than is constantly seen in Fowler's solution, and the other preparations of arsenic.

The *modus operandi* of the arsenical preparation, as of most other medicinal agents, is unknown to us. We are only acquainted with their secondary effects, which manifest themselves most unequivocally on the digestive, nervous, and integumentary systems; on all of which they act as excitant or stimulating tonics.

From a careful examination of many cases of cutaneous disease in which this mineral had been employed, I am enabled to state that nothing is gained by carrying it beyond a certain point, as far as the affection of the skin is concerned, and that by so doing, much mischief, perhaps of an irremediable nature, may be inflicted on the patient: that it is not a remedy that can with safety be *pushed*, to use a common phrase, but that all the good that will result from its employment can be accomplished by a careful and guarded administration of it, and by its being intermitted on the first appearance of any symptom of local or general irritation.—*Med. Gaz. May 12th*, 1843.

Sir B. C. Brodie in a Lecture delivered in the Theatre of St. George's Hospital, in the session 1843-44, in speaking of the swelled tongue, in which small tumors and abscesses are sometimes formed, says,—

"The remedy best adapted for these cases is a solution of arsenic. Give the patient five minims three times daily, in a draught, gradually increasing the dose to ten minims. It should be taken in full doses, so that it may begin to produce some of its poisonous effects on the system. When it begins to act as a poison it will show itself in various ways. Sometimes there is a sense of heat, a burning pain in the rectum; sometimes griping, purging, and sickness, and nervous tremblings. A patient who is taking arsenic, especially in pretty large doses, ought to be very carefully watched. At first you may see him every two or three days, and then every day; and as soon as the arsenic begins to operate as a poison, leave it off. When this effect is produced the disease of the tongue generally gets well, but at any rate leave off the arsenic, and the poisoning will not go too far; it will do no harm. If, after a time, you find that the disease is relieved, but not entirely cured, you may try another course of arsenic. Perhaps it may take a considerable time to get the tongue quite well. Sarsaparilla, with the bichloride of mercury, may be given at one time; and at another, arsenic. You cannot give either of these remedies for ever, and indeed the arsenic can only be given for a very limited period; but it is astonishing what bad tongues of this description I have seen get well under these modes of treatment, especially under the use of arsenic.

ON PHTHISIS.—By Dr. Graves, Dublin.

[In the following passage, Dr. Graves explains his views on the pathology of tubercle:]—

"I look on tubercular development and consumption as the consequences of that particular state of constitution, which occasions what is falsely termed *tubercular inflammation*, a state of constitution in which we have three distinct processes, attended by corresponding morbid changes, each different in itself, but depending on one common cause. Every form of consumption, which has hitherto come under our notice, is referable to one common origin, and this is that debilitated state of constitution which has been termed the scrofulous habit. One of the first tendencies of this habit is to the formation of tissues of an inferior degree of animalization, and parasitic productions, among which I class tubercles, whether occurring in the lungs, brain, or liver, whether they exist in a minute or granular form, or in large, soft, and yellow masses, or in the state of tubercular infiltration. I look on tubercles in this light, and not as the consequence of inflammation, nor do I consider that it has been proved that tubercular development is the cause of phthisis.

Dr. Graves contends, that in all cases of phthisis, 'the pectoral symptoms, of whatever nature they may be, are caused by *scrofulous inflammation*,' by which we presume that he means, inflammation as it occurs in individuals of a scrofulous diathesis, and he proceeds to compare the progress of ulcerations of the lungs with that of external scrofulous abscesses. There is, he observes, the same slowness, the same insidious latency, the same gradual solidification and gradual softening; the puriform fluid secreted is similar in character, while there is the analogous occurrence of burrowing ulcers and fistulous openings with close approximation in the form of thin parieties, and difficulty of healing in each; and at the same time constitutional symptoms identical in nature; hectic flushings and sweats, diarrhœa, emaciation, &c., equally accompany phthisical suppuration of the lungs and scrofulous inflammation of the joints or other external parts. With these views, therefore, we are not surprised to find Dr. Graves entertaining the opinion that tubercle, though a most frequent accompaniment of phthisis, is neither the essential cause of that disease nor a necessary product. Scrofulous inflammation is with him the *fons et origo*, the real and efficient cause of phthisis, whether tubercle be generated in the course of the diseased action or no, and thus we have scrofulous pneumonia and scrofulous bronchitis equally productive of phthisis without the presence of one single tubercle or spot of deposition of tubercular matter, either in the pulmonary tissue or on the bronchial membrane. In the latter case, scrofulous bronchitis it is urged by Dr. Graves, that the accompanying fever presents all the material phenomena of phthisis; there is the same emaciation, frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted, although not mixed as in cases of true phthisis with broken-down tubercles.

We may therefore, have tubercles without either the pneumonia or the bronchitis; and we may have scrofulous pneumonia often ending in slow burrowing suppuration, and proving fatal without any tubercles being formed. In like manner, a person may die of scrofulous bronchitis without the occurrence of either tubercles or pneumonia. Of

these three effects of scrofula, it may be remarked, that, owing to their cause and origin being the same, they are most frequently found in combination. The same diathesis which produces one may give rise to the others; hence the frequency of their association; hence it is that they generally occur together.—*Brit. and For. Med. Rev., July*, 1843.

Dr. Graves is one of the most talented men of the age, and has had for a long period an extensive hospital and private practice,—yet it would be difficult to find an ordinary physician whose notions are so erroneous on the pathology of tubercle or of bronchitis. We are told first, that tubercular development is falsely termed *tubercular inflammation*,—which is very true, but notwithstanding he repeats this affirmation, his head is so full of the *acute*, *sub-acute* and *chronic* inflammations of the schools, he soon forgets himself and "contends, that in all cases of phthisis, the pectoral symptoms, of whatever nature they may be, are caused by *scrofulous inflammation*." We are also told, that tubercle is a parasitic production, the consequence of an inferior degree of animalization, and yet we are told tubercles of the lungs have the same character in all respects, as those seen on the external surface of the body, with exalted animalization, accompanied with irregular fever, and terminating in scrofulous abscesses and ulceration, &c., and which every tyro knows to be diseased lymphatic glands.

This notion of the parasitic origin of tubercles, is the old astrological theory which was taught more than 2000 years ago; and notwithstanding its absurdity, the professors of our medical colleges will continue to teach it as long as such trash is of any value in their market.

If there is any thing any where to be found more crude and contradictory than the effusions we have noticed of Professor Graves, it may be found in the crudities with which he confounds phthisis with bronchitis and pneumonia. The regular and vascular organization of tubercles, and the poverty of the secretions which are conveyed to the heart by the lymphatic system in phthisis, should have long since directed him to the true character of these bodies, without any knowledge of the scientific symptoms which point with an unerring hand to the disease in this system. The Doctor, however, as we have before said, is a man of talents, but knows nothing of these symptoms, or of the difference between diseases of the serous and of the mucous membranes, and his treatment of these affections is consequently the forebodings of death, or a mere repetition of the old astrological absurdities of the schools.

COROLLARIES.

1. "During health, the system is animated by a *spiritual, self moved, vital power*, which preserves it in harmonious order."

2. "It is only by means of the *spiritual* influence of the morbific agent, that our *spiritual vital power*, can be diseased, and in like manner, only by the *spiritual* (dynamic) operation of medicine that health can be restored."

3. "The homœopathic healing art developes for its purpose the IMMATERIAL (DYNAMIC) VIRTUES OF MEDICINAL SUBSTANCES, and to a degree previously unheard of, by means of a *peculiar* and HITHERTO UNTRIED PROCESS. By this process it is that they become penetrating, operative, and remedial, even those that, in a *natural or crude state*, betrayed not the *least medicinal power* upon the human system."—HAHNEMANN.

Polemical Powers of Hahnemann.

FROM THE

BRITISH JOURNAL OF HOMŒOPATHY.

Introduction to the proving of Arsenic.

BY SAMUEL HAHNEMANN.

Overwhelming recollections arrest my mind at the mention of Arsenic.

When He, the All-bountiful, created iron, He left to the free choice of the children of men to fashion it either into the deadly dagger, or the peaceful ploughshare; to slay or to support their race. Ah, how much happier for them did they employ all His gifts for good! So would they fulfil His will and the end of their being. We cannot charge an all-loving Providence with the

crimes that men have committed in having abused the administration of terribly powerful drugs, by giving them in enormous doses, and in improper cases, confiding in some frivolous conceit or miserable authority, without having any proving or grounds of choice.

No sooner does a careful prover of the action of medicines appear, than all are in commotion against him as an enemy of their ease; and they do not shrink from meeting him with the most unblushing calumnies!

The ordinary system of medicine administers, *frequently and in large doses*, the strongest of drugs, such as arsenic, nitrate of silver, corrosive sublimate, wolf's-bane, deadly nightshade, iodine, foxglove, opium, henbane, &c. Stronger substances Homœopathy cannot employ, for none are stronger. When physicians of the prevailing school employ them, they evidently vie with each other who shall prescribe the largest doses, and boast of the monstrous quantities they have administered. For this they receive the approbation and applause of their brethren. Let Homœopathy, however, make use of the same substances, not at random, as in the ordinary practice, but, after careful investigation, in those cases only for which they are exactly suited and in the smallest possible quantities, and it is immediately charged *with poisoning!* How partial, how unjust, how calumnious is this, in those who pass for honest and upright men!

Does Homœopathy now enter into a fuller explanation? Does it condemn (as from conviction it must) the monstrous doses administered in the prevailing practice, and does it contend that infinitely smaller quantities should be given—that, where the ordinary physician prescribes a tenth, a half, a whole grain, and upwards, a quadrillionth, a sextillionth, a decillionth of a grain is perfectly sufficient? On this, the same prevailing school, which decried the homœopathic healing art as a system of poisoning, laughs outright, pronounces it to be mere child's play, and declares itself thoroughly convinced (convinced without having tried it?) that such a *small quantity* can have no earthly effect, —*is in fact as good as nothing at all.* Thus it is not ashamed to blow hot and cold with the same breath, to accuse exactly the same thing of being inert and ridiculously small, which it had just declaimed against as rank poisoning, all the time praising to the skies its own monstrous and murderous doses of the same substances. Is not this the most miserable and gross inconsistency it is possible to conceive, wilfully perpetrated for the purpose of doing shameful injustice to a system, which cannot be proved to be deficient in truth, consistency, practical utility, the tenderest caution, and most unwearied circumspection, in the choice and administration of its remedies?

When not very long since a celebrated physician* spoke of pounds of opium which were consumed monthly in his hospital, where even the nurses were permitted to give as much of it as they thought proper to the patients—mark now, opium, which in the ordinary practice has consigned so many thousands to the grave—yet this man lost none of the esteem in which he was held, because he belonged to the prevailing guild, in which every thing is allowable, be it as hurtful and dangerous as it may. And when a few years ago, in one of the most enlightened cities of Europe,† almost every practitioner, from the dignified doctor down to the barber's apprentice, prescribed arsenic as a fashionable medicine in almost every disease, and that so frequently, and in such immense doses, that the detriment to human health was quite palpable; yet this was most honorable practice, though not one of those who employed it was acquainted with the peculiar mode of action of this metallic oxyde (consequently must have been ignorant of the cases of disease when its employment was indicated,) and they all continued prescribing it in repeated doses, *any one of which, had it been sufficiently diluted and potentialized,‡ was quite sufficient to cure all the diseases in the habitable globe* in which this remedy was indicated. Which, then, of these opposite methods of practice best deserves the flattering appellation of "system of poisoning,"—the ordinary method, which assails the poor patient (who, by the way, often requires quite another medicine) with the tenth of a grain of arsenic, or the homœopathic method, which administers not even a drop of tincture of rhubarb, without having previously instituted a most rigid inquiry to ascertain whether or not rhubarb be the best adapted, the only appropriate remedy—the homœopathic method which has discovered, by indefatigable and oft-repeated trials, that it is very rarely necessary to administer more than a fractional part of a decillionth of a grain of arsenic, and that only in cases for which the most careful proving has shewn the remedy adapted? To which, then, of

* Marcus, in Bamburg.

† In what a deep state of ignorance must not the medical science of our quarter of the globe be sunk, when these things occurred in such a city as Berlin, which yet, in all other kinds of human knowledge, has scarcely an equal!

‡ POTENTIALIZED—that is the word—the old Fox would not say *magnetized.* ED.

these two methods, does the honorable title of "inconsiderate, rash system of poisoning," best apply?

"A tenth of a grain," I hear some remark, "is the very smallest quantity we are in the habit of giving; were we to prescribe less, we would render ourselves ridiculous."

Indeed! So a tenth of a grain produces sometimes dangerous results, but the observances of your clique prohibit you from giving less—a great deal less! Is this not a gross insult to common sense? Are the observances of your fraternity introduced among a set of senseless slaves, or among men who are endowed with liberty of thought and understanding? If the latter be the case, what should hinder you from giving a smaller quantity where a large quantity proves injurious? Is it obstinacy? scholastic dogmatism? or what other prison of the mind?

Novelty is, indeed, a capital crime in the orthodox school, which, settled down upon her lees, enslaves the reason to the tyranny of antiquated custom.

But why should a physician who, from his profession, ought to be learned, thinking, —independent,—a controller of nature—be bound down by such a pitiful rule; and above all, what should prevent him from rendering a dangerous dose mild by diminution?

What should prevent him, if experience teach him that one thousandth of a grain is still too strong, from giving one hundredth-thousandth, or a millionth of a grain? And were he to find that this quantity in many instances was productive of evil consequences, *since every thing in medicine is learned by investigation and experience* (seeing that it is but an experimental science,) what should hinder him from diminishing the millionth to a billionth? And if this were in many cases too powerful, why should he not still further diminish it to a quadrillionth of a grain, or if necessary, still less!

Methinks I hear vulgar stolidity croak from out the quagmire of its thousand-year-old prejudices: "Ha! ha! ha! a quadrillionth! Why, that's nothing at all!

How so? The smallest possible portion of a substance, is it not an integral part of the whole? Were it to be divided and re-divided even to the limits of infinity, would not there still remain *something*—something substantial—a part of the whole, let it be ever so minute? What man in his senses would deny it?

And if this (a quadrillionth, quintillionth, octillionth, decillionth) be in reality an integral part if the divided substance, which no man in his senses can doubt, why should this minute portion, as it is certainly *something*, be *inactive*, while the whole acted with such violence? But *what* and *how much* this minute portion can effect, profoundly speculating reason, or lack thereof, can never tell: experience alone must determine, against whose facts there is no appeal. Experience alone can decide whether this small portion be too weak to have any effect on diseases, too weak to relieve and restore to health the morbid condition in which it is indicated. No dogmatical assertion, issuing from the closet of the theorist, can determine this point; experience alone, the only competent arbiter in such a case, can do this.

Experience has already decided the matter, and is seen to do so daily by every unprejudiced person.

Numbering---its importance to the Physician.

The virtues of *simple arithmetic*—which, when occupied in the deduction of medical facts, is, by general consent, called *numbering*—have no operation more important than that of calculating the efficacy of *remedies*, for *numbering* is the only method by which their qualities can be satisfactorily proved, though almost wholly neglected by us, very many medicines which are in daily use being indebted for their character simply to hearsay, and not to that of effectual test. Accordingly, the most diverse opinions prevail, even among intelligent practitioners, with regard to the pretensions of numerous presumed therapeutic agents. One, for example, says that he has the greatest confidence in the alterative virtues of sarsaparilla; another, with equal opportunities of observation, declares his belief that its qualities are precisely equivalent to those of chopped hay. Some experimenters will affirm that iodide of potassium, given in doses of more than eight or ten grains, will act as an irritant, producing diarrhœa, vomiting, and other disagreeable effects; while certain inquirers, on the other hand, assert that six drachms of that substance may be given daily, in divided doses, for many weeks, and even half an ounce of it at a single dose, without inconvenience to the patient.

It is quite clear that—the constitution and condition of the patients being analagous—one or other of these statements is egregiously erroneous, although both profess to be founded on personal observation. It is needless to multiply instances. There are, in daily use, a great number of alleged medicinal substances, with reference to which it is disputed whether they have any operation at all, or admitting that they have some, what that operation is, and under what cir-

cumstances it occurs. But to ascertain whether a given snbstance be active or inert, in relation to the animal economy, and—if it have an appreciable action,—to determine what that action is, are points of inquiry within the compass of every individual who is endowed with common sense, and willing to incur the trouble of the investigation. Hence the fact that if any uncertainty exist on such questions, it is discreditable to medical science, their solution being mere matters of arithmetic. But ciphering seems as irksome to doctors as to schoolboys, the greater part of us preferring to exercise our faith or our fancy to using our tablets. The expression "cæteris paribus" is common enough in medical language, but that distribution of objects which is necessary to render the phrase applicable, is lamentably rare in medical inquiries. In no other department of human knowledge are to be found such discrepancies of opinion as to what ought not to be matter of opinion at all, but matter of fact; nor is it surprising that sound-headed men of other professions should often turn from medicine with incredulity and contempt, as from a science that is without principles, and an art without efficacy.

The numerical method may be applied to *therapeutic operations* with greater facility *than to most* other branches of medical in*quiry, because* we have here the advantage *of knowing* the nature and proportion of at least one of the agents that are concerned in the actions under investigation, namely, the medicine itself; whereas in many questions in vital statistics we have to calculate effects arising from causes whose nature and intensity—nay, perhaps, their very existence—are all wholly unknown. When a medicine is brought forward laying claim to the power of producing a certain action in the living system, or of curing a given disease specifically, no matter by what process, nothing can be plainer than the *method* of ascertaining whether the allegation be well founded. Simply take care that genuine samples and similar doses of the medicine are employed, that all the individuals to whom it is exhibited are, as nearly as possible, circumstanced alike, and that the number of patients is sufficient, and then the conclusion that is educed by the accurate use of numbers may be considered to be as certain as any that can be obtained in a science that is not purely mathematical. Medicine cannot attain the exactness of astronomy or optics; but there seems to be no reason why it should not acquire equal certainty with chemistry, and other branches of experimental science.

If the efficacy of every new remedy had been thus tested as it arose, how often would the profession have been spared the humiliation of reposing unbounded confidence in agents which were really either inert or pernicious. Iceland liverwort would not then simply have settled down into a very respectable article of diet, after having promised to scare consumption from the face of the earth, nor would mercury have poisoned those myriads of persons who have fallen victims to an indiscriminating belief in its specific powers.

It is impossible, day after day, to observe the mass of isolated facts that are thrown before the profession relating to medicine, without lamenting the neglect to which we have drawn attention—both on this and many other occasions—and continuing to press the necessity of a remedy for the evil, until the proper remedy is adopted.

These observations of the editor of the London Lancet are not only of the utmost importance to the physician and his patients, but, like his observations and suggestions given in the last number of this work (p.18.) on the probably extensive utility of the use in chronic diseases of "a very moderate galvanic influence, sustained for a length of time," should be printed in letters of gold, and suspended in a conspicuous place in the office of every physician.

The diagnosis of diseases must, however, be first perfected before the profession can advance much in the choice of remedies, and may not we, who have practised physic nearly 40 years, and these arithmetical numbers more than a quarter of a century, now venture to suggest to the editor of the Lancet, the importance of copying into his journal, from the last number of this work, and spreading far and wide, the *mathematical* symptoms of tubercular disease of the organs and limbs, disclosed by the practice of the arithmetical system which he now recommends to the attention of the profession? No! such a suggestion would be perfectly useless, for it would be necessary for these symptoms to undergo a metamorphosis, and appear in a new dress under the garb of discoveries of some English physician, before we could have the least hope of seeing them published in that or any other Medical

Journal of that kingdom, or in the semi-English journals of the medical schools of this country. A universal or general knowledge of these symptoms, with the remedies naturally suggested by them, would save myriads of our race every year from a premature grave, who are now annually poisoned or quacked to death every year with the common remedies and treatment of the schools. But an incubus has hung its deadly weight upon every effort to improve the practice of medicine more than two thousand years, and the victims of every age and condition must submit to their fate.

Connection of Respiration with Sensibility.

NEW EXPLANATION OF AN OLD RIDDLE.

To to the Editor of The Lancet.

SIR,—It is always pleasing to throw light on the result of an experiment which is out of the usual course of explicable phenomena. One of such, I believe, is the following, for I never met with any explanation of it. Its discovery has generally been ascribed to an American naval officer, but whatever its origin, it has the same interest to the physiologist.

When each of four persons standing at the corners of a long table, places two fingers of one hand under the shoulders and hips of a person lying on the table, if at a given signal they all five draw their breath (inspire) quickly, the four can raise the fifth person, who will appear to them to be much lighter, or, as it has been described, "as light as a feather." They must all inspire at the same time, and without irregularity, or laughing, &c., on which account it may have to be tried twice or thrice before the remarkable result is obtained.

How can we explain it? A medical friend suggested to me that he thought the act of inspiration changed the position of the poles of a person, and thus altered the weights and to support his view stated that iron weights, after acquiring magnetic polarity from continuing long in one position, are lighter when turned over on their face. But this explanation, ingenious as it certainly is, supposes a change of weight in the person operated upon, a thing, which of course, cannot be. Indeed, there must be an increase in the weight equal to that of the air so inspired. I will proceed, therefore, to show what I think is the real cause of the person raised appearing to be so light.

1. Pressing my hand hard on the seat of a weighing machine, I kept up that pressure as equally as I could, and another person observing the index, the result was, that when I inspired the instrument indicated a greater pressure in the proportion nearly of eight to seven, so that at each inspiration the index moved forward considerably.

2. I placed a bucket full of water on the floor, and carried a wire round its handle, and thence around my finger, making a loop at the middle of the second phalanx of the index of the right hand. I then found that the pressure of the wire, when I attempted to raise the bucket by it, caused (of course) considerable pain, but that if I inspired at the same time the pain was diminished, and I could raise the weight with less difficulty.

Now, here are three things to be considered; the amount of weight raised, the sensation experienced in raising this and other weights (and by which I presume we form a judgment of the weights of bodies generally, or of resistances) and the pain caused by great pressure on the part from which the weight is hung. My first experiment proves the influence of inspiration in obscuring the judgment of weight, inasmuch as the pressure appeared to be always the same; yet, during inspiration, the index showed a change. In the second it may easily be seen how the act of inspiring blunts sensibility to pain.

The explanation that I would attempt to give, therefore, of the lightness observed in the American experiment is, that the act of simultaneous inspiration which tends to stiffen the body of the person lying down, and render it better adapted for raising, also impairs the judgment of those who raise him, and blunts that unpleasant sensation in the fingers, &c., which might prevent them from raising that weight in the ordinary way. But the influence of inspiration on sensation is not confined to these efforts, or operations, only. The scream of affright is an inspiration, and the scream itself is a sound uttered during that act, and not a vocal sound produced, in the usual manner, by expiration. And I think there can be no doubt that this sudden drawing of the breath, as in the experiments cited above, is a means of dulling sensibility against the fatal shock which a fright might otherwise occasion. The sudden application of cold to the surface of the body in the shower bath, is attended with a sudden gasp, a modified scream, a rapid inspiration, and its effect, I have reason to believe, is to deaden sensibility.

If we consider the function of respiration in connection with sensibility, perhaps of every kind, we shall find it naturally divided into three periods,—inspiration, expiration, and an interval, the interval being, more pro-

perly, the time for sensibility,—inspiration taking up a certain time, expiration a time somewhat shorter, and the interval varying in duration, according to the wants of the system. All these periods are liable to alter, and we may see this in many states of the body. In the hurry, and bustle, and straining, of what is well called "action," no interval is allowed in the breathing, no one attends to his sensations, and the result of such increased respiration and muscular exertion is, quickened pulse, augmented heat of body, &c. But in an opposite condition of our system, when the mind, content on a subject that absorbs every thought and feeling, demands a long intereal, as in amatory cases, the termination of that interval is marked, mediately, by a sigh, a form of expiration following a fully drawn inspiration. Hoping that these observations, hastily made, will meet, in your valuable Journal, the eye of some reader who has paid attention to the subject, I remain, Sir, your obedient servant,

SALTER LIVESAY, M. D., R. N.
Belvedere-road, Lambeth, Dec. 1843.
London Lancet.

The cold water dash, and replex action.

Hemorrhage from the lungs, nose, and uterus, is frequently arrested in an instant by repeated dashes of cold water. Syncope, infantile *fainting* fits—*Coma*, from narcotic poisons—*Asphyxia*—*Apoplexy*—and *Puerperal* convulsions, are arrested and quickly subdued in the same manner. These extraordinary effects of the sudden alternation of cold upon a warm surface is purely mechanical, and is the consequence of the sudden and powerful contraction of the over-expanded blood vessels. A subdued expansion of these vessels necessarily follows this and the succeeding contractions, according to the laws of the magnetic forces which produce motion, and these are precisely the effects that are required in these cases of hermorrhage and suspended animation. With such means and with such a powerful remedy always at hand, many a fond mother has by mere intuition, saved her darling child.

When in any of these cases the body has, from any cause, become too cold to obtain these results, heat should be first applied to the surface, and then the cold dash, and we should remember that whatever we do in such cases should be done quickly.

In cases of inaction of the bladder in consequence of its great expansion, from excessive accumulations of urine, the cold dash upon the feet, legs and thighs, makes the bladder contract with great force, when the urine instantly flows in a large stream.

Magnetic Poles, and Heat and Cold.

The greatest heat known to us is produced by the action of the magnetic poles upon each other. Sir H. Davey decomposed the alkalies and many other substances that had resisted every other means of reduction, by bringing them in contact with the opposite poles of a powerful magnetic battery.

The greatest cold on the earth is known to be in the immediate vicinity of the magnetic poles in the arctic and antarctic circles, and it follows then, that when *active* and powerful magnetic poles are brought near to each other, they produce the greatest heat known to us, and that at their greatest distance from each other, they produce the greatest cold, or that the cold increases as their distance from each other. The distance of the magnetic poles from each other, in a direct line through the centre of the earth is 120 deg. or about 7,900 miles, and the distance from each pole to the centre of the earth about 3,950 miles, and as the magnetism of the earth with its magnetic poles is in motion, and consequently in an active state, as in the case of Davey's battery, the heat must increase as the distance from these poles to the centre of the earth, where it must be at its maximum. Now the heat *in* the earth increases, from a few feet below the surface, at the rate of about one degree in every 45 feet, as is well ascertained by numerous experiments in mines in different parts of the earth, as well as by boring into it, in many places, a distance of from a few hundred feet to the hot water line.

The deepest coal mine in England is near New Castle, where the temperature at the bottom, 1200 feet below the surface, is constantly 77 deg., and at 900 feet 70 deg., while at the surface it is about 48 deg.,

being about 1 deg. for every 45 feet. In the Mexican mines, at about the same distance from the surface, the temperature is constantly 74 degrees.

An increase of heat from the surface towards the centre of the earth, at the rate of 1 deg for every 60 feet, would make water boil at a distance of 9900 feet, and this is probably the source and mean depth of hot springs. The same rate of increase of heat would produce an intense light red heat at the distance of 180 miles, and melt almost every known substance, and at a distance of about 200 miles would convert them all into the gaseous state, when these gases, in a constant state of expansion, would be forced to the surface, as they are, through the lava, or valves of the craters of the volcanoes, by the action of the heat of the internal surface. The earth is therefore a hollow sphere, the crust or shell of which cannot be more than about 200 miles thick.*

The intense light red heat of the internal surface of the shell of the earth must expand the gases inclosed in it so much as to make them perfectly transparent at the distance of many hundred miles from it, through which the light from this concave surface must shine with great splendor, and present to an observer, a thousand miles in the interior of the earth, a scene of surpassing grandeur.

The solid crust of the earth covered by the sea is thinner than other parts of it, the water extending over a great part of it far below the boiling water line; and hence the cause of the situation of the volcanoes in the islands and near the sea.

There are about 200 active volcanoes, of which 90 are in the islands surrounded by the sea, and 110 on the continents near it.

A volcano in the Indian sea, in 1815, shook the earth at the distance of 1000 miles, filled the air with ashes 300 miles, and roared at that distance like thunder.

* The heat at the distance of two hundred miles from the magnetic poles towards the centre of the earth, or in the direction of their magnetic axis, is, therefore, so great as to reduce every kind of solid matter to the gaseous state.

The heat of the gases which issue from the craters of volcanoes is so intense as to melt every thing that comes in contact with them, in their course to the surface of the earth; and hence the cause of the lava in the craters, which sometimes flows over their mouths, and descends in rivers of fire to the valleys below.

These are some of the evidences of the most intense heat in the centre of the earth; while the arm frozen and fixed in its descent with the steel in hand to strike the flint to light a fire, is one of the evidences of the most intense cold on its surface—presenting in one view the heat expanding from the centre, and the cold spreading and condensing from opposite points, and thus forming from its elements a crust upon the surface.*

The condensing power of these poles, at first comparatively feeble, has been increased immensely as the number of the strata subsequently formed upon the earth at different and distant periods of time, and the density of these strata, or the crust of the earth, has consequently increased in the same proportion.

As the repulsive force which maintains the earth and planets at their respective distances from the sun decreases in direct proportion from it, they must be maintained in an order in direct proportion to their density, and as their density is increasing with the number of their strata, they are consequently approaching the sun.

The number of strata in the earth and in the different planets is in direct proportion to the number of revolutions performed in their orbits. The number of strata in the earth being taken as 12, their numbers are nearly Vulcan, 24,† Mercury, 20, Venus, 16,

* The ancients it appears from the following quotation had a knowledge of these extraordinary facts, and taught it in their Temples.

"The spot whence issued the prophetic vapor (from the mouth of the *cave* in the Temple of Apollo, at Delphi,) which inspired the priestess, was said to be the central point of the earth, this having been *proved* by Jupiter himself, who dispatched *two* eagles from *opposite* quarters of the heavens, which there *encountered* each other" (Strabo. 419.—Pausan 10, 16.—Plut., de orace. Dep. p. 409. Anthon.

† This planet now in the sun's atmosphere, has been seen through temporary openings in it, five times, by different astronomers.

Earth, 12, Mars, 8, Asteroids, 6, Jupiter, 4, Saturn, 2, Uranus,* 1. The time in which a stratum is formed on each of these bodies is in direct proportion to their distance from the sun, and they are formed about 3 times faster on Mercury than they are on the earth at the present period.

Case of Hæmatemesis,

TREATED BY JOHN EPPS, M.D., LONDON.

Mrs. Waite, aged 23, married only a fortnight. I was requested, on Saturday, July 15, 1843, by the mother of this patient to visit her daughter, whom she represented as in a most dangerous state, and rapidly becoming worse.

I learned that on the previous Monday the patient, to outward appearance, was very well, but in the afternoon of that day was seized with giddiness and faintness, fell, and was found lying on the floor. This was followed by the vomiting of a large quantity of blood, which continued daily, more or less, decreasing a little till Friday, when (she having had some *powerful purgative* medicine administered by her medical attendant,) *it increased, and* on the Saturday, the day I *was consulted*, still increased. Such was *the state*, indeed, that the surgeon in attendance *said if* another vomiting took place, the result must be fatal.

When I arrived, which was about a quarter past one, p. m., I found the patient lying on the bed with white cheeks, white lips, white blanched fingers, with a swollen transparency about them, exhausted, eyes half closed, pulse rapid, and weak, excessive anxiety of countenance, the tongue blanched, but with a tint indicative of approaching typhus, the teeth encrusted with a sordes, cold sweats often breaking out, and she herself excessively thirsty. Besides these symptoms, there was the peculiar *restlessness*, so striking in these cases, causing her constantly, so far as her weakness would allow her, to change her position. Her mother stated further that the patient experiences continual pain round the waist, this becoming violent before she vomits, the pain being after the vomiting for a short time relieved. Her appetite was gone; her bowels had been very violently acted upon by the medicines administered to her before I saw her; the motions were black and knotty; her water passes regularly; her last monthly period was natural. I satisfied myself that she had had no blow, no extra exertion. I ascertained, also that she had had pain round the waist for eight or nine weeks before she was married, and also a pain at the heart, the latter continuing after her marriage.

I gave the patient at once three globules of aconite, in a wine glass of water, and ordered the following:—

℞. *Arsenic*, four globules;
Water, four ounces. The fourth part to be taken immediately and the dose to be repeated every fourth hour.

I left with the patient three globules of veratrum, to be given in case she fainted away.

Sunday morning, July 16. The patient vomited some blood soon after I left her yesterday. She took the arsenicum mixture, slept *in the beginning* of the night, but after waking, became restless, and has so continued ever since. She has not passed any water since I saw her yesterday. Her paleness is, of the two rather worse, and her appearance (to her mother) was worse than it was yesterday: her bowels have *not* acted. She has *not* complained of the pain *round the waist* and upper part of the bowels. She fainted yesterday, and the *veratrum* globules were administered. She feels, to use her own words, "heart-sick," retches very much, but brings up nothing; she *wishes to die*. For the continual retching I prescribed the following mixture:—

℞. *Ipecacuanha*, four globules;
Water, four ounces. A spoonful for each dose. The dose she was ordered to take after each violent retching.

On Sunday night, at 10 p.m., her husband came in great anxiety, wishing me to visit his wife immediately, as they all expected she was dying. On arrival I found that though the previously existing symptoms existed, still they were not *augmented* to the degree that by this time they must have been if she were really worse; I therefore gave hope. Gave three spoonfuls of her ipecacuanha mixture, and left, in case the exhaustion should increase, three globules of China (cinchona) to take; otherwise to continue the ipecacuanha mixture.

Monday, July 17. She was restless all through the night, till the morning. At four in the morning her mother administered the three globules of China. She then fell asleep, and slept better since that hour than she has since Friday. She took a cup of cocoa and some barley water, and both remained on the stomach. She has not *vomited* since she took the arsenicum on Saturday. She complained last night of pain in her head, and wandered much; her eyes *not closed* when asleep. She is now hot and

* The first stratum upon this planet is not yet completed, as appears from calculations founded on certain geological and astro-magnetic data.

thirsty; her forehead also is hot; the retchings have diminished; her bowels have *not* acted; she is restless when awake. I ordered her two mixtures:—

℞. *Aconite*, four globules;
Water, four ounces, Ft. mist., No. 1.
℞. *Nucis vomicæ*, four globules;
Water, four ounces, Ft. mist., No. 2.

I directed that she should take a fourth part of No. 1 mixture at once: wait four hours, then take a fourth part of No. 2; wait six hours, and then repeat as before.

18. Slept still better last night; was not awake more than an hour from twelve to six; her eyes more closed in sleep; she seems still inclined to vomit, but to-day it is rather heaving; water passes freely; bowels *not* opened; she complains of a pain in her stomach and of a fulness. Her hands burned last night, and this evening she is a little feverish. To-day she is decidedly better; her lips are less blanched. She is, however, *more sleepy* to-day. I left three globules of opium, which were ordered to be taken if the bowels remained confined, and the restlessness increased, and the eyes half closed, and the tongue should become brown, and the sleep comatose. If all these symptoms do not appear, then to continue the aconite and nux vomica mixtures.

20. Slept well for four hours last night, and slept with her eyes *closed:* has had very little retching; tongue not so black; thirst less. She has not as yet eaten anything, but expressed a wish for some stewed eels. *Her bowels still inactive*, though she has felt a desire this morning to relieve them, but without effect; water clear; still pain and a sense of fulness about the stomach, and she cannot bear pressure at the pit of her stomach; she has complained, also, of a severe pain in her back; her temper is peevish; her restlessness, when awake, is much lessened; her lips begin to assume a shade of redness: hands less hot. Has taken some beef-tea. She did not take the opium globules. Prescribed an aconite and a pulsatilla mixture, four globules in each, and ordered a bread poultice, on which twenty drops of the tincture of pulsatilla, of the first dilution, were dropped, to be applied to the pit of the stomach, and directed, that, should the bowels not act the next day, she might have an injection of warm water.

22. Her improvement is great; all her family and friends are astonished; she sleeps well; lips are more natural; tongue less black: ate a boiled sole yesterday; *bowels still inactive*, though she has had two injections. She has a little pain in the head, and more pains and rumblings in her bowels; the pain in the stomach is gone. I ordered four globules of cocculus (one globule every eight hours, in a wineglass of water), for the inaction of the bowels, the rumblings, and the pain.

23. *Bowels inactive still;* complains of her head; slept well last night, and awoke quite sensible; her color is returning. She complains of pain in her stomach and bowels, and there is some soreness on pressure; and she was directed to continue the cocculus till three p. m., when, if her pains were not better, she was ordered to take aconite, one globule, and four hours after one globule of *nux vomica*.

24. Head *better;* she is stronger, eats heartily; took some mutton yesterday; *bowels still inactive;* about four p. m., felt a wish to relieve the bowels, but with no effect; she has severe pain in her back, and some tenderness about the bowels: water free and clear; slept well last night, but had during sleep *one* of her eyes *open*; she has still a litle day-restlessness. Ordered one globule of opium in a wineglass of water every eight hours, for the inaction of the bowels and the sleeping with the one eye open.

25. Slept well last night and with the eye closed. After taking three doses of the opium, her bowels were freely open; the stools black and offensive; lips are regaining rapidly their natural color; the fingers have still a marbly hue. Ordered a globule of opium once a day.

31. The patient is able to sit up and to walk about the room without assistance; she eats heartily, but sometimes brings up her food; the bowels have been confined since the 28th; water clear. The monthly period has not appeared; she has pain in the back of the head and great soreness there—of these she continually complains. I ordered pulsatilla, one globule, in two spoonfuls of water—one spoonful twice a day.

Aug. 8. She paid me a visit; she had been at "public worship" on the Sunday. The back of the head is painful when she lies down, and the pain has kept her awake the two last nights. Her food agrees; appetite good; food remains quiet; bowels tolerably regular. The soreness of the back of the head she ascribes to the fall at the commencement of her illness. I ordered *arnica*, and my patient became well.

This case presents several interesting features.

The first is the *inactivity of the bowels*. The bowels did not act for *ten* days, and yet notwithstanding this inaction, the patient became *steadily better*. I am quite satisfied

that this inaction of the bowels was an essential to the cure; and, further, that had this patient's bowels been forced open by purgative medicine, hæmorrhage would have recurred, and, death must have been the sequel.

A second feature of interest is the evidence afforded in the effect produced by the opium on the bowels, of the power of opium in removing *inaction* of the bowels in certain conditions.

I may add here, that I have cured the most obstinate constipations by opium, in infinitesimal doses; but let it not be supposed, in proffering this statement, that I assert that opium is *the* cure for constipation generally. Opium will cure *the* constipation which is attended with symptoms to which it is homœopathic, *i. e.*, to which the opium has the power of producing in a healthy person, similar symptoms. Those, therefore, who think to cure constipation by the use of opium without first ascertaining whether the concomitant symptoms are similar to those produced by the operation of opium, will be themselves deceived, and will injure their patients.

Great Russell street, Jan, 10, 1844.

See a case by Dr. Epps, and note in explanation, *in our* last number, p. 30.

Auscultation.

The editor of the London Lancet, in an article of the 25th Nov. 1843, laments the decline of the use of the Stethescope, and imputes it to an exaggeration of its real merits by the dependence that has been placed upon minute and fanciful sounds, or uncertain symptoms, and the neglect of the aid of percussion.

These are probably some of the causes of the decline of the use of this instrument, but there is another cause which has operated more powerfully in this country to prevent its use at all by many physicians, and to cause the decline of its use by others; and that is the habit of *guessing* the precise seat, character, and state of diseases of the chest and elsewhere, which saves almost entirely the time and labor of investigation.

As reasoning and their obligations to their confiding patients have failed to change the habits of these drones, we would suggest to them the practice of the magnetic symptoms which operate like a great labor-saving machine, and by which diseases of the chest are distinguished in an instant of time, and with a precision that defies imitation by the Stethescope and percussion combined. Mere Tyro's in the practice of these symptoms have often put the professors of auscultation and percussion to the route, by ocular and overwhelming demonstrations with the dissecting knife.

M. Boudet, on the Natural or Spontaneous Cure of Phthisis.

"Tuberculous degeneration of the lungs and bronchial ganglia is infinitely more common, and is oftener susceptible of a favorable termination, than most medical men are willing to admit. In very young children, indeed, tubercles in the lung are certainly of rare occurrence. Of 835 dissections of the bodies of infants, during the first year of life, pulmonary tubercles were found in 13 only—or once in every 64 cases. The frequency, however, of the disease increases very rapidly with the age; for, during the second year, the ratio was found to be as that of 1 to 12: and this progresses, as years advance.

"Having examined in succession, and without selection, the state of the lungs in 197 persons, (of from 2 to 70 years of age,) who died from various diseases or even from casual accidents, I obtained the following results. From two to fifteen years, I found tubercles in three-fourths of the cases. At a somewhat more advanced age, the proportion of tuberculous to non-tuberculous individuals seems to reach its maximum; for of 135 persons, whose ages varied from 15 to 36 years, in no fewer than 116 were tubercles found, either in the lungs themselves or in the bronchial glands; viz. a proportion of six in every seven cases. If such be the case, we may truly say that the presence of tubercles in the respiratory organs is the rule, and their absence is the exception.

"This singular result—a result which, at first sight, seems almost quite incredible—is however readily explicable by the gratifying circumstance of the extreme facility with which these morbid products cease to be incompatible with health, in consequence of various changes that they are liable to undergo in their intimate composition.

"The spontaneous cure of tubercles in the lungs is effected in several different ways. In some cases the tuberculous deposit becomes isolated from the surrounding pulmonary tissue, by a firm fibrous envelop being formed around it. Again, the density of the tubercles themselves may become increased in one of three ways: either by their becoming so desiceated as to form quite a friable paste; or by their assuming a firm tena-

cious consistence that is greasy to the touch; or, lastly, by their degenerating into an inorganic calcareous matter.

"Tubercles may also disappear, in consequence of the progressive extension of the black pulmonic deposit, that we so often see around them. Occasionally, too, they become wholly or partially absorbed, leaving nothing in their place but their sac or envelop. Lastly, their contents may be eliminated from the body."

These various modes of natural cure may be reduced to five, viz.—1. *Sequestration*, by the developement of a fibrous sac around the tuberculous deposit;—2. *Induration*;—3. *Transformation* into black pulmonary matter;—4. *Absorption*;—and 5. *Elimination*.

The author makes the following remarks on the latter two modes; and first of absorption.

"Tuberculous matter may be absorbed. I have frequently had occasion to observe tubercles which had become modified in their consistence, and which exhibited very unusual appearances. Instead of being globular, they were of an oval or eliptic shape, or they had become rough and angular on their sides. May we not suppose that such changes were owing to an unequal absorption of different parts of these deposits?

"Occasionally, too, I have found, in the centre of a thin membraneous cyst, a minute tubercle, perhaps not larger than the quarter of the size of a millet seed, and which yet exhibited all the physical characters of this morbid product. Now we rarely or never meet with tubercles, when first deposited in the pulmonary parenchyma, so very small as those which we have now described. There is strong reason, therefore, for supposing that a partial absorption has taken place. What greatly confirms the probability of this idea is, that I have occasionally found, in the neighborhood of these dwarfed tubercles, numerous minute cysts, which were entirely empty; the tuberculous matter, which had once filled them, having disappeared. From these facts I infer that tuberculous deposits may disappear from the tissue of the lungs, by becoming absorbed.

"With respect to the mode by elimination, the only remark that I have to make is, that I have never known it to be effected except in one way, viz. that of expectoration from the bronchi. In this manner, sometimes, pieces of very considerable size have been rejected by coughing.

"The transformation of tuberculous matter may take place at all the stages of its evolution; in the state of softening, as well as of crudity; and under the form of grey granulations, and yellow tubercles, whether these be separate or aggregated together.

"Even tuberculous excavations of the lungs not unfrequently undergo a curative process. Of 197 cases taken at hazard, in 10 I have found the cicatrices of caverns in the lungs, without the existence of any recent tubercles; and in other eight cases, the process of sicatrisation was going on, while recently-formed tubercles existed at the same time. When circumstances are favorable, the process of their healing is usually by the organization of an accidental mucous membrane, lining their cavity; but sometimes by the formation of a fibrous or fibro-cartilaginous envelop. Their cavities may continue to be open, and to communicate, or not, with the adjoining branch. Sometimes they become quite obliterated by the cohesion of their opposite surfaces.

"Usually, the parenchyma of the lung for some little extent around the cicatrised vomica is more or less indurated and impermeable to air: very often it is infiltrated with a black-colored matter.

"Not only have I frequently ascertained by dissection the frequent transformation of tuberculous deposits, but I have also been able to follow out, in the living subject, the conformation of these data; and I now feel confident that phthisis is much more frequently cured than most physicians are willing to admit."

M. *Fournet* alludes to his having met with, in the course of one year, no fewer than 14 cases of confirmed phthisis that were cured; besides 10 other cases, in which dissection revealed the traces of caverns, that had become perfectly healed.

He goes on to remark, that "these 14 cases of phthisis cured in the living subject, have proved to me—

"1. That certain persons, who have exhibited the most decided symptoms of the disease in its most advanced stage, may yet be restored to excellent health.

"2. That, if the general state is satisfactory in these individuals, and does not occasionally bear the evidence in some manner of the accidents of their past life, the local condition is very different, and always reveals the presence of alterations, more or less extensive.

"3. That even hereditary phthisis, in its most advanced stage, is susceptible of cure; although such an occurrence is certainly much more rare than in cases of the accidental disease.

"4. That phthisical patients, who have been treated by very various kinds of remedies, or who have been left entirely to the resources of the natural powers of their

economy, seem to have recovered in about the same proportion; and, therefore, that nature generally 'fait tous les frais' of the cure of the disease."

He concludes his remarks with the following sentence: "The capital fact which seems to spring from these inquiries is, that tuberculous disease is not, like Cancer, essentially incurable; on the contrary, that it is often curable, and that its extreme and most disheartening fatality is referrible rather to the circumstance of its being seated in one of the vital organs of the system, and to its tendency to frequent relapses, than to its primary and essential nature.—*Revue Medicale.*

M. Boudet confirms in the most extraordinary manner the views of consumption we have long maintained, and long since published in this country, and we have selected and now republish the article for the particular benefit of a certain class of physicians, who when they have been pointed to cases in which this disease has been cured by the magnetic remedies, have uniformly answered "it was not a case of consumption, for that disease can't be cured." We may now, also for their benefit, republish a schedule of the cases of tubercular disease treated with those remedies in 1835, and published in 1836, in which it will be seen 42 out of 46 cases of consumption were cured. We would not, however, be understood as intimating a belief that they could have made such a proportional number of cures with those remedies, without first learning how to distinguish the disease before the sexton is called.

Cases of tubercular disease affecting different parts of the body, and treated with the magnetic remedies from Jan. 1, to Dec. 31, 1835.

Cases affecting the neck,	18
Neck and eyes,	2
Neck, nose, and spine,	1
Neck, tongue, tonsils, and right leg,	1
Neck, jaw, tonsils, ear, cerebellum, breast, heart, stomach, uterus, one arm, and both legs,	1
Neck and lung,	2
Neck and stomach,	1
Neck and mesentery,	3
Tongue, tonsils, and uvula	1
Tongue tonsils, and right leg,	1
Nose and face,	2
Lungs, (first stage,)	21
Lungs, last stage, with tubercles in a mature state,	1
Lungs, with excavations,	5
Lungs and both legs, and one ankle, with excavation of both lungs,	1
Heart,	3
Heart and liver,	4
Stomach,	19
Liver,	5
Stomach and lungs,	18
Kidney, (left,)	1
Liver and kidney, (right,)	1
Liver and stomach,	4
Liver with abscess,	3
Mesentery,	1
Uterus and legs,	3
Uterus and lungs,	2
Uterus and stomach,	6
Joints and limbs,	31
Unknown,	1
Whole number of cases in 1835,	163
Of these cases the number cured is,	154
Cases not cured, in consequence of not using the remedies a sufficient length of time,	3

Of the cases which have died, the first was that of Master N., of Columbus, aged 16 or 17 years' whom I never saw, and of whose case I know nothing, except that it was about ten years since it commenced.

The second case was that of Mrs. B., of M., in the last part of the last stage of tuberculo of the mesentery, with a frightful marasmus.

The third case was that of Mrs. K., of M., with cancer of the uterus in a state of ulceration, complicated with abscess of the liver, which was discharging matter through the right side in four places.

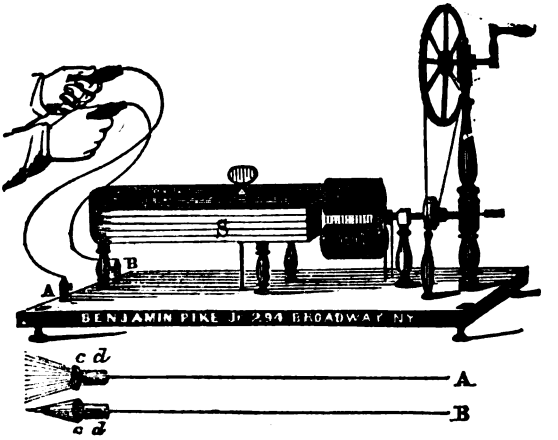
The fourth case was that of Mr. W., of M. Michigan, with tuberculated right leg, left hand, heart, and scalp over the right frontal, and right parietal bones. The leg and also the scalp ulcerated in two places. He died of compression of the brain, in consequence of the injudicious use of nitrate of silver, which had been frequently applied by the direction of his physicians, to the upper part of the parietal bone, and penetrated through it to the brain, as shown by dissection.

The fifth case was that of Mrs. S., of Cincinnati, with tuberculated left lung in a mature state; and sixth, the case of Mrs. C., of Cincinnati, with hypertrophy of the heart, and excavation of both lungs.

The yearly number of cases in which these magnetic remedies have been used, and also the yearly number of cases they have cured since 1835, have increased more than a hundred fold, as ascertained by a simple arithmeti-

cal series—under all the disadvantages in loss of time, and of having been before in many cases nearly quacked to death with the common treatment of the schools.

They should now, with the demonstrations of the scientific character of these remedies derived from the results of the magnetic action of the rotary machine, increase in a much greater ratio.



Rotary Magnetic Machine.

The readers of the Dissector will recollect that, in our last number, we gave a description of the extraordinary effects of the Rotary Magnetic Machine, obtained by Von. J. E. Wetzler, of Krunkheiten, in Germany. We have repeated some of his experiments with this machine with the same or similar results, and we have besides obtained with it the most astounding effects in a variety of other cases.

This machine has been known as one of great power both in Europe and this country, during the last two or three years, but nothing of consequence has been published in regard to its application in the cure of diseases, excepting the experiments of Von. Wetzler.

When the wheel is turned, the armature of soft iron, wound with copper wire, strikes the poles of the magnet, S, fig. 5; which elicits sparks of fire, while brass cylinders, connected with the armature and poles of the magnet, by copper wires, are held in the hands. The forces from this machine, it will be seen, are diffused and connected with the skin, from and over large surfaces, instead of points of copper wire, as formerly. Von. Wetzler, it seems, first applied these cylinders to the face, head and other parts of the body to cure local diseases.

We soon found the cylinders very awkward means of connecting these forces with different parts of the body, and especially in directing them into the different organs through the posterior spinal nerves, and we consequently substituted large brass buttons, &c., connected with copper wires, A B—the wires being drawn through corks, d d, (non-conductors) with which the buttons are placed and held on the different parts of the body. The button, c A, is about an inch and a half in diameter, and is connected with the hollow conductor, B, of the north pole of the magnet, by means of a screw; while the button of the other wire, c B, of one inch in diameter, is connected with the south pole, S, at A.

The forces that are conducted from the north pole along the wire, A, through the button, c, repel and expand, and are much stronger than those that are conducted from

the south pole along the wire B, through the button, c, which attract and contract, and this fact was known to Von. Wetzler, who estimated the difference at from 30 to 40 per cent.

We have another rotary magnetic machine from the same maker, much smaller, and which answers all the purposes of this, in which a small magnet is turned over a small armature, by a small magnetic battery. The buttons we use in magnetising are attached to it in the same manner as in the other machine, and its power is increased to a very great extent by placing pieces of iron wire of the length and size of knitting needles into the cylinder of coils of copper wire connected with the poles of the magnet and armature.

Having described thesemachines, and the instrument, by which the forces obtained from them are connected with different parts of the body, we shall now proceed to describe the effects of the action of these forces on the organs and other parts of the body in a variety of cases.

Sick-Headache.—In these cases we have applied the large button connected with the machine to the poles of the brain through the organ of causality on one side, and the small button to the organ of amativeness on the opposite side, alternately; so that the forces might pass along the line of the axes of the large poles of the brain as seen in fig. p. 58. The power applied was always very light and 8 persons, including ladies and gentlemen, were cured in from 1 to 3 minutes.

Chorea, or St. Vitus' Dance.—The case of a young lady aged 13 years, with complete loss of power over the left hand and arm, and very little over the left foot and leg. She had been out of health, with pain in the head and chest, but the disease was not fully developed until two weeks before she called upon us. The magnetic symptoms pointed to the disease in the cerebellum. The large button was then placed on the right side of the organ of amativeness and the other on the hand, and then on the foot, and sometimes on the organs of causality and individuality. She improved daily under this process. We commenced magnetizing her Jan. 15, 1844, and magnetized her generally once every other day, and on the 9th of Feb. the use of her limbs was entirely restored.

Tooth-ache.—(Jumping.)—Two cases, and each entirely cured in an instant of time.

Tic Douloureux.—Three cases. The first was cured the first sitting. The second after three, and the third on the second.

Tooth-ache with swelled face, 6 cases, 5 of which were cured at the first, and 1 on the second application of the buttons, to the face.

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White Swellings of Mucous Surfaces—Encysted Tumors of the Wrist and Hand. Three Cases.

A hopeless case of this affection in a gentleman, aged 37 years, was presented to us, in which the joints of both wrists and hands were implicated. The use of the right hand and arm had been entirely lost about seven months, and the left was swelling and fast approaching the same state. There were two very small encysted tumors on the right wrist, which was much swelled, and four about the size of musket balls on the left. There was one also on a swelled joint of each hand.

Tne buttons were placed upon these swellings under the full power of the instrument, which they resisted with the greatest tenacity for ten days, when they began to succumb and shrink from it. They have now, March 10th, been under the action of the machine from five to ten minutes nearly every day during the last 60 days, and they are now very nearly reduced, and the strength and action of the hands and arms very nearly restored.

The second case is that of a female servant, with swelling of the left wrist and hand, and two large encysted tumors, with entire loss of power in the hand and wrist. One of these tumors had been opened by a surgeon, and its gelatinous contents discharged without benefiting the patient. The buttons were applied as in the first case; on the fifth day the swelling and tumors began to shrink under them, and on the sixth day she was able to open and shut her hand

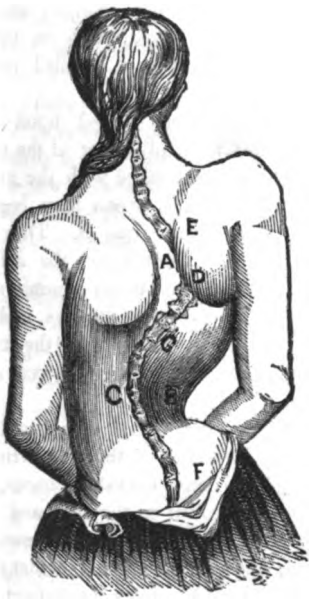
with considerable force, and the disease will soon be reduced.

The third case is that of a lady with swelled wrist, and one encysted tumor, which, like the other cases of this class, is yielding slowly to the power of the instrument.

Lateral Curvatures of the Spine.—2 cases. The muscles of the back are alternately tuberculated and atrophied in these cases, and in many of them puffy or elastic white swellings formed over the tuberculated muscles, while the atrophied muscles become paralised and cease to act. Slight deviations of the spine are the consequences of the first change in the natural state of these muscles, and great curvatures of the last, as seen in fig. 6.

This figure represents, in no exaggerated form, the case of a young lady of this city, aged 17 years, who on returning home from school, about two years since, was seen to have a slight deviation in the spine, which

Fig. 6.



gradually increased to the great curvatures seen in the figure, which also represents, very well, hundreds of other cases in this city, that are most lamentable monuments of the present state of the knowledge and skill of the medical profession.

In this case a large puffy and elastic white swelling occupied the back part of the scapula, DE, over the tuberculated muscles under it, and extended to the upper part of the right shoulder; while the muscles on the inside of the arch of the spine at A, were paralised. Again the muscles on the outside of the arch at C, were tuberculated and as tense as the head of a drum; while those on the inside at B, were perfectly paralised, soft and flabby. The muscles were also tuberculated and tense at F, and atrophied on the opposite side of the spine. There was also a great projection of the point of the scapula at D, and the spine itself was tuberculated from thence to G.

We commenced magnetizing this young lady, by applying the different buttons on the paralised muscles at A, and B, alternately, at intervals of a few seconds, with the greatest power of the machine. They were also applied at E, and B, and at E and C, which straightened the spine so much as to bring the whole width of it out from under the shoulder blade, and the sitting was concluded in 10 minutes.

Very little action was apparently produced in the paralised muscles, but it was amusing to see them dance at the next and succeeding sittings to the tune of the instrument. The large puffy swelling DE, was seen to shrink under its power, while magnetizing her the fourth time, and we and the ladies in attendance were surprised to see it suddenly vanish entirely, leaving behind little else but the skin and bones of the scapula, when the sitting was instantly concluded.

The action of the paralised muscles was now so much increased, as to make it necessary to lessen the power of the instrument, and after the tenth sitting, in the course of fourteen days from the time we commenced magnetizing her, the muscles at B, had become full, broad, and tense; while those on the opposite side had become much softer and less tense. The muscles at A had also become tense, and those on the opposite side relaxed. The space between the shoulder blades, which did not at first exceed two

inches, amounted now to six inches, and the spine having very nearly resumed its natural position, and her form very nearly perfect, she was dismissed, with directions to apply the magnetic plaster five inches wide along the spinal column, and to take the magnetised gold pill.

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White Swellings of the Serous Surfaces—Tubercular Disease, or common Scrofulous Swellings of the Joints.

We have been daily applying those buttons to these swellings during the last two months, with a moderate power of the machine, and in a great variety of cases, including those of the shoulder, elbow, wrist, hip joint, knee, ankle, foot, and cervical, dorsal, and lumber vertebræ. A great majority of these cases were, at the time we commenced magnetising them, using the magnetic gold pills and magnetic plaster, and were in the various stages of the process of cure—some of the cases being still in the first, others in the second stage, and some *very nearly* well. It would be as tedious as *it would be* useless to describe successively the apparent effect in each case, as they necessarily varied, more or less in the different stages of that process, and it will be sufficient to say the effect has been apparently beneficial in nearly all these cases, and has in no instance been apparently injurious. The same may be said of the cases which had not been under the use of these remedies, and the case of white swelling of the scapula of the young lady with curvatures of the spine, is an example of the best effects obtained in some of these cases, which did not, however, from the nature of the disease, preclude the necessity of the use of other remedies.

Bronchocele—(Goitre).—Two cases. 1st. that of a young lady, from the mountains of New Jersey. The disease commenced five years since, was very large, and we had been foiled in an attempt to cure it, and now applied the buttons to it without mercy, under the full power of the machine, which made it tremble like a leaf, without exhibiting any disposition to shrink from the action of the instrument, and the sitting was concluded in ten minutes. The next day the tumor was again placed under the full power of the machine, which soon began to shrink under it, and in ten minutes was reduced about one-third, when the sitting was concluded. On the third day it was again submitted to the full power of the instrument, and in ten minutes entirely disappeared, and the sitting was concluded; but on removing the buttons the swelling appeared again. It was, however, much reduced. On applying the buttons to it again on the next day, it disappeared in an instant, when the patient screamed under the frightful power of the instrument, which now shook her whole frame. The power was instantly reduced by an assistant one-half—the buttons being still held in their position, and in ten minutes the sitting was again concluded.

On removing the buttons, this unwelcome intruder on female beauty, like Monsieur Tonson, "came again," but was now reduced fully one-half. The reduction has continued under the daily action of a moderate power, and the swelling now (March 12th,) after having been magnetised ten times, is not more than one quarter of its original dimensions.

The second case is that of a young lady of this city. The swelling was comparatively small, and she was unable to bear more than one-fourth part of the power of the instrument at the first sitting. It entirely disappeared in an instant at the commencement of the second sitting, and on removing the buttons, it was apparently permanently reduced more than one-half. (March 12th).

Paralysis—(Palsy).—Thirteen cases, including those of one side of the face, of the ear, eye, one arm, leg, one side of the body, (hemaplegia,) and of both lower limbs, or paraplegia.

In some of these cases the paralysis was diminished, or removed temporarily, and in others permanently, by the action of the machine. Some of them were the consequence of tubercular disease of the serous surfaces of the cerebellum and medulla oblongata, as disclosed by the magnetic symptoms; while other cases were those of hypertrophy of the

mucous surfaces of those organs, as disclosed by the presence of the disease, and the absence of those symptoms. The diagnoses in the different cases was confirmed, 1st, by the existing connection between the paralysed muscles and these organs; and, secondly, by the great difference shown in the *sensibility* of those different surfaces under the action of the machine.

These observations will enable physicians who are familiar with these symptoms to distinguish the different cases requiring very different powers of the machine, and also the importance of aiding its action on these organs with the proper remedies for the reduction of these diseases, or aiding the steady, although comparatively feeble action of the proper remedies for these cases, by the necessarily temporary action of the machine, as the cause of the paralysis in these cases must be removed, as our experiments have shown, before the paralysed limbs can be fully and permanently restored.

These suggestions are deemed of so much importance as to induce us to illustrate them in a concise history of one of these cases—that of C. J. H., a young man, aged 24, who for four or five years past had been suffering from a gradual diminution of the power of voluntary motion, mostly in the lower extremities, and amounting at least to almost perfect paralysis, being unable to walk across a room without the aid of a cane, and then only able to shuffle along without raising the feet or bending the knees. These symptoms were accompanied with costiveness, loss of appetite, of sleep, of flesh, and at last, with pain in the head, when his mind began to give way to the general wreck of his naturally good constitution.

The magnetic symptoms pointed to the seat of the disease in the cerebellum, and we commenced magnetising him on the 3d of January, and the first sitting, which was concluded in ten minutes, resulted in a favorable modification of all the symptoms. He was brought to us in a carriage, but determined to put his increased power of locomotion to the test, and first walked about half a mile on his way to his lodgings. At the second sitting on the 6th of January, the pain in his head gave way. After the third sitting on the 6th, he walked about three miles, and after the 6th, (11th Jan.) he made the natural motions in walking. He was magnetised daily, with a steady improvement in his symptoms, until the 20th Jan., when he took a severe cold, and was consequently confined to the house until the 12th February, when we commenced magnetising again. His bowels have now (March 15th,) become perfectly regular, appetite excellent, sleep sound, mental powers greatly improved, and flesh and power of locomotion nearly natural, indicating a vigorous action in all the functions of life.

Now this naturally talented and amiable young man commenced the use of the magnetic remedies before mentioned by the direction of a physician in one of the southern States, and who after a few weeks advised him to come to this city, and we advised him to continue the remedies in conjunction with the action of the machine. He did so, and such is the result of a perfectly hopeless case, the consequence of supposed harmless irregularities, excited by an enormous cerebellum.

Ear.—(Deafness.)—We have two cases of this affection, from tubercular disease, whose hearing is improving under the combined action of the machine, and the remedies mentioned.

Eye.—We have obtained the most flattering effects in some cases of disease of the eye, by the action of the machine alone—indiscriminately, without regard to the classification of the nosologists.

Erysipelas.—Two cases. The erythema, or red blush of the skin, in this disease, is precisely like that produced by the buttons under the action of the machine, and we were pleased with an opportunity to test the effect of its forces in a severe case affecting the face, which became as pale as death, on moving one of the buttons over it—the other being at the same time in contact with the ear. This magical effect, after the lapse of eight days, appears to be permanent.

The homœopathists lay great stress upon the result of this experiment, as confirming in the most extraordinary manner their favorite doctrine of *similia similibus curantur*, and insist upon it that the allopathists must match it, or give up their opposition to homœopathy.*

The second case was also a severe one, affecting the lower limbs, in which, like the first, the common remedies of the schools, and a great variety of nostrums had failed. The disease, however, gave way in the most extraordinary manner under the action of the instrument, reducing the swelling and removing entirely the intolerable itching.

Aware of the consequences resulting from attempts to impart to the people, and, consequently, to pretenders to science, a knowledge for which the former are not, and the latter never can be prepared, we should not at present venture to describe the effects obtained from the machine in another case, if those we have already described, as well as many others, had not been witnessed by a great number of respectable persons, but as such is the fact, we may proceed, regardless alike of the good or evil effects of the action of the machine under the guidance of those who know nothing of the magnetic symptoms of disease, acute or chronic, or of the magnetic organization of the human system on which the instrument acts.

Tubercular Disease of the Neck.—(King's Evil.)—Four cases. They were all under the influence of the magnetic remedies before mentioned, or magnetised rings, to which that of the machine has been added, and are all progressing favorably.

Strabismus.—(Squinting.)—One case. This was a bad case of a young lady, affecting both eyes during the last seven years, which turned out so much as to make it very difficult to read. We applied the buttons to them, under a moderate power of the machine, and concluded the sitting in two minutes, with a plain diminution of the affection. The reduction continued daily, under the action of the instrument, and on the fifth sitting it was completed. The action of the eye was then perfectly natural, and the cure appears to be permanent.

Entropium.—(Eye-lashes and eye-lid inverted upon the eye-ball.)—One case. That of a female. The common operation and remedies had failed in this case. The disease could not, however, resist the action of the machine, but succumbed to it—the eye-lid turning out, and the sitting was concluded in ten minutes. The eye-lid and lashes did not venture to occupy their former position. We are now magnetising both eyes to remove the opacity of the corneas and granulations of the eye-lids, which are disappearing rapidly under the action of the instrument.

Aphonia.—(Loss of voice.)—One case. We have used the machine three times in this case with decided benefit.

Tubercular Disease of the Throat.—Eight cases. The swelling and redness of the throat could be plainly seen to be lessening daily under the action of the machine in these cases. The worst cases of enlarged tonsils do not withstand the action of the instrument, but shrink under it, becoming pale and corrugated.

Acute Diseases.—*Inflammation of the Liver.*—Two cases. The action of the instrument reduced the inflammation in these cases with great rapidity. The pain, however, is so much increased, as to make it necessary to observe the greatest caution in magnetising inflamed surfaces.

Tubercular Disease of the Organs.—We have conducted the forces from the machine through all the organs in a great number, and a great variety of cases, including the brain and spinal cord. In these cases one of the buttons was placed over the spinal cord in the hollow of the neck on the organ of amativeness, the suboccipital, or one of the posterior spinal nerves, and the other button on different parts of the body depending on the organ and different parts of it, through which we wished to conduct the forces, and this we have always been able to do with the greatest facility and precision. As regards the effects obtained in these cases, beyond

* One of these gentlemen, however, suggests that they may possibly be able to do so, by the aid of such a genius as Dr. Post, so celebrated in the manufacture of homœopathy soup.

that of removing or palliating a painful or urgent symptom, permanently or temporarily. We can say but little that is perfectly satisfactory, because the process of cure is necessarily slow, where, at least in many of them, large portions of the organs have to be taken down, carried off, and rebuilt before the patient can recover, and the time since we commenced magnetizing these organs, now only about three months, is not generally long enough to effect these objects.

Besides a great majority of these cases were under the influence of the magnetic remedies, and many others were placed under their influence with the impression that the effect of the machine alone must necessarily be temporary in such cases, which appears to be confirmed by the apparently temporary effect of the instrument upon most if not all of those who were not under such influence.

As regards the effect of the machine in many of the cases in which the patients were at first, or after having been magnetized a few times, were placed under the influence of those remedies it was generally little more than that of removing the urgent symptoms of the periods of excitement in the course of the disease. There were however some extraordinary and most interesting exceptions to these general results, and among these are the apparent effects of the machine in some of the cases of consumption in which we have used it, which leave little doubt of its great influence in this disease, and as little that it will hereafter be entirely under the control of the physician who learns as he may to distinguish it in its incipient stage, or when the tubercles are in their milliary state.

The experiments of Drs. Lerche and Crusell, of St. Petersburgh, suggested to us the probability of such a result from the action of the machine, as they formed tubercles with one pole of a battery and dissipated them with the other, in *their experiments upon the eye* *

* The results of those experiments form one of the best texts for the most withering comments on the common system of practice, as will be seen from the fact that physicians of every name and grade, as well as quacks of all sorts, are constantly prescribing positive and negative remedies indiscriminately, in different, or positive and negative diseases, without the least knowledge of their having any such distinctive character, and consequently none of the cause of the discordant and unscientific results of the action of their remedies.

The action of the machine will also be found of the greatest importance in female complaints. The uterus, and the broad ligaments which sustain it in its position in the healthy state, contract with great force in prolapus uteri under the action of the instrument, and gives the most entire and apparently permanent relief.

In tubercular disease of the heart (hypertrophy) the effect of the instrument is also very extraordinary—the action of the heart becomes slow and regular, whereas in magnetizing other organs the action of the heart and arteries is not altered.

There are certain rules which we have observed in magnetizing to prevent injury from the action of the machine.

1. The large button for the sake of distinction, and for convenience in conducting the negative force over large surfaces, was always connected with the machine in the place and manner before described.

2. In magnetizing the brain or cerebrum we have placed the large button on the organ of causality on one side, and the small button on the organ of amativeness on the other.

3. The large button was placed on the cerebellum on one side in disease of this organ, and the small button on the ear or hand of the other, excepting cases of disease of the vermicular process, when the large button was placed on the hollow of the neck, and the small one on the organ of individuality.

4. In magnetizing the face, both buttons have sometimes been applied to it, but generally the large one only, while the other was applied to the ear.

5. We have placed the large button over the eye-lids and the small one over the organ of amativeness in magnetizing the eye, except in the case of strabismus, when the small button was placed in the corner of the eye next the nose, and the other in the opposite corner.

6. In magnetizing the ears, the large button has been placed upon the tongue and the small one on the ear, except in cases where the disease has been traced to the origin of the auditory nerve, when the large button has

been placed on the cerebellum on one side, and the ear on the other.

7. The buttons have been held on both sides of the throat a minute in magnetizing it, and then reversed alternately, and in magnetizing bronchoceles and other swellings we have pursued the same course.

8. In palsied limbs the large button has been placed on the cerebellum, or over the cervical vertebrae as in rheumatism, and the other on the palm of the hand or on the leg or foot.

9. In magnetizing the organs of the body as the lungs, heart, stomach, &c., the large button has been placed on the spinal nerves connected with these organs, and the other over the lower parts of the organs.*

10. In magnetizing the brain or cerebrum we have observed the greatest caution in using only the weakest power of the machine, and this is a rule which should never be departed from; and in magnetizing the other organs it will be the safest course to commence the operation with a weak power, and then gradually increase it as the patient can bear it, or as circumstances may require. It may appear superfluous to say another word in regard to the caution that should be practised in the use of this instrument. It may, however, be useful to observe that in consequence of the greater force from the large button, the focus of the forces is not equi-distant between the buttons, but at about two-thirds the distance from the large one, and this fact may aid magnetizers in avoiding as much as possible in operating upon the brain, the withering effects of the little button. If any injury is felt, the action of the instrument should be reversed—a fact that will be understood by mesmerizers who will, we have no doubt make the best and safest magnetizers.

We may now with our experience in the use of these machines, advise physicians to use the small rotary machine we have described, as it is the safest, cheapest and most perfect instrument, and which cannot fail to advance with great rapidity the progress of the present revolution in the practice of physic and surgery.

* When *pain* is produced by the action of the instrument, the position of the button should be reversed.

Animal Magnetism.

Surgical operations in the magnetic state are becoming common occurrences. Bones are set, tumors and limbs are removed, and teeth are drawn in this state in a very comfortable manner, without pain or knowledge of the patients. The attention of clairvoyants is also beginning to be directed to the motions of the light-fingered gentry, as will be seen in the following article, from the March Number of the Magnet.

Extraordinary instance of Clairvoyance.

Dear Sir:—Believing that the following account, although connected with circumstances of a melancholy and painful character, may not be uninteresting to your readers, I have concluded to submit it to you, for publication in the Magnet. I feel great reluctance in undertaking the sketch, on account of the deeply mortifying circumstances under which the developments were made; and, because, it must cast severe reflections upon a young man who is now no more. I feel compelled to use *initials*, instead of names at full length, so as not to give *unnecessary* pain to surviving friends, though it be to subserve the interests of a sublime and interesting science, which is my only apology for the narrative.

Some time during the month of January last, a Mrs. S., of the village of A. A., in the State of Michigan, missed from her parlor table, a beautiful little gold watch. It was taken one evening, while no member of the family was in the parlor; and no one having been heard to go into the room, the whole affair was enveloped in mystery. Suspicion rested upon no one in particular, in the mind of Mrs. S. or her husband. Careful search and enquiry were made for several weeks, but all to no purpose. The singular disappearance of the watch, remained an unexplained secret, locked up in the bosom of the unhappy young man who had ventured to commit the deed. A few months passed away, and the matter was nearly forgotten.

In the spring, (in the month of April, I believe,) Mr. D. B., the distinguished scholar in the science of Animal Magnetism, visited A. A., for the purpose of lecturing and exhibiting facts and experiments in proof of the pretensions of Mesmerism. He had with him, a young man, whose name I do not now recollect, but who was a stranger in that place. This man was an excellent *clairvoyant;* and while in clairvoyance, possessed one peculiar faculty, which I do not recollect to have ever read of before. He invariably took that no-

tice of objects, that enabled him to remember them with perfect distinctness, when awake.

One day, while in clairvoyance, Mr. S., the husband of the lady who lost the watch, was placed in communication with him. He enquired of the clairvoyant, (whose name for convenience I will call A.) in relation to the disappearance of the watch. For a long time, Mr. A. refused to answer the interrogatories put to him, touching this delicate subject; but at length, consented to undertake a full disclosure. His answers were sufficiently definite and descriptive, to fasten suspicion upon C. C., a young man who resided in the place, and who had been in the employ of Mr. S., and who had long been a familiar visitor at his house. He stated, *definitely*, that the watch was now [then] in the hands of a young man in the village of Amsterdam, in the State of N. Y.

The credulous, of course, believed that C. C. was the guilty man, especially as he was known to have visited Amsterdam late in the winter. This disclosure was made in the presence of but few witnesses or spectators. The next day, Mr. A., the clairvoyant, came to Mr. S., apparently under great excitement, and pointed through the window of Mr. S.'s office, to a young man in the street, and declared *him* to be the young man whom he saw in clairvoyance the day before, and who took the watch! The young man was C. C., who was a perfect stranger to A. Even the credulity of Mr. S. was now disturbed. He could not, he *would* not, believe the clairvoyant. C. C. had always maintained an unsullied reputation; and Mr. S. had been long and intimately acquainted with him: he was a young man much beloved and respected.

This young man, C. C., early in the month of August last, was taken violently sick, with a fever. After it had raged for a few days with such obstinacy as to preclude the possibility of recovery, he was told by his faithful physician, that his case was hopeless,—that he must die! It was an unwelcome message; but he must now be honest, for the scenes of the Judgment were at hand!

Two days before his eyes were closed in death, he sent for the Rev. Mr. C. an Episcopal clergyman, with whom he had long been familiarly acquainted. To him he made a free, full, and humble confession of the whole transaction. He disclosed the secret known to none but his God! It was precisely as the clairvoyant had stated it. He took the watch east with him, and sold it to a brother in the village of Amsterdam, as had been stated. He exonerated every body else from any participation or privity in the affair; and confessed that upon his head alone rested the guilt! Such is a true history of this matter, which may be relied upon as perfectly authentic.

Yours, &c.

PHILOMATHIA.

Michigan, Jan. 16th, 1844.

Animal Eelectricity.

As some remarks were made in our last number on this subject, we revert to it now merely to state a fact, to which a large number of our most intelligent citizens can testify.

During Mr. Quimby's exhibition in this town on Wednesday evening, 14th inst., his intelligent Clairvoyant was in communication with F. Clark, Esq., a respectable merchant of this place. The Clairvoyant described to the audience a barque owned by the Messrs. Clarks & Co., called the Casilda, then on her passage from Cuba to New York, minutely, from "*clue to earing*," as seamen say. He then informed the company how far said barque was from her destined port, and gave the name of vessel and port. The distance, we think, was about 70 miles.

On the next evening, he visited (in his somnambulism) the same vessel, and said she had arrived off the Hook, where she then was.

On the Tuesday following this exhibition the merchants received a letter informing them of the arrival of this barque (see our Marine Report) at the precise time stated by the Clairvoyant, who, it will be recollected, is Lucius Bickford, a young man 19 years of age.

This was but one of several exhibitions of his visiting absent vessels, of which he could have had no information, and describing even the master and people on board.

We profess no knowledge of this wonderful science, but deem it a duty we owe to the public, to publish every fact that may aid the progress of human knowledge.

Now to our minds, there is no more mystery in all this than there is in repeating a lesson committed. How is this done? Why, we say, it is the impression made on the mind, of the very letters and words committed; and when the book is removed and the bodily eye cannot see those letters and words, the "*mind's eye*" sees them, and by this agency alone the subject repeats them, and can even describe the very form of the letters. But it is a fact, that pressure on the brain will instantly stop all this, even in the middle of a word; and this has been demonstrated to many witnesses. What does this prove? Why, that the *nervous system* of man, is the medium of all such intellectual communications; and if so, we say, it is the

invisible nervous *fluid*, which is as much ELECTRICITY as that of the atmosphere which produces such wonderful and *mysterious* effects; but which is, and even will be invisible and hidden, and one of the mysteries reserved for a world of spirits. Now when the electric fluid or spirit of the atmosphere shatters a tree or house, we all believe it was done by that agency, passing from a cloud to the object below. Why, then, reject the testimony of our own senses, by disbelieving that a similar fluid passes from one person to another, enabling him to see in the "*mind's eye*," what he cannot behold with his natural eye? If we reject this mode of reasoning, we might on the same grounds reject truths of a most sacred and immutable character.—*Wiscasset (Me.) Republican, Feb.* 22, 1844.

MR. SUNDERLAND.—This gentleman concluded his course of lectures on Magnetism, on Saturday evening last, to a good audience The evening's entertainment was a rich one, inasmuch as the experiments were interesting and satisfactory. Quite a number of individuals fell victims to the sympathetic power of Mr. S., at extreme points of the hall, who, after an elapse of some twenty or thirty minutes, were drawn to the platform by the attraction of the operator.

Mr. Sunderland's mode of operating is entirely different from any thing we have heretofore seen—it is original with him, and singular in the extreme. He brings the power to bear while he is lecturing, and as he seems to rivet the attention by his remarks, your curiosity will be drawn off by the somnambulic sleep of some dozen or twenty persons in various parts of the hall. The effect produced in this way is amusing, to say the least; and when we find individuals in subjugation to this power, whose characters are unimpeachable, how can we doubt the *spell*—the *charm*, or whatever signification you may please to give it?

As we before stated, some of the experiments were very fine. There were eleven patients upon the stage, and what affected one affected the whole. The sympathy was great, and run apparently in a vein through the circle of this little community.

Mr. S. caused one of the young men to see a ghost—without a word being said—and as you could see the countenance change, from a serene look to a frightful and ghastly stare, there would be but little room left in the mind for skeptical evasions. Mr. S. then caused them to see snakes, at which, in the twinkle of an eye, they all burst out into a frenzied shriek, and evinced all those fearful emotions which they would if the scene had been real.

What appeared to be the most pleasing part, was that of a *deaf* woman, who was under this influence—and when, to appearance, they were in the height of ecstatic pleasure, she with the rest, clapped her hands, while in unison they exclaimed—"Oh! how happy we are in this place (the place to which they were in imagination,) we should like to stay here for ever!"

We will here say, that Mr. Sunderland had seven new subjects on the above-mentioned evening—persons he had never before seen, and who had never before been "magnetised."

Mr. S. has left a good and lasting impression, and general satisfaction prevails with regard to his lectures.—*Salem Advertiser and Argus, Feb.* 28, 1844.

Mesmeric Prevision.

The London Spectator publishes the following singular narrative, with the remark that although skeptical on the subject of mesmerism, it does not hesitate to print it without comment, coming as it does from a "gentleman of careful habits of observation and scrupulous veracity."

Have you courage to give insertion to the following case? It is so singular that I can hardly expect any one to receive it without considerable hesitation; and yet, as I am able to pledge myself to the strict accuracy of its details, and to the respectability of station and high moral worth of the parties to whom it refers, I feel desirous that it should be widely known.

On Monday, the 25th December, I magnetized Mrs. H——, a married lady, twenty-eight years of age. She had been magnetized at intervals during the preceding year, altogether about six times. Upon each occasion she had manifested some degree of lucidity; and in the only instance when the experiment was tried, she had answered readily to the action of my hand upon the various phrenological organs. On the present occasion, I magnetized her solely for the improvement of her health, as she was suffering from weakness and a pain in the breast, the result of a confinement eight weeks back. In other respects her health was good.

In less than two minutes from the commencement of the magnetizing process, she passed into a state of somnambulism. I then addressed her: "How do you feel?" She made no answer. I repeated the question two or three times, without success; but in a few moments she exclaimed, with an expression of great anguish, "Oh, pretty well, but I shall soon be dreadfully ill."

"When shall you be ill? now, while you

are being magnetized?" "No, in two days time."

"At what hour?" "Three in the afternoon."

"Can nothing be done to avert it?" "Nothing."

"What will it result from? an accident, or natural causes?" "Natural causes."

"Can you tell me any thing that can be done? Will magnetism afford you service?" "Yes, it cannot avert the attack, but it may do much good. It will be a spasmodic attack, and after a little while it will extend to the heart. The heart will not be originally affected; but the violence of the suffering will cause it to be affected sympathetically, and there will then be danger. Magnetism may remove this."

"And will it not remove the other suffering? "No." Then, after a pause, she added—"It cannot remove them entirely; but I think it may mitigate them."

"At what time after the attack should I commence the magnetic passes?" "In about half an hour."

"How long will the attack last?" "From an hour to an hour and a quarter. It will be dreadfully severe; but it will not prove fatal. I shall have more of them. I have much suffering to undergo."

"When will the next attack take place?" "I cannot she."

"What description of passes should I make on Wednesday, in order to relieve the heart?"

"Commence just *under the heart*, and make long passes to the feet."

"During what time am I to continue them?" "About *five* minutes. You must also make passes *across* my back, if possible."

"How long will it be before you cease to suffer from these attacks?" "About eight months."

"Will magnetism benefit you during that time?" "Materially."

She still manifested much apprehension and anguish. "Come," I said, "You must not be sad. I am sure that you can bear pain with patience; and as it will all end well you must not give way to despondency."

"Ah!" she exclaimed, "I think of my children and my husband—I know what he will feel."

I now ceased speaking to her for a minute or two; afterwards I said, "You must tell me if you desire to say any thing more, or if you would rather sleep?" "I think you had better awaken me."

"I demagnetized her accordingly. She awoke instantly, and (as on all former occasions) totally unconscious of having uttered a single word. She said, however, that she was not so much refreshed as usual, and that her head felt as if she had been engaged in the most intense thought. To relieve this, I magnetized her again for a few minutes; and when she was again awakened, she stated herself perfectly restored. I then took my leave; previously agreeing with Mr. H—— that no intimation should be given to his wife of what had passed.

On the following day, I saw Mr. H——; when he stated, that during the preceding evening his wife had enjoyed excellent spirits, and that she still continued in a satisfactory state. On the Wednesday morning, he told me that he had left her in apparently good health, excepting that she seemed in a state of depression which almost caused him to apprehend that her prediction would be verified. She was herself, however, free from any anticipation of evil.

In the afternoon, I proceeded to her house, intending to reach it about half-past three, which according to her prediction would be half an hour after the commencement of the attack, the time at which she had stated that magnetism should be resorted to. Having, however, little expectation that my services would be required, (since I was inclined to regard her forebodings merely as the result of a momentary sadness,) I did not pay any particular attention to punctuality, and it was twenty-two minutes to four when I arrived.

I found her extended upon a sofa, in the severest agony. Her pain drew from her repeated cries, and I learned that she had been seized with a violent spasmodic affection.

I immediately commenced making the passes below the heart, which she had directed during her somnambulism on the preceding Monday.

"Does that give you relief?"—"Oh yes; it greatly relieves the heart."

I then raised her to a sitting posture, and commenced the passes across her back.

"Oh! that gives still more relief—it takes it entirely away from the left side; but the general pain remains the same."

She sank, apparently still suffering most severely from attacks of pain in the epigastric region, which seemed to threaten suffocation. She began, however, after I had made a few passes, to experience some short intervals of ease. During one of them I asked, "At what time were you attacked?"—"Half an hour or three-quarters of an hour before you came; nearer three-quarters of an hour."

"Was it sudden?"—"Quite. I was in the passage, and was obliged to call one of the servants to help me to this room. It seemed to suspend animation. In about twenty minutes, or more, it attacked my heart; the blood seemed to fill my head, and

I was much alarmed. It continued till you came; my sufferings were dreadful; but now the pains seem longer to affect the heart."

She still continued to experience paroxsyms, which I was only able partially to relieve. At intervals she exclaimed, "Oh, how fortunate you happened to call! I feel as if you had saved me."

She complained of fulness of the head, and directed me to make two or three passes over her forehead; which gave her instant relief. At length at about six or seven minutes past four, the pains seemed rapidly to subside. She fell into a calm sleep, her countenance assuming an expression of perfect composure; and from this, at about twenty minutes past four, she awakened in good spirits, and, though greatly exhausted, perfectly free from pain.

She continued to dwell upon the "fortunate" circumstance of my having called: and I left her in the full belief that the visit had been an accidental one.

Since the above occasion, she has been magnetized several times; and she now predicts with rigid accuracy the state of her health for several consecutive days. On the 7th of this month, she announced a slight attack to occur at eleven o'clock on the morning of the 11th, which would not extend to the heart, and another severe attack at three *P. M.* on the 15th, in which that organ would again be compromised. On both occasions the prediction was fulfilled even in its minutest particulars.

I may mention, in conclusion, that until the attack above described, she had never experienced any indisposition in which the heart was supposed to be in the slightest degree affected.

Deluze gives many cases of previson in the somnicient state, and they are of common occurrence in this country.

Treatment of Fever.

By Charles Cowan, M.D., E. & P.
Physician to the Royal Berkshire Hospital, &c.

Dr. Cowan has not said much respecting his own practice, as the type of fevers in his own neighborhood of Reading has seldom been found severe; but he has taken pains to collect the experience of others, which is as follows:—

We shall now briefly advert to the experience of others in the treatment of fevers, selecting that which may not have sufficiently attracted the student's attention. A surgeon in extensive practice has found the following powder very advantageous in 140 cases of simple fever, continuing its use until the gums were slightly affected:—

℞. Nitrate of potash, four grains; tartrate of potash, a quarter of a grain; mercury with chalk, five grains. Mix. Repeated every four hours

And in all fevers of a low type he was convinced of the benefit of the saline treatment. His formula was—

℞. Chloride of soda, three drachms; carbonate of soda, two drachms; hydrochloric acid, half a drachm; camphor mixture, six ounces. Mix. Half an ounce every hour.

He founded his experience upon notes of 120 cases.

In reference to the use of mercury, Dr. Macartney says, "In no single instance have I known mercury fail in arresting the progress of fever, provided it be not combined with visceral affections, or characterised from the beginning with great prostration of strength."

Mr. R. Stevens (Lancet, 25th June, 1842,) asserts the value of mercury in all contagious diseases, and he has met with more than ordinary success since employing it in the treatment of fever.

Dr. Elliotson, and many other writers, speak favorably of the mild use of mercury in this disease; and when the type was inflammatory, it might, perhaps, be always judiciously prescribed.

Case of Poisoning by Colchicum.

By A. T. Thompson, M.D.,
Physician to University College Hospital, &c.

The subject of the following case, John Goodrich, was ordered in a public institution six drachms of tincture of colchicum in a half pint mixture of Epsom salts, of which he took one ounce every six hours. It was ascertained that a larger quantity (six oz.) of the colchicum had been put into the bottle than was prescribed. Vomiting soon commenced after the first dose, and after the third the nose began to bleed profusely, accompanied with violent purging. Notwithstanding these violent symptoms, the medicine was continued. His medical attendant found him sitting up in bed, with his back reclined against the wall, his arms hanging listlessly beside him, his head bent forward upon his breast, and his shirt drenched with blood from his nostrils. His mouth was open, his eyes were staring, full, and turgid; the vessels of the adnata congested, and the pupils dilated; pulse 170, full, bounding, and incompressible, and respiration short and hurried. Thirty ounces of blood were taken from the arm, and a mixture containing potass, carb. and liq. opii sed. was prescribed, followed by port wine and cinchona bark. This treatment seemed to rally the patient,

but he ultimately relapsed and died. But we have condensed this case chiefly to hang a practical remark upon it, made by Dr. Thompson, which is as follows:—

On reviewing the treatment of this important case, I have little to remark, except that it is probable, had my assistance been sooner demanded, I should have opened the temporal artery, instead of bleeding from the arm. I am of opinion, that in the early stage of poisoning by an *acrid*, or a *narcotico acrid poison*, the poison is circulating in the blood, and that much benefit would result from rapidly abstracting a large portion of it from the vicinity of that organ, upon which much of its energy is exerted. By such a practice, also, the sympathetic irritation would have been greatly lessened, and time would have been thus afforded for providing against the collapse, which, in all these cases, is the result to be dreaded.—*London and Edin. Mon. Jour. of Medical Science, June*, 1843, *p.* 540.

Chronic Hydrocephalus treated with Ipecacuanha, in Form of Liniment.

In Dr. Hannay's Dispensary cases is the following one of chronic hydrocephalus, which is said to be congenital:—

The infant was in its eighth month, and the head had acquired a size much beyond natural. It presented an unnatural expression, looked languid and inactive; squinting, vomiting, and costive bowels. It had been several times attacked with convulsions, after which it lay comatose for several hours. The fontanels were large and full. I directed diuretics (nit. pot. and pulv. ipecac.) as I have a notion that to increase the urinary is, on many accounts, very advantageous in this disease. But it is to the effect of a liniment composed of powdered ipecacuanha root, from which decided benefit was derived in this case, that I request space for a short memoir of my trials of this remedy, first suggested to me by my accomplished colleague, Dr. Easton, Professor of Materia Medica in Anderson's University. To that gentleman I sent the following results of my experience of this new counter-irritant, and beg to offer it as the therapeutic parts of my gleanings. The formula I adopt is as follows:—

℞. Ipecac. Pulv.; Olei Oleæ Europ, aa, ℥ij.; Adipis Suill. ℥ss.; M. opt. fiat linimentum fricando admovendum.

The part we wish to irritate is to be rubbed freely with this liniment for fifteen or twenty minutes three or four times daily, and enveloped in flannels. This produces, in about thirty-six hours, or sometimes sooner, very numerous small papulæ and vesicles, seated on a deep red base of irregular extent. They become flattened in a short period, and assume the pustular character. Many of them run together; are confluent. The part feels hot to the hand of another, and a tingling sensation, never amounting to pain, is experienced by the patient. The eruption endures very vividly for a few (three) days, during which the pustules become covered with a scab-like scale, and fall off, leaving no mark. They never ulcerate, as do the pustules from the tartrate of antimony. I regard the ipecacuanha as a very valuable addition to our counter-irritants. It is not over severe, as the tartrate is occasionally found to prove. Yet, with all its moderation, it is very efficient, and extremely manageable. In feeble, young, and very irritable persons, it will, I feel assured, prove a very suitable counter-irritant. I specially beg attention to the use of it in the head diseases of a chronic kind in infants and young children. Many of these cases follow the suppression of eruptions and scabbed diseases of the scalp. Now, the ipecacuanha liniment produces a scabbed state of the scalp, as nearly resembling the affections in question as can be imagined, and maintaining a counter-irritation on the surface which I have proved, I think, to be a very valuable agent of this nature.—*Ed. Med. and Surg. J., Oct.* 1843, *p.* 321.

Inspissated Bile.

We have several times alluded to the exhibition of inspissated ox-gall, as a remedy for constipation, &c. We find that the inspissated bile of the swine has been used in America since 1828, for this and other purposes. In a communication on fever by Dr. Mettauer, we have the following:—

Another modification of the ipecacuanha pill employed by us, was the combination of two or three grains of the inspissated bile of the swine, with one grain of ipecac. and two of the carbonate of potass; this compound was most valuable in this stage; and it seemed to act with decided effect, as a supporting and secerning remedy, upon the mucous membrane of the stomach and intestines, and as a diaphoretic at the same time. It was especially valuable in those cases attended with a denuded and raw tongue; this organ always becoming more healthy after its administration.—*Amer. Jour. of Med. Science, July*, 1843, *p.* 52.

Treatment of Croup with Sulphate of Copper. By Dr. Schwabe.

This invaluable medicine in croup, first recommended by Serlo, has been used in

more than fifty cases by the writer. He generally begins the treatment by applying from four to twelve leeches to the larynx, and then orders 1 1-2, 2, 3, and occasionally even 4 grains of sulphate of copper, mixed with a few grains of sugar, to be taken every half hour or every hour, according to the urgency of the symptoms. Each dose is followed by vomiting, which, scanty after the first dose, is always copious after the second, and is continued so long as thick mucus or membranous concretions are apparent in the matters ejected. The patient then takes half a grain of the sulphate every hour, until several dark green motions have been discharged, to effect which from eight to twelve doses suffice.—*Casper's Wochenschrift, No.* 9, 1843.—*Lond. and Edin. Mon. Jour. of Med. Science, Sept.* 1843, *p.* 834.

Treatment of Volvulus.

Mr. Pilcher has recorded a case of volvulus occurring in a child, in which all the remedies commonly employed for the removal of the disease had been unavailingly employed, when he was induced by the recollection of a former case, to order thin gruel to be injected by the rectum until the lower intestines had become completely distended, regurgitation being prevented by pressure around the anus. The effect was almost immediate, the obstruction giving way, and the patient completely recovering.—*Prov. Med. Jour. May* 6, 1843, *p.* 122.

Value of Antimony in Mania.

Dr. Sutherland states that the employment of antimony in the treatment of mania is of the highest value. A fourth of a grain of the potassio-tartrate may be given every fourth hour, or at the commencement of the paroxysms of furor. It is powerful as a means of controlling the action of the heart and arteries. In many cases in which it has been given, it has acted like a charm in instantly subduing the excitement and violence of the patient; and in some cases an alteration in the symptoms for the better has been traced from the commencement of its administration.—*Prov. Med. Jour., July* 22, 1843, *p.* 342.

Dartres of the Perineum.

Dr. Barosch, of Lemberg, was consulted by a young man, about twenty-eight years of age, for a dartrous eruption affecting the perineum and scrotum, with which he had been afflicted from his sixteenth year, and the irritation from which was such as to cause him to be continually applying his hands there, so that he was obliged to avoid society. He had consulted the most famous physicians in Hungary, but the only thing that seemed at all to relieve him was the cold water hip-bath. When he consulted Dr. Barosch, he was exhausted by suffering, insomnia, loss of appetite, and despair; the skin was dry; the entire perineum, scrotum, and internal surface of the thigh, were covered with deep brown, hard crusts, surrounded by bleeding fissures, caused by the nails of the patient. Below these crusts, the skin was hard and thickened. The fall of crusts alternated with an acrid discharge. Kœchlin's liquor having failed, Dr. Barosch prescribed the external application of iodine as follows:—Fifteen grains of iodine and two scruples of hydriodate of potass, dissolved in five ounces of distilled water, and one ounce of spirits of wine; make a lotion. The topical application of this solution continued for several hours, caused at first a burning sensation, which was, however, very tolerable, and was soon followed by a relief such as the patient had not experienced for two years. The use of this lotion was continued for three weeks, the patient taking baths frequently during that period, at the end of which time the cure was complete.—*Oesterr. Medicin. Wochen.—Provincial Med. Journal, April* 29, 1843, *p.* 99.

Compression in Chronic Hydrocephalus.

M. Hirsch has published another example of the efficacy of compression in cases of chronic hydrocephalus. A child, eleven months old, labored under this affliction; the head was large, tontanelles open, and all the sutures widely separated. The lower extremities were paralysed. On the 11th of May, a mixture, containing infusion of bark, digitalis, and sweet spirits of nitre, was administered, and mercurial frictions were made on the head. The paralysis gradually disappeared under the influence of this treatment. On the 28th the head was enveloped with strips of sticking plaster, which compressed it on all sides; the plaster was renewed on the 28th of June and 4th of September, and in February it was found that the fontenelles and sutures were completely ossified. The child had begun to walk and speak.—*Casper's Wochen.—Provincial Med. Journal, April* 29, 1843, *p.* 101.

Pilula Ferri Comp.

Several methods of preparing this pill have been recommended to preserve the carbonate of iron undecomposed, and to insure the uniform consistence of the mass. This can be made according to the directions of the Pharmacopœa by an attention to the following particulars:—

Dissolve the sulphate of iron, finely powdered, in treacle, with a moderate heat, and add the carbonate of soda, stirring constantly until the effervescence has entirely ceased, and the mixture has become cool; then add the myrrh gradually, and incorporate the mass. As a little evaporation takes place at the commencement of the process, a small excess of treacle is requisite to supply the deficiency. This mass retains its color and consistence remarkably well.—*Pharm. Jour. July* 1, 1843, *p.* 36.

Treatment of Diabetes.

An interesting case of this affection is published by Mr. Hodges, of Downpatrick, in which the nitrogenizing plan of treatment so ably recommended by Dr. Barlow, of Guy's Hospital, was attended with excellent results. The treatment was commenced by giving five grains of the sesquicarbonate of ammonia every three hours, with coffee and bacon to breakfast, animal food and cruciferous vegetables for dinner. The skin was stimulated by friction, and the patient well clothed with warm flannel. In four days the urine was diminished in quantity from twenty-four to fourteen pints daily. The ammonia was then increased to five grains every two hours, and very soon the quantity of urine voided was only eight pints daily; in thirteen days more only five pints; and in twenty-one days the drink taken in the twenty-four hours was two pints, and the urine four pints.—*Medical Gazette, July* 7, 1843, *p.* 525.

Incontinence of Urine successfully treated by Nitrate of Potash.

Dr. Young, of Chester, Delaware County, has found that this medicine, given in ten-grain doses every three hours, has had a very excellent effect in checking this troublesome affection. In several cases where tinct. lyttæ and other means had failed, this medicine was given with complete success. He supposes that its good results may be owing to its increasing the irritating properties of the urine, thus making it more stimulating to the bladder or its sphincter. If so, he also thinks that other preparations of potash, soda, &c., may be used when the nitrate fails. —*American Jour. of Med. Science, April* 1843, *p.* 371.

Elder Bark in Chronic Dropsies.

The decoction and extract of this vegetable substance are reported to be remarkably efficacious by hydragogues, producing so speedy an effect on the urinary and fæcal secretions as to make it needless to use more than two or three applications. The proportions for the decoction consist of a couple of handfuls of the bark to a quart of water; dose, a wine glassful a day. The extract is administered in France in the form of pills, of one and a half grains each, of which from six to ten are taken in the twenty-four hours.—*Journ. de Med. et de Chir. Pratique.—Lancet, June* 1843, *p.* 340.

Aphonia cured by Galvanism,

Theodore Mandurik, a Dalmatian, twenty-four years of age, of sanguine temperament and a robust constitution, and who had usually enjoyed good health, killed one of his countrymen in a quarrel, for which offence he was incarcerated in the prison at Scardona. Three days afterwards he was attacked by a violent fit of epilepsy, followed by entire loss of voice, to restore which external local and general bleedings, and antiphlogistic measures of all kinds were employed without effect. In a few months he was removed to the central prison of Zara, where he was examined by the medical staff. The tongue was somewhat enlarged, and preternaturally reddened, though dry, and the blood-vessels around its base were much distended. The sense of taste was uninjured, but the movements of the tongue and of the larynx were performed with difficulty.—Leeches were now applied to the sides of the tongue; tartarised antimony, in both large and small doses, and drastic purgatives, were employed, and a tartar emetic plaster was placed over the larynx; but all these means failed to restore a healthy action in the parts adjacent, and Mandurik was still compelled to keep his mouth partially open to maintain respiration, a function only performed by short and difficult inspirations. At length, about sixteen months after the attack, the voltaic pile was thought of, and a battery of fifty pair of plates was employed. The positive pole was placed over the cervical vertebræ, and the negative upon the parts affected. On the first day two hundred shocks whre given, and on the second three hundred, but no perceptible effect followed. Two days were suffered to elapse, and a battery of 70 pair of plates was then used, with which about three hundred shocks were given. The patient was found acutely sensitive to the action of electricity, and a lapse of five days was permitted to intervene before its fourth application, which consisted of four hundred shocks with the lattter-named battery. Whether these had been administered too precipitately, or whether his system had become more excitable by galvanism, the patient, after this last application, became much agitated, and subsequently fainted for a short time. Next day he suffered intense head-

ache, his face was flushed, eyes lustrous, pulse full and strong, from which state he was relieved by copious bleeding. But he now, for the first time, gave utterance to hoarse sounds. After six more days the battery of fifty pairs was again employed, and three hundred shocks were given. The same treatment was repeated every two or three days, and then, at similar intervals, four hundred shocks were given with the seventy-pair battery. The voice, meanwhile, and the motive powers of the tongue and larynx, gradually returned to their normal condition, and after the twelfth application the patient had completely recovered. The deduction drawn by the surgeon who has reported the case is, that no nervous affection whatever should be regarded as incurable till electricity in some form has been tried and found to fail.—*Lancet, May* 27, 1843, *p.* 291.

Reduction of Femoral Hernea on Dr. O'Beirne's Plan.

We have repeatedly referred to this plan of reducing a strangulated hernia, but as every fresh fact in corroboration of it is satisfactory, we subjoin the following case by Mr. Collambell, of Lambeth. It was that of a woman, æt. 51, ruptured 24 years ago. All the symptoms of strangulation being present, the taxis being used for a considerable time, and various other measures resorted to without avail, Dr. O'Beirne's plan was tried as follows:—

I introduced, says Mr. Collambell, the elastic tube of the stomach-pump into the rectum, and passed it the distance of twelve inches. I then attached the syringe, and slowly injected two quarts of warm water. When half of that quantity had been thrown up a gurgling was distinctly heard in the tumor, and it gradually became less tense. Having injected all the water, I removed the syringe, and allowed it to run off by the tube; I then reapplied the syringe and continued exhausting the air, when, after a few minutes, I had the gratification to find the hernia gradually subsiding, and, by keeping up gentle pressure, the contents were returned into the abdomen. My patient immediately pronounced herself relieved; her countenance became cheerful, and the sickness abated; she was ordered a brisk aperient of magn. sulph. and aq. menth. pip. and a dose of calomel and opium. The bowels acted freely on the following morning, and she is now as well as usual.—*Lancet, April* 29, 1843, *p.* 155.

Strabismus.

M. Jules Guerin has published a second Memoir on Strabismus, devoted to a rational and experimental inquiry into the distinction between the optical and the mechanical forms of the disorder; a former memoir, published in the same journal the 3d April, 1841, having treated principally of the mechanical or primitively muscular form.

Optical strabismus, the principal subject of the present paper, the author defines as a consecutive of secondarily muscular deviation of the eye, consequent on a disjunction of the axis of vision and the axis of the eye. This disjunction may be produced in three ways; 1st, from an obstacle to the passage of visual axis along the course of the ocular axis; 2ndly, by a change of relation in the refracting media without alteration of their transparency; or, 3rdly, by an insensibility of the retina at the proper point for the reception of luminous rays. The first is characterised by the squint existing only while the patient is looking at an object. In these cases the two visual axes, though no longer concurring with the ocular axes, converge towards one point. A squint, then, existing only during active or intentional vision, cannot depend on permanent muscular contraction. A young person aged 19, who had a moveable clot of blood in the posterior chamber, was observed to squint from the attempt to place a transparent portion of the medium opposite to the object looked at, and thereby to avoid the inconvenience produced by the presence of the clot in different parts of the chamber. As soon as she ceased to look at an object, she ceased to squint. A disturbance in the relation of the refracting media, the author thinks is the only way of accounting for some cases of strabismus which are produced suddenly after a blow, or a jarring fall on the seat or on the feet. The first effect of displacement is double vision; and the squint, at first temporary, lasting only during attentive vision, is gradually made permanent by the repeated endeavor to escape from this fatiguing symptom.

The third form, viz., from partial paralysis of the retina, is more difficult of actual demonstration, though its presence may be inferred by induction rigorous enough for practical purposes. Amaurotic patients, when endeavoring to distinguish a light, are seen to turn the eye in different directions where they know the light does not exist; they present the various surfaces, as it were, feeling for it. Those in whom the paralysis is but partial, contract a habit of subjecting to the influence of the rays that part that is most sensible. The author believes that in no case of secondary optical strabismus will the texture of a muscle be found fibrous, and that in no case of primary mechanical muscular strabismus will such a fibrous state of the muscle be

wanting. Where myotomy has been performed in cases of optical secondary strabismus, he believes that one of three things must have happened—either the case has not been watched long enough to ascertain the result, or a positive failure has followed, or the primary cause, whatever it may have been, has really been removed by the operation. The author adds a summary of the distinctive characters of the two kinds too concise to be materially abridged, but too long for our pages.

Medical Gazette, May 12, 1843, *p.* 254.

Electro-puncture in the treatment of Deafness, depending on a Paralysis of the Acoustic Nerve.—By M. Jobert.

The paralysis of the acoustic nerve may be produced by exposure to a current of air, to too great a shock of the head, to waves of sound too violent, to affections of the teeth or of the gums. Electro-puncture has been already employed in these cases, but it had fallen into disrepute. The author believes that he uses it in a manner more direct and more rational; here is his proceeding:—Stard's sound, he says, is introduced through the nasal fossa into the eustachian tube, and in this sound a long thin acupuncture needle is inserted, so as to fix itself in a point of the parietes of the eustachian tube, while the other end projects from the end of the sound; another acupuncture needle is implanted in the membrane of the tympanum. This being done, one of the conducting wires of a galvanic battery, of which the trough is filled with water and muriatic acid, is passed through the eye of one of the needles, and the end of the other conducting wire is made to touch the opposite needle. I have used, in the beginning, eight pairs of the battery, then I got to ten, to twelve pairs; finally I have been as high as eighteen, and at present I have patients who have undergone several sittings, and on whom I have acted with the entire pile, the touch of which contains forty metallic pairs. At the moment that the two poles are put in contact, there is a very painful shock in the ear and in the head, with convulsive motions; but this shock and this pain cease immediately. In a single patient the impression was felt during eight days, but it never extended beyond a slight pain, which ceased of itself. It must be added, that the patients who were submitted to electricity in this manner, were, during some moments, as if stunned, and preserved some time after the experiment a bewildered look. The sitting was usually confined to a single shock when the patients were irritable; I have given two and even three shocks in people whose sensibility was obtuse, and who have been already submitted to electro-puncture. In general I allow eight days to pass between each trial. The author then relates four cases of well marked deafness, and in which the cure was complete; in the first after a single shock, in the second after two shocks, and in the third after two sittings, each composed of three galvanic shocks.—*L'Examinateur Medicale.—Medical Gazette, June* 2, 1843, *p.* 356.

Oil of Turpentine in Night Blindness.—By Charles Kidd, M. R. C. S., Medical Attendant of the Doonass Dinpensary.

In two cases of this description, in which the patients were seized with a total blindness every evening, the moment the sun set, although in other respects perfectly well, Mr. Kidd tried the whole routine of medicines without effect. The iris alone showed symptoms of disease; the rest of the eye was healthy. The iris was very interrupted and sluggish in its movements, and evidently very insusceptible of its usual stimulus, the pupil contracting very little even on the approach of the strong glare of the sun.

Being aware of the action of turpentine on this part of the eye. Mr. Kidd ordered the following mixture with excellent effect:—

℞. Ol. terrebinth; ol. ricini, aa. ʒj.; mist. camphoræ, ʒiv.; liquor. potassæ, ʒi.; træ. opii. gtts. x. Ft. mistura.

Half an ounce to be taken every night and morning. The patients were cured in a few days.—*Dublin Medical Press, May* 10, 1843, *p.* 292.

It is often difficult to continue the use of turpentine on account of its disagreeable nature. Bouchardat recommends the following formula:—

Take of gum accacia, ten grammes; mix it with ten grammes of water; add of white honey, fifty grammes; oil of turpentine, fifty grammes; carbonate of magnesia, q. s. Make a soft electuary.

The dose is from 2 to 10 grammes (36 to 180 grains) a-day in unleavened bread. In some cases a little laudanum may be added.

Medical Gazette, Sept. 22, 1843, *p.* 912.

How to make Leeches Bite.

The leech which it is intended to apply, is thrown into a saucer containing fresh beer, and is to be left there till it begins to be quite lively. When it has moved about in the vessel for a few moments, it is to be quickly taken out and applied. This method will rarely disappoint the expectation, and even dull leeches, and those which have been used not long before, will do their duty. It will be seen with astonishment how quickly they bite.—*Medical Gazette, June* 23, 1843, *p.* 480.

Researches into the Nervous Influence supplied by the Par Vagum.

M. STILLING, whose researches on the nerves was noticed in the last volume of THE LANCET, has been led to the following conclusions respecting the functions of the par vagum and some of its branches.

The par vagum is both motor and sensitive. The superior laryngeal nerve is solely sensitive, having no effect to produce motion in the glottis. The recurrent nerve is motor, and sensitive also, though in a less degree than the superior laryngeal. The glottis and the whole larynx derive all their sensation from the first named branch. The trachea derives its sensation from the recurrent branch, and the lungs from the branches of the par vagum, which they receive. The glottis depends for motion on the recurrent branch, and not at all on the nervus, accessorius. Irritation of the roots of the vagus nerve within the skull causes the same result as irritation of the recurrent branch. The quality of the voice is dependent on the condition of the superior laryngeal nerve, and the degree of harmony between this and the recurrent branch.

With regard to the motions of the pharynx: in ordinary respiration the pharynx is closed; it is only in abnormal circumstances that it contains air. In most animals the pharynx *manifests* a contractile action or vibration of *its* muscular fibres during expiration; this action is not perceived in inspiration. The section of the par vagum determines a contraction of the pharynx, as does irritation of the recurrent and superior laryngeal nerve.—*Schmidt's Jahrbuch* 36; *Haeser's Archiv.*, 1842.

Medical use of Saffron.

In several cases of obstinate chlorosis that had not yielded to preparations of iron, in one case of puerperal fever in which digitalis and bleeding had failed, and in two cases of chronic artero-phlebitis, Dr. Morgante, of Verona, reports that he has employed saffron with the greatest success, commencing with doses in the form of pills, amounting to sixteen grains in the twenty-four hours, increasing the doses until the quantity is doubled. As to the manner in which this medicine acts—it is reported to be particularly effective in cases of increased action of the capillary vessels, and analogous in its effect to the more active preparations of iron.—*Memoriale della Medicina Contemporanea.*

Facial Neuralgia.

An ointment composed of veratria, one part, to eighty parts of lard, has been found very useful as an external application in cases of facial neuralgia. But the preparation is much more efficacious if made with rancid instead of fresh lard, which is probably owing to a salification and greater solubility effected in the veratria by the agency of the free acid in the fat.—*Revue Scientifique.*

Lancet, May 27, 1843, *p.* 304.

Black Drop reduced to the strength of the Tincture of Opium.

Take of hard opium, powdered, ʒiij; citric acid, powdered, ʒiss; boiling water, ʒxv; rectified spirit, ʒxxv. Pour the boiling water on the opium and citric acid; macerate for twenty-four hours; add the rectified spirit; again macerate for fourteen days, and strain.

Lancet, May 20, 1843, *p.* 304.

Treatment of Dropsy.

The main object in the treatment of ascites is, of course, to excite the organs, by the aid of which nature herself expels the serious secretions of the abdominal cavity; and accordingly such diuretic and drastic agents should be employed as are most likely to act at the same time on the absorbent system, the urinary organs, and the intestinal tube. In combination, also, with medicinal agents, a diet should be adopted at once solid and tonic, composed principally of broiled or roasted meats, toasted bread, &c., with small quantities of red or white wine; but on no account should the patient have recourse to toast and water, broths, gruel, or such like drinks; in fact, the principle should be to drink as little as possible, and instead of liquids to use jellies, oranges, and fruit generally, by way of demulcents. M. Delreyne, who advises the above regimen, recommends the following diuretic wine as suited to weaker subjects:

℞. Nitrate of potash, three drachms, and juniper berries, fifteen drachms, to be steeped for twenty-four hours in a bottle of wine water; dose, a glass daily.

This stimulant is especially useful in incipient dropsy, and cases of œdematous swellings of the extremeties.—*L'Experience.*—*Lancet, May* 20, 1843, *p.* 253.

Counter-Irritants in Bronchitis.

Dr. Graves, in his work on clinical medicine, makes some excellent remarks on counter-irritant remedies, which are to be applied not merely over the chest, but to the nape and along the sides of the neck, over the epigastrium, and in the course of the cervico-spinal and pneumogastric nerves generally. He thinks that—

The spirit of turpentine exercises something more than a mere counter-irritant action, and proposes the following formula for imitation.

Strong acetic acid, ʒss; spirit of turpentine, ʒiij; rose water, ʒiss; essential oil of lemon, a few drops; yolk of egg, sufficient to suspend the turpentine.—*British and Foreign Medical Review, July* 1843, *p.* 246.

Cæsarean Section.

A woman, aged thirty-one, who had borne five children naturally, was attacked with violent arthritis, during her sixth pregnancy. The pelvis became so deformed that the finger could scarcely be introduced between the tuberosities of the ischum and the ascending rami, on either side; the pubes also formed a very prominent angle, the sacrum projected much forwards, and the os uteri could not be reached. On the 27th of July, 1840, labour having commenced, and the contraction of the pelvis diameter being well ascertained, the Cæsarean section was determined on, and was performed in the linea alba by Dr. Arnoldi. The results were most fortunate; the mother nursed the child herself, and the wound healed by the beginning of September. *Prov. Med. Jour., Oct.* 21, 1843, *p.* 60.

Cure of Venereal Warts.

Francis states that two remedies which he had tried for the extirpation of venereal warts, have always perfectly eradicated them, namely powdered savine and a solution of lunar caustic; the first to be applied to the warts every night, taking care previously to wet them, in order that the powder may adhere to them. The quantity ought not to be more than will lie on the top of a good-sized horse-bean. Applied every night for a week or ten days, this remedy will, it is said, cure them effectually. Should this, however, not be considered powerful enough, the savine may be sprinkled every night, and on the following morni g a solution of nitrate of silver (four grains to the ounce) may be applied. These two remedies Mr. Francis always employs, and has never found them useless.—*Med. Chir. Rev., July*, 1843, *p.* 281.

Rupture of the Uterus—Recovery.—By M. Vaulpre, M D.

The patient in this case was in her 19th year, and confined for the first time. Delivery was attempted by the long forceps, but in vain; the head of the infant had to be opened, and delivery was accomplished by means of the hook. In passing the hand into the uterus, a longitudinal rent was discovered, corresponding to the right fossa, and from six to seven centimetres in length. The hand, when passed into the gap in the uterus, came in contact with the mass of the small intestines. A month afterwards the uterus contracted, and the tear in its substance could no longer be perceived. The patient was alarmingly ill. She vomited, had hiccup, violent pain in the abdomen, &c. Nevertheless she did not die; on the contrary, after several days passed in a state between life and death, she began to improve, and finally recovered.—*Lond. and Edin. Mon. Jour. of Med. Science, July* 1843, *p.* 651.

Disease in the brain, spinal cord, heart, lungs, stomach, intestines, liver, kidneys, or other vital organs, is characterised more by disturbances of function in those organs than by pain.—*Dr. Bellingham.*

A short time since an ox was killed at Waltham and on proceeding to cut it up, a live snake, perfect, with the exception of the scales, was found in the caul of the animal. It measured two feet six inches in length.—*English paper.*

Leeches have been found in the liver, and snakes in the stomach of human beings in this country.

Revelations by Mesmerism.—The Pennsylvanian, of Philadelphia, translates a strange narrative from a Dutch paper. A little girl, five years of age, was drowned near Dresden, while amusing herself with some playmates, who were afterwards unable to point out the place of the catastrophe. The parents applied to Amelia Klunger, a celebrated somnambulist, and she immediately told them where they sould find the body, which they did, in the very spot she named, and they returned her their thanks in the newspapers. The affair has created a sensation in Dresden.

Naptha—its *curative* effects in tubercular consumption—a humbug.

Errata, in our last number p. 13, &c., for decollionth, read decillionth.

Errata, in this number p. 61, for Nagnetism, read Magnetism; p. 87, for replex read reflex.