GEM OF SCIENCE.

Knowledge is the food of the mind; and without knowledge the mind must languish.

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THE NATURAL SCIENCES

We lay before our readers the following "REFLECTIONS ON CLOSING THE COURSE ON CHEMISTRY AND NATURAL PHILOSOPHY AT THE TEACHER'S INSTITUTE, IN DELAWARE COUNTY, OCT. 30th 1845, BY R. L. WATERBURY," *and although they are somewhat lengthy, yet in them, apologies will be found for an attentive reading.*—ED.

The object of all science is the investigation of truth. He who made us placed within us the faculty of observation, the power of reasoning, and put us in a world where these things are necessary for our existence. We can labor, and He tells us that by the sweat of our brows we shall eat our bread. "He that hath ears to hear let him hear," and He has given us the ability to reason and has said, "Come now and let us reason together." The possession of an organ, then, implies the duty to use that organ. The investigation of truths establishes also the relations between them. There are cases of which one truth must of necessity follow another and be followed by a third—such connection is a chain of reasoning and must have for its foundation some notorious fact.

First truths cannot be demonstrated or proved by any chain of reasoning—such a truth is our individual existence. When of two truths the one is the continual predecessor of the other, the former we designate the cause, the latter the effect. Of ultimate causes we know nothing, save the few glimpses of light which the Deity has vouchsafed to us—rays of Revelation from him who "rideth upon the cloud and maketh darkness a pavilion around about him." These rays are too bright for our intellectual vision and we cannot comprehend Him who is the "Father of all."

> "Thou great First Cause, least understood,
> Who all my sense confined,
> To know but this that Thou art good,
> And that myself am blind."

A stone falls to the ground. A wise man asks *why?* A child may ridicule him and say it is the attraction of gravitation that is the cause of it. But what is gained? Merely a new *name* for an *effect*, and the wise one is the more ignorant of the two—for he is unconscious of his own insignificance. But you have heard that Sir Isaac Newton was a great man, and that he attained his greatness by the discovery of the attraction of gravitation. Newton knew no more of the *cause* of gravity than you or I—it was a deep research into the motions of falling things which enabled him to establish the law of gravity, to weigh the planets, to lay open in astronomy the eternity of the *future* equally with that of the *past*, and build for himself a name which shall last as long as things fall and men ponder upon that fact.

Art is the application of science to useful purposes. Science is the head to conceive—art is the arm to execute.—They are together in *emblems* as *sisters*. Science is the elder, and it is her province to lead art, the younger. Science assumes that she is less liable to stumble

and claims that art should follow—yet it should be confessed that the young romp often gets ahead, and frequently finds shorter and more eligible routes in which her elder sister is glad to travel. Yet they love each other, and their path is the same, and their journey is ever onward. Around them the forest falls, and the rays of the sun come in upon the bosom of the earth. Cottages spring up and flowers bloom. The neighboring woods echo at the ring of the anvil and the noise of the saw-mill, for the wild wood stream is dammed, and throbs like a great artery, with a flutter-wheel for a heart. Together they have done *wonders*. They have timed the arrows of light and have split the sunbeam into rainbows. They have marked out paths on the restless ocean and measured its tides. They have stolen from the moon the secrets of her motion and betrayed the mystery of her eclipses. It is as tho' they had hung a pendulum to the clock work of the universe and registered its motion upon a dial. Science has chained the cloud and art has harnessed the puffing steed to their car. Science caught the lightning and art tied a letter to its wing; and as if all this were not enough, they have made messengers of rags, and given them tongues to tell of their deeds. Science and art were among the elder daughters of time—but almost within the last century, his wife, investigation, has borne to the old man a number of daughters, who are yet in their infancy. I refer to the *Natural Sciences*. They are a set of romping, rosy-cheeked brats, and are regarded by the sober elder members of the family as slightly inclined to mischief—yet we must acknowledge that much allowance is made for their youth, and a commendable disposition is shown to foster them. Chemistry is one of these children, and though young, shows signs of a vigorous growth. Natural philosophy is one of the elder family, and has grown to years of discretion, though we have reason to believe that he has not yet finished his education. But to lay aside these "family matters:" Chemistry, as a science, dates back only to the doctrine of definite and multiple proportions. Before that time what was known on the subject was in the form of isolated facts, without any connecting links. The word Chemistry is of unknown origin. It was first found as chemia, indicating the art of making gold and silver among the Greeks and Egyptians, and was coupled by the Arabians, with the vain pursuit which it denoted, and passed into the European languages, which the Arabic prefix as alchemy. When the just power of the science became known, it took again the term "chemia," or Chemistry. —*Kames's Chemistry*, p. 10.

The elder philosophers recognized all things as composed of four elements, *fire*, *air*, *earth* and *water*. Poets have license to use the term elements in this sense still. Milton speaks of "Air and the *elements*" as "The eldest birth of nature's womb that in *quaternion* run," and then goes on to call on *each* one to praise its Great Author. At a later period arose the wild chimera of the philosopher's stone, a jewel which should transform all the grosser metals into the nobler ones, and yet strange as was the pursuit, it gave birth to results which gradually laid the foundation for the science of chemistry. To this period is alcohol due, and as it was first obtained from wine, it was called by Europeans spirits of wine. The term spirit was given it from the fact that it was volatile and did not con-

form to their ideas of a body. In this way the term spirit came from metaphysics into chemistry, e. g. hydrochloric or muriatic acid was spirit of salt, i. e. salt was the body, the acid was the soul.—Thick fluids obtained in this manner were "*oils*;" thus sulphuric acid was "oil of vitriol," a name which it still retains, though entirely destitute of any oleaginous properties—and yet there seems to have been no system to their nomenclature, for instead of calling nitric acid "oil of nitre" they named it aqua fortis, or brave water.

The family of vitriols were so called probably from their resemblance to *glass*. In the case of the salts they hit nearer, and the term is still used. *Quick* silver means *living* silver—and the term Mercury was probably given it as a compliment to astrology. In that way lead was dedicated to Saturn, and the name of the acetate in the old books is saccharum *Saturni*, or sugar of Saturn. The processes of the alchemists were to be conducted under certain relative positions of the heavenly bodies, and even their medecines were to be mixed at peculiar "times and seasons." So the character R. which stands at the head of our physicians' prescriptions, is the emblem of Jupiter, and came by virtue of that to its place, though it now passes as the sign for *Recipe*. Even as late as Stahl, who died, I think, about 1734, the doctrine of phlogiston or a general inflammable principle which pervaded all bodies, (too much of which in the human body was the cause of fever,) was generally believed, and taught by this eminent man. The *gases*, as a class of bodies, have only been known for less than a *hundred years*.—But it was reserved for Lavoisier to marshal and arrange all these *heterogeneous facts* by his great doctrines of *definite* and *multiple* proportions. Chemistry was without form and void and darkness was upon the face of the deep, when his spirit moved upon the face of the *waters*, and then, as in the sublime oratorio of Hayden, the most grating discord broke into rapturous harmony. Under the execrable tyranny of Robespierre, in 1794, Lavoisier fell a victim to the guillotine—unfortunate but not dishonored. He still lives,

"A light about his head all coming time shall shed."

The present system of nomenclature followed close on this grand doctrine—and then the brilliant discoveries of Sir Humphrey Davy, within the present century, which have made the ground work of chemistry what it is. The science of natural philosophy is of a much earlier date. The term philosophy literally means a "lover of wisdom," and philosophy in its broadest sense includes all the natural sciences. It was applied by the ancients more especially to metaphysics, or the science of mind, and ethics, or the science of morality. Such philosophers were Socrates and Plato.

Natural philosophy, or physics, is that science which investigates the properties of the material world. *Archimides* was among the *earliest* natural philosophers. When the city of Syracuse was besieged by Marcellus, he contrived cranes and pulleys by which he pulled up the prows of the ships of the enemy as they lay under the walls of the city, and suddenly loosing them, sunk them. With burning glasses he fired their vessels, and even boasted to king Hiero, that if he had a foothold for his machines, he would overturn this earth which we inhabit. Now it is the principle that the weight multi

plied by the distance through which it moves shall equal the product of the power into the distance through which it moves. Suppose, then, a lever extended out in space for millions of miles, and suppose that a foothold had been found, and the braggart philosopher had taken a "bite" on this world so short that the third part of a circle traversed by each end of the lever should move the weight but one line of the one-twelfth part of an inch. Now imagine to yourself the sage transported through the regions of space to the extremety of the long arm of his crow bar, seated "a la cheval" upon it, and suppose his motion to have commenced two centuries before the Christian era. The force which moves him is a *constant* force, and the old dotard, as he clings to his machine, is dragged through the regions of space with a continually accelerated velocity. He has travelled for a score of centuries, and his vain errand still calls him onward, and this great lump of clay has not shifted its position by that fraction of an inch. Far preferable to his is the fate of the legendary German skeleton, annually dragged round the world by a patent cork leg.—Those philosophers among the ancients who meddled with physics, were prone to abstraction. Courses of reasoning were adopted to invalidate the evidences of the senses. They endeavored to prove that there was no such thing as motion—for, said they, "a body must move where it is or where it is not." Now if a body moves where it is, there is no change of place, and consequently no motion. That a body should move where it is not is absurd. The only man who refuted this doctrine by moving about the room was ridiculed as being unable to reason. The error is in the first position, for *motion is a change of place.* Admitting, for argument's sake, that there was motion, they endeavored to prove that there were no degrees of motion, taking the following as an illustration. The fleet-footed Achilles and a tortoise are to run a race. Achilles can run one thousand stadia while the tortoise is running one—give the tortoise then one thousand stadia the start—while Achilles is running this distance the tortoise is running one—while Achilles is running this *one*, the tortoise is running the one-thousandth part of another, and while Achilles is running this one thousandth part, the tortoise has run the one-millionth part of another; and so the tortoise will always be ahead by less than an assignable difference. But let us look at this reasoning a little. It proves too much for them. As it stands, Achilles has run over more ground than the tortoise, and in equal time, and consequently there must be degrees in motion. But give them their data, and let us change the order a little. While the tortoise has run *one*, Achilles has run a thousand—While the tortoise is rnnning another, Achilles has run another thousand, and is nine hundred ninety-eight stadia ahead. Like these things was the question, "When a body revolves does the centre of that body turn?" If you assume that it turns, then it is not the centre, as it must turn about some line or point which is the centre. On the other hand, if you assune that it does not turn, then it has no connection with that body and cannot be its centre. The fallacy here is in assuming that the centre of a body has dimensions—it has no dimensions, being merely a point or a line, and consequently conclusions drawn from that assumed fact, are false. Another: The material of our bodies is continually

changing. You and I have not those bodies with which we came into this world. "Are we then the same persons?" You will answer "Yes." You are conscious of that fact. Reasoning may also be adopted to prove those things to us of which we are not conscious, i. e. to make us conscious of them, and so I am not called on to prove our personal identity. This position has been ridiculed in this manner: "A miser had a pair of silk stockings, which, as they became worn, his daughter darned continually with worstead, till not a shred of silk was left.—Now were these the same stockings?"—How you answer this question is a matter of very little consequence. But natural philosophy has not been always trammeled by such dogmas as these.—There were men during the dark ages even, who kept alive the sacred fires upon the altar of truth; such men as Copernicus and Galileo, the apostles of science. They were bright and shining lights, and though they flickered occasionally amidst the damp and darkness surrounding them, yet a few rays have struggled through and come down to us, and those rays are a "pillar of fire" round about them. By their lights the shadow of oblivion has fallen upon their persecuters and hidden them *all*, save those so dark as to be a shade even under that shadow. These men, too, possesses earthly immortality; but their's is the immortality of darkness. So may it ever be with those who would fetter the divine form of truth, for each step that she leads us brings us a step nearer to the vailed throne of *Omniscience Himself*.

Put off no business for to-morrow that can be done to-day.

ORIGINAL.

MAGNETISM

WITH NOTES BY THE EDITOR.

MR. EDITOR.—I saw an article on Magnetism in the Gem of Science, [Vol. 1, No., 8, p. 9,] in which the following paragraph occurs: "Persons who have lectured on this subject have assigned no *cause* for this wonderful phenomena produced."

I have endeavored to become acquainted with nature, as she manifests herself in the form of Magnetism, and have devoted much time to the subject. I have arrived at the conclusion that there is a rational method of accounting for these things when once induced, but cannot satisfactorily account for the difference of susceptibility of varions persons.*a* I assume on grounds which are perfectly tenable, that the *Electric Agent* has all to do with vitality, and life is but the result, of the combined agency of Electricity, and its resulting force, Magnetism, acting on matter. I do not doubt, but that a third agent may exist which may be either a *resultant* of Electricity, or an *element per se.* which may have to do in the development of *mind.* But, assuming the *Electric Agent*, to control the vital functions, we cannot doubt that it must have an influence in the *Physiology* of man.

I have adopted the following hypothesis. That motion is the result of *magnetic* action developed in the muscular tissues, by a current of electricity through it *from* the Brain, and that sensation, is the result of the transmission of a current of electricity from the surface, or sensative part, to the Brain. Now, as it is well

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a This difference we shall expect to explain during the present volume.

known, that a current of electricity, developes Magnetism in certain cases, we may infer, that, in every *plexus* of nerves in the system, there are magnetic *Spheres* of greater or less intensity,—I do not adopt the term *Poles*, because, the developement can not be sufficiently marked to deserve that name, from the manner in which the nerves are arranged.*b* Undoubtedly, in parts where the currents are much concentrated, as in the nervous centers, a marked Polarity may exist. Before however, we can come to the *point* it may be well to notice that the Brain is arranged in relation to the rest of the motor and sensitive systems, that to produce motion, a current must set out from a certain part, and that sensation may be produced, *another part* must receive a current.

It must appear on a little reflection, that to produce those effects which are called magnetic, we must induce a change in the magnetic forces, of the system, and through them, a change on the electric forces, which is perfectly consistent with the known phenomena of Galvanic Magnetism. When we have accomplished this, we have destroyed all sensation and voluntary motion; because that part of the brain which normally gives out currents for the production of motion, is then *receiving* a current, which neutralizes, or overpowers it, (if it barely neutralizes it, we have not a Clairvoyant, as I shall explain directly) and on the other hand, the center of sensation *gives out* a current, which normally, it is accustomed to receive. To produce Clairvoyance we must wholly overcome the natural currents and establish an opposite in both the motor and sensitive nerves, and render all the normal-powers incapable of distracting the attention.

The *polarity* of the nerve's centers becomes changed, and increased in intensity. They are susceptible to impressions through the medium of the *Electric Ether* which pervades all shape, in a manner similar to that in which the eye is affected by light. But if the *two powers* are merely neutralized, the person is incapable of receiving impressions of any kind, as may be proved, by actual experiment. Magnetize a person and examine him in the progress of your manipulations, and you will find that at one short period of the process, the vital powers are *wholly suspended*, except what may yet remain from the impetus given it by the action of the heart,—he is incapable of bearing even the operation—can not move, even at the earnest *will* of his magnetizer; and finally were he to be maintained in that condition a few minutes, by a proper direction of the magnetic forces of the operator, he would cease to live! But this does not last long, for when the operation, of the manipulator ceases, at this point the changes which are continually going on in the system renew the vital current before they have a chance to sink.

You may increase the magnetic power of the different organs of the brain without producing Magnetic Sleep, to an intensity that will evince all the phe-

b We remarked in our last number that there are communications to different parts of the system from the brain by the nerves. There are nerves leading from each organ to every portion of the system which we have demonstrated by Magnetism, as we shall endeavor to explain hereafter; but we must differ with our correspondent in that the direction and location of these nerves can be demonstrated by mesmerism as easily as the anatomist would determine the direction and location of the different nerves and arteries of the human system; while we are inclined to concur with our friend in using the term "spheres" in the place of "poles."

nomena of Claravoyance, without destroying sensation, or volition, or decreasing the vital powers, if you should procure a proper subject, the only difference being a *reverse* process, which however does not last so long, nor appear to be so much under the control of the operator as the *Somnolent Magnetic Phenomena.*

Yours Respectfully,

J. LEWIS.

Mohawk N. Y. Sept. 8th, 1846.

For the Gem of Science.

THE SLAVE.

FRIEND SANFORD:—I am well aware that the "Gem" is not strictly an Anti-slavery paper, still I think it may properly be called a Reform paper—a sheet devoted to scientific reform, and as such may well speak in behalf of the Southern Slave. It has, I think, to some extent, done so. Allow me to offer a few remarks why its position upon this subject should not be mistaken, and that position be on the side of the Slave.

First. A receiving and using the comforts of life either physically, intellectually or morally, impose on us an obligation to inquire into the condition and ascertain the wants of those who thus administer to our comfort.

Second. The relation between the editor of the paper and his patrons; between them and their patrons or agents—and again between them and others with whom they deal, or on whom they are dependent; and still further till we comprise the race;—goes to establish the sentiment that *that* man or woman who is engaged in any employment, enterprise or reform at the expense of the natural, social, or political rights of any other individual, is not *rightly* engaged. And hence,

Thirdly. The importance of the motto of the Gem: "Knowledge is the food of the mind, and without knowledge the mind must languish."

There is probably no greater demonstration of the truth, that the mind must languish without knowledge, than in the case of American-Slaves. That Slaves or black men are susceptible as well as white, of giving proof that "Knowledge is the food of the mind," the unprejudiced mind need only listen to the eloquence of a Garnett, a Ward, a Remond or a Douglas.

Now, my friend, if any of the readers of the Gem are accessories in perpetuating that man-stealing, woman-whipping, and baby-selling, institution, American-slavery, is it not an evident duty of the conductors of that sheet to impart to them this Knowledge—"line upon line and precept upon precept?" That all my associates who partake of the intellectual feasts, the "Gem of Science" occasionally gives us, are guiltless in this matter, I can hardly believe. If all are clear in the use of the elective franchise, we should not forget that the shirts upon our back, are most likely the products of slave-labor, unless coming through the American Free-produce Association, and procured by them from Free-labor plantations at the South.

Are we not then verily guilty concerning our brother?

Pause, reflect, meditate. Slavery cannot exist without a market for the avails of Slave-labor. How far then are we responsible for its continuance? Let us impart—and receive all the *knowledge* requisite "for pulling down the strong holds" of Slavery, and hastening the period when this will no longer be a land of *Demon*-ocracy, a land, the character of whose institutions are appropriately exemplified by that large voracious bird of prey, the American Eagle, and the banner of whose government is composed of Stars and *Stripes.*

LORENZO MABBETT.

Sodus Bay, N. Y.

THE GEM.

E. H. SANFORD, EDITOR.

ANN ARBOR, OCTOBER 1, 1846.

MAGNETISM. No. III.

In our last we spoke of the brain, its divisions, functions, and magnetic power, as also, partially of the muscular and sympathetic nerves. It was shown also, that the nerves from the brain are closely ramified throughout the whole osceous,* as well as every other part of the system, so that when a cambric needle, even, is introduced into any part, the nerves immediately detect its intrusion into the system and sensation is instantaneously transmitted to the brain. It was shown, likewise, that in the case of a wound in the flesh, the nerves perform the same office; they acquire and keep accumulating substances and carry them to the wound where they are deposited, and if let alone and never misplaced, will restore the injured part in proper time. Nature is the best and most successful doctor, but nature, in many instances, may be assisted in performing her duty, and we verily believe, that in a majority of instances, she is prevented in her course by a useless resort to medicine, and to that *kind* which is foreign to the remedy; and even when the right kind of medicine is resorted to, in not a few instances does it fail to be applied exactly in the right manner, necessary to effect a cure, and aid nature in her useful provisions.

It is then for these provisions of nature that ramifications of the nerves in every part are made, and so perfect is their operation that they renovate and make an entire new system in five or seven years! the old particles being thrown off through the pores and glands of the system.

"The nerves extending from the brain to every part of the body, become the grand agents of transmitting all sensations, from external objects and impressions, to the brain. But what is the cause of sensation arriving immediately at the brain from the seeing of an object, the hearing of a sound, the smelling of an odor, or the touching of any solid body? Why is not the sensation produced or conveyed to some other part of the system, or upon the whole body alike? There can be but one answer to this question, which is, that the brain itself is positive, or that it possesses a positive attractive power over all external communication. Every object in existence which is subject to the magnetic influence, or which is magnetic in itself, has a positive and negative pole. The earth has its positive and negative poles, the magnetized bar of steel, and the needle by which the mariner directs his course over the watery waste. This is a law of inert matter which the Deity has established, and why may not the same law in a modified form extend to man, and to all animated beings?

The sensorium of the brain is made up of more sensative substances than any other part of the system; and being so sensitive, it draws all other impulses from the external organs, and is analagous to the wound spoken of in the flesh. It is with this, as has been shown to be the case with the nerves; they perform their action at the wound, for the reason that the wound when made becomes of a positive or attractive nature. All impulses, through the power of attraction, arrive at the brain and make impressions there. Were not the brain a magnet—did it not possess a positive power over all external impulses, *sight* or *sound* would be as likely to produce sensation in the feet, the hand or the body, as at the brain. But the brain alone is affected thro' these senses. The brain, therefore, is attrac tive.

The Lesser Brain possesses the power of motion. There is one distinct sense or organ which has the power of causing locomotion. The power is conducted from the lesser brain, down its continuation until it joins the *spinal chord*. From thence it is conducted through the system by thirty-two distinct pairs of nerves, commonly termed the "*muscular nerves*." All these nerves and muscles are under the control of the mind, and give motion to the body, the limbs and all their appendages. The action of these nerves is voluntary; i. e., they are controlled wholly by the will, moving at its bidding the eyes, the tongue, the head, an arm, the fingers, &c. These organs and limbs never move unless the mind wills them to move. There can be no muscular action unless an effort of the will is put forth. I am now in the position in which you behold me—standing here. Now if the pow,

*We shall enlarge upon this subject when we are to speak on the importance of Clairvoyance in ascertaining diseases and their remedies.

er of willing were taken from me at this moment, I should always remain upon this spot unless removed by some foreign power. To change my present position and move to another part of the room, I must first put forth an effort of the will. I will, then, to move to the other part of the room; the moment I will to go to that part of the room, the nerves are acted upon, moving the limbs which perform the office of locomotion, conveying me to the spot where I had designed to go; so completely are these nerves under the control of the will.

Now the mind is often deceived in the appearance of things, and a greater effort of the will, in consequence, is put forth to accomplish a thing than is actually necessary. For instance, I see a large stone lying at my feet. Knowing the density and weight of stones generally, I put forth an effort to raise it. The effort is just in proportion to my previous knowledge of the general weight of stones of the size of that which I am about to lift. But when I grasp the stone and raise it up very suddenly, I am, for the moment, surprised. I find it not so heavy as I had supposed, owing to its porous state,—and I have put forth twice the effort of the will, and consequently twice the amount of force that I need to have done to accomplish my object. This is owing to the mind or judgment's being deceived relative to the weight of the substance. This often happens.

Again: I approach an object—it may be a small cask. I stoop to raise it, but do not succeed in the first attempt. The cask is filled with a heavy substance, of the weight of which I was ignorant; consequently, the first effort was not sufficiently powerful to raise it. I then put forth a greater effort, and accomplish my object.

Now from this fact you discover that the first effort is in the will itself; and the force or strength, exerted in the nerves, is just in proportion to the strength or exercise of the will. Were it not so, there would have been just strength sufficient exerted to lift the stone in the first instance, and no more. And in the second, there would have been enough exerted to lift the cask in the first attempt. But in both cases the judgment was deceived; and hence, in the first, a superabundance of force, and in the second, not enough.

Be it remembered then, that the nerves of motion are always controlled by the mind or will, unless indeed, as is sometimes the case, their action is arrested by a diseased state, as in paralytic affections, when the mind cannot act upon them. In such cases, they no longer obey the will, its agency of producing obedience being arrested. But in the healthy state, the will always controls them, but the nerves themselves never control the will.

The *Sympathetic Nerves*, of which we have before spoken, have a different office to perform. Their office and functions are unlike the others. The mind acts upon and controls the muscular nerves,—but the sympathetic nerves act upon the brain and control the mind. Through these nerves, all sensations are conveyed to the mind. The sense of sight, of hearing, of taste, of smell, and of touch, are conveyed to the brain though these nerves unbidden by the will, and in many cases, absolutely against it. They are complete masters of the mind in this respect. A person cannot prevent the sense of sight, unless he closes his eyes: and, if he sees an object, he cannot prevent an impression being made on the brain, if he closes his eyes immediately after having seen it. He cannot prevent the sense of *touch*, if you make an impression on his body, though he exert his will ever so much. Neither can he prevent *taste*, if he put any substance in his mouth;—nor *hearing* that which may be ever so disagreeable to him, unless he stops his ears with his fingers, or removes himself beyond the sound of the words that are addressed to him. We cannot prevent the smell of a bad odor when we come in contact with it, however nauseating it may be, unless we close with our hands the organ of smell.

These sensations then, are all conveyed to the brain, unbidden by the will, and, in many cases, absolutely against it; thus acting upon and controlling the mind, through the exercise of its own will, acts upon and controls the muscular nerves. From these facts, it is shown that the mind is subject to one set of organs, and is full master over another."

Having quoted the language of Mr. Davis, as above, we remark further that the senses thus far considered act voluntarily; and as the brain is attractive or *positive*, it receives their impulses. It is impossible therefore, for an individual not to recieve communications from the organs of sense. And the fact that these impressions are irresistably carried to the brain is proof of the assertion that the brain itself is positive,

The Brain may therefore, with nc little propriety be considered a Magnet, its operations are Magnetic, and its phenomena is Magnetism.

We now come to remark, "*The mind is itself formed through the five senses, and by the medium of the sympathetic nerves.*"

In considering the senses, viz. seeing, hearing, tasting, smelling and feeling, we will remark:

1. As to the *Eye*, which, with the nerve and brain, constitute the sense of vision. When the eye is placed on an object, the sense of that object is conveyed by the optic nerves to the brain, and the impression is left there.

2. The *Ear*. This organ receives the sound, and the auditory nerves convey the sense of that sound to the brain, and an impression is made there.

3. The *Taste*. The organ receives the substance, and the sense of it is conveyed by the gustatory nerves to the brain and an impression is left.

4. *Smell*. The organ receives an odor, and the sense of it is conveyed to the brain through the medium of the olfactory nerves and an impression is left in the brain.

5. The *sense of Touch*. In this case an impression is made somewhere on the body and the sympathetic nerves convey the sense of that to the brain, and, as in the other cases the impression is made there.

The mind is formed through these senses, and without them no mind can act in harmony with the physical organization.

But to make this more plain you will take one or all of these senses and cast them away. Now if the organ of sight is thrown away, he has no *means* of receiving the impression of sight, and no impression can be made on the brain, leaving the individual incapable of forming any thing definite in the mind through the medium of sight. The person will be perfectly idiotic so far as this is concerned.

The following account of an operation performed by Dr. Grant, on the eyes of a man born blind, will further demonstrate our expressions:

"Dr. Grant having observed the eyes of his patient, and convincing his friends and relatives that it was highly probable that he could remove the obstacle which prevented his sight, all his friends and acquaintance who had any curiosity to be present, when one of full age and understanding was to receive a new sense, assembled themselvs on the occasion, but were desired to preserve profound silence in case sight was restored, in order to let the patient make his own observaitons, with the advantage of discovering his friends by their voices. Among many others, the mother, brothers, sisters, and a young lady for whom he had formed a particular attachment, were present. The operation was performed with great skill, so that sight was instantly produced.

When the patient received the dawn of light, there appeared such ecstacy in his action, that he seemed ready to swoon away in the surprise of joy and wonder. The surgeon stood before him with his instrument in his hand. The patient observed him from head to foot, and then observed himself as carefully; and comparing to himself, he observed the hands of both were exactly alike, excepting the instrument, which he took to be a part of the Surgeon's hand.—When he had continued in this amazement for several minutes, his mother could no longer bear the agitation of so many passions as thronged upon her, and fell upen his neck, crying out —'My son, my son!' The young gentleman knew her voice, and could say no more than—'Oh, me, are you my dear mother?' and fainted. On his recovery, he heard the voice of his female friend, which had a surprising effect upon him. Having called her to him, he appeared to view her with admiration and delight, and asked her what had been done to him. 'Whither,' said he, 'have I been carried? Is all this *about* me, the thing that I have heard so much of? Is this *seeing*? Were *you* always thus so happy and glad to see each other?' In all his conversation, he manifested but faint ideas of anything which had not been received by the ear or through the senses of touch."

The circumstances of this case show that the blind patient had never formed any definite idea of the nature of vision, "hence his surprise, joy, and wonder, when sight was produced."

Now take the *Ear*, and consider that destroyed or as never in existence, no inpression would be made on the brain through this organ. Read the following from "Goldsmith's Animated Nature" for illustration;

"A young man of the town of Chartres, between the age of 23 and 24, the son of a tradesman, and deaf and dumb from his birth, began to speak all of a sudden, to the great astonish-

ment of the whole town. He gave them to understand, that about three or four months before, he had heard the sound of the bells for the first time, and was greatly surprised at this new and unknown sensation. After some time, a kind of water issued from the left ear: he then heard perfectly well with both. During these three months, he was sedulously employed in listening, without saying a word, and accustoming himself to speak softly, (so as not to be heard,) the words spoken by others. He labored hard also in perfecting himself in the pronunciation, and in the ideas attached to every sound. At length, having supposed himself qualified to break silence, he declared that he could now speak, although as yet but very imperfectly.—Soon after, some able Divines questioned him concerning his ideas of his past state, and principally with respect to his ideas of God, his soul, and the morality or turpitude of actions. The young man, however, had not drawn his speculations into that channel. He had gone to mass indeed, with his parents, and learned to sign himself with the cross—to kneel down and to imitate all the actions of a man that was praying: but he did all this without any manner of knowledge of the design or object. He saw others do the like, and that was enough for him. He knew nothing even of death, and it never entered into his head: he led a life of pure animal instinct; entirely taken up with sensible objects, and such as were present."

So, we might continue to illustrate till we had introduced each sense, in this way, and the result would be that without these senses there would be no manifestations of mind and there would be no consciousness of these existing "powers or agencies," and there would be no cause to produce *mind*—an effect produced by the causes enumerated. These senses are channels, through which rivers of knowledge pour into the brain and develope the powers of mind as they are connected with matter.

Milwaukie in 1836, contained only six houses, now the City numbers about 12000 inhabitants.

TEETH.—If parents would pay some little attention to their children's teeth, they would prevent a great deal of suffering to them in after life.

ANALYSIS OF THE FACULTIES. No. 9.

8. ALIMENTIVENESS.

FUNCTION.

Appetite; desire for nutrition.

Small.—Gives a sickly delicacy, without sufficient desire for food and nutrition.

Full.—Will give a usual degree of appetite for food, or nutrition, with a proper regard for that which will support and stimulate the system.

Large.—This size will give a strong desire for gustatory enjoyment, and a longing and hankering after something to gratify the taste and satisfy:—the individual will have a voracious appetite, and if incautious, will be liable to yield to its hankering desires and become a victim to temptation.

LOCATION.—About a half an inch anterior to the upper part of the ear—back from, and above the zygomatic process or yoke-like arch.

ITS NATURAL LANGUAGE may be seen in the case of the dog as he gnaws upon the bone, when the head is thrown upon one side; and also in the head of the gormandizer when he gives a quick motion to the head as he is sitting to the table and taking his fill of the "beef steak:" it can be discovered only, when the individual has a craving appetite.

This organ was discovered by Dr. Gall who found it small in the heads of small eaters and persons of generally delicate constitutions, and large in great eaters, such as gluttons, gormandizers, tiplers, &c.

Its *use* is to induce one to eat properly and drink properly, and thereby support the constitutional powers with sufficient nutrition through the effects of a well-regulated and uniform digestion.

Its *abuse* is an unreasonable appetite which is seldom gratified, and results from a too powerful and constant exercise of the organ.

To exercise the organ properly, is to eat and drink that which will be approved by the Intellect and Moral Sentiments.

ELECTRIC LIGHT.—A Belgian savant has discovered that electric light, directed on the human body, makes it so diaphanous as to enable the arteries and veins to be seen at work and their action to be studied.

LADIES' DEPARTMENT.

A MOTHER'S LAMENT OVER HER DEAD INFANT.

How can I weep! the tear of pain
Thy tranquil beauty would profane,
Darken thy cheek's unsullied snow,
And wet the white rose on thy brow.

How can I sigh? the breathing deep,
My baby, might disturb thy sleep,
And thou, with that unclouded smile,
Would'st seem rebuking me the while.

How can I grieve, while, all around,
I hear a low unearthly sound,
The waving of my cherub's wings,
The hymn my infant-angel sings?

Yet, lovely as in death thou art,
It seemed so cruel to depart,
To close on me thy laughing eye,
Unclasp thy little arms and—die!

LOVE FOR CHILDREN.

To the reflecting mind, there is no claim so strong as that which a child has upon us, for unremitting, devoted, affectionate cherishing. It is there because we have been happy. That happiness we sought, careless, utterly thoughtless of it. Exclsively seeking our own gratification, we have forced it to encounter this rough world and all its trials. The voiceless baby speaks to our conscience: you who have subjected my helplessness to all these wishes and wants, how deeply bound are you to provide! And this unconscious plea is urged with smiles so sweet, and glances so bright, as could well fascinate of themselves. Every day developes some new charm. The baby learns to smile recognition, and then to creep to its mother; an arch expression mingles with the smile of the child, and elevates it to the rank of intelligent beings; and as it nears the extreme verge of childhood, intervals of tempered seriousness descend upon its eyes and brow, foreshadowings of the deep and awful emotions of maturity. Drop by drop water wears holes in the solid rock; day by day, with smile and arch look, and grave questioning, the child penetrates into the hearts. If there be a love that is undying, it is that of the parent for the child. If there be love in which lurks no alloy of selfishness, it is that of the parent for the child. The love of man and woman is a beautiful and terrible emotion, strong beyond expression, triumphing over terror and death; and yet the best security for the permanence and happiness of wedded life, is to be found in that seemingly fragile chain which is knit by children's hands.

MATCHED.—A wedding lately took place in Attakapas, La., both old folks, the groom 92 and the bride 101 years of age. They had been engaged for the last 65 years, and now in the winter of life have set out to seek for the flowers and posies that are said to bloom so abundantly in the garden of Matrimony. Let no one despair after this. Truly has the poet written

"There swims no goose so gray, but soon or late
Will find some honest gander for her mate."

PLEASURE OF ACTIVE LIFE.—None so little who enjoy life, and are such burdens to themselves, as those who have nothing to do. The active only have the true relish of life. He who knows not what it is to labor, knows not what to enjoy. Recreation is not only valuable as it unbends us; the idle know nothing of it. It is exertion that renders rest delightful, and sleep sweet and undisturbed. That the happiness of life depends on the regular prosecution of some laudable purpose, or lawful calling, which engages, helps, and enliven all our powers, let those bear witness who, after spending years in active usefulness, retire to enjoy themselves—they are a burden to themselves.

MENTAL HALLUCINATIONS.

The following statement of some singular cases of mental hallucination, is taken from the last report of the Superintendent of the State Lunatic Hospital in Worcester:

A patient now with us hears a clock tick over his head at night, which, he says keeps him awake; he also smells many disagreeable odors which come into his room through the cracks and ventillated openings, and these he stops up with rags. In this case, both hearing and smelling are affected with disease. The senses in this case are probably diseased, and the man is kept awake by the noise.

Another patient was when most insane; visited at night by naked skeletons, who made lewd motions before him; he also smelled poison in his room and tasted it in his food. This man would imagine that he was on the confines of the bottomless pit without the hopes of escape, and so riveted was his mind to this delusion that he would become excessively agitated and distressed, and wept bitterly at his impending fate. He had one or two of these paroxyms during religious worship on the Sabbath. He at last recovered favorably.

A person with us is surrounded day and night by persons who shoot at him with white powdor which makes no noise. He makes holes thro' his clothes and exhibits them as the marks of the silver bullets which are fired at him. He does not hear the reports of the muskets, but sees the persons shoot at him and feels the wounds which are made in his flesh. Before he came to the Hospital, he loaded his gun with black powder to revenge himself upon the persons who thus annoyed him; this caused his arrest and confinement.

Another man came directly from our seminaries to this institution. He sees persons at his window resembling the professors, whom he has been accustomed to hear, and converses with them. He has seen lightning and flame flashing through his room and about the houses in town.

One man stands at the window and gives orders to the rail-depot, half a mile distant, respecting the movements of the cars. He sees his wife at the window in the night directing him not to take his medicine.

Another man sees angels and cherubs at his window in the night, and holds conversation with them. They tell him that Tuesday is the proper Sabbath, and he observes that day instead of Sunday.

One, a bachelor, sees the devil in his room, who tells him all his thoughts. He feels sensible effects from his body, which are the result of these interviews. He can drive him away at any time by promising to get married.

An old gentleman is visited at night by the corpse of his friend, who brings him raisins, tobacco, &c. Sometimes he gets in bed with him, he finds he is cold, very soft, and offensive to smell.

A deaf and dumb patient feels himself drawn to earth and the substances about him, and says the earth is like onions applied to his feet.

A recent case of insanity, now in care is annoyed by gas throwing at him, which dazzles and disturbs him so that he is unable to know what he is about.

One patient, who has long been with us, is exceedingly annoyed with what he calls "plaster of Paris women," who blow his hair off with their "chemistry winds." He is quite bald, covers his head with a handkerchief, and rubs it constantly.

RAILROAD IN FRANCE.

There are now finished and in operation, 906 miles of railroad in France, and that there are in progress of construction 2619 miles. The finished works have cost 55,000,000 dollars, and the unfinished works are estimated to cost $400,000,000. This magnificent system of improvement has grown up since 1835:

When the 2,619 miles of railroad now constructing, can be added to the 906 miles already completed, France will possess *three thousand five hundred and twenty-five miles*, forming, as her future Regent recently remarked, at the inauguration of the Northern Line, "a noble girdle, whose links are destined henceforth to bind more closely the outposts of the capital, and to reflect, as well as receive new rays of glory and prosperity.

The following is recommended as a simple and effectural remedy for the Diarrhea:—32 drops oil of cinnamon, 2 oz. laudanum, 4 of compound spirts of lavender, and 4 of rhubarb. A teaspoonful to be taken at a time.

MISCELLANY.

No. 2 of the TREASURY OF HISTORY is on our table. It brings the history of England down to the reign of Richard I, and as far as A.D. 1191. This history, clear and succinct as it is, in connexion with the preceeding number, will dispose us to some anxiety for the perusal of the remaing numbers.

"THE WORLD WE LIVE IN" is an *amusing* monthly, and contains much variety of light and useful reading. By Shields & Co., N. Y., 25 cts. a year.

TO CORRESPONDENTS.—We shall be glad to hear from our correspondents frequenlty, both ladies and gentlemen. Variety will be acceptable. Several communicatiens on hand will receive proper attention.

TEMPERANCE.

Since we last spoke of the state of the cause in this village, the feeling on the subject has fallen. The committee that were appointed at the suggestion of Mr. Hyde to look to those who persist in the course of destroying the peace and happiness of society, have done nothing. The officers of the Temperance Society, have failed to keep up a uniform interest; and seemingly, all feeling in a subject so closely allied with the interests of our village, has gone down.

We trust the long evenings will soon be employed in agitating this moral topic, and in employing the songs of the musical in so noble an enterprise.

PHRENOLOGY IN CANADA.—Mr. L. N. Fowler is now engaged in a work of reform in Montreal. He is considered the best *practical* phrenologist in America.

MESMERISM is fast gaining admirers wherever the principles are reduced to practical tests, or subjected to a thorough examination.

The following will show the estimation in which the principles are held in England:

A MESMERIC INFIRMARY has been established in London, by voluntary contributions, "for the application of mesmerism to the cure of diseases, and the prevention of pain in surgical operations." The Earl of Ducie is President; and the Vice Presidents are—Baron de Goldsmid, Viscount Morpeth, M. P., J. H. Langston, M. P., Rev. G. Sanby, jun., Rev. T. Robertson. On the committee are Drs. Ashburner, Buxton, Elliotson, and eight surgeons. In the list of subscriptions stands Earl Ducie for one hundred pounds.—*Non-Conformist.*

☞ O. S. Fowler is now lecturing in Ulster Co. N. Y.

The Lexington and West Cambridge railroad opened for travel yesterday, at rates of fare so moderate, that all stage or omnibus competition must be withdrawn. For eleven miles the passenger fare is 25 cents for single, and 22½ cents by the package. The first train for Lexington yesterday had 72 passengers.

Considerable effort has been made to introduce the Alpacca into this country. A small flock recently imported, has been sent to be pastured in Ashfield, Berkshire County.

THE WAR SHIP OHIO.—The committee appointed to examine the symptoms of this favorite ship, have attended to their duty and report it a severe case of "dry rot." Her upper works are said to be as unsound as the policy that dictates the expenditure of thousands of dollars, for the purpose of preparing her for another blockade of the channel in Boston harbor.—*Christian Citizen.*

On the 13th ult. a fire broke out in Niblo's Theatre, N. Y. which speedily swept over the whole ground, destroying all the buildings, excepting one on Crosby street, occupied as a bowling alley, and as an armory for the City Guards. The Racket Club House was considerably injured, but its thick wall arrested the flames. The three story brick building above the theatre was also destroyed.

Imprisonment for debt is abolished in N. Y., except where attorneys and other agents, entrusted with money become defaulters, in which event they are liable, as they should be, to imprisonment.

The following is from the Cincinnati Gazette, Aug. 25.

About sixty of the Ohio volunteers returned from the Rio Grande yesterday. They give sad accounts of the condition of things there. Fare intolerable; sickness extensive; work hard; climate bad. General Taylor gave them permission to return on account of sickness. He is willing to part with more. Government has poured in upon him more troops than he knows what to do with.

The N. Y. Convention have agreed that any male citizen of the age of 21 years of good moral character, and who posseses the requisite qualifications of learning and ability, shall be admitted to practise in all the Courts of the State.—This in effect does away with the seven years study heretofore required, and opens the bar to every person.

Three men had the delirium tremens in a watch house in N. York, the other night, all at once!—*Safeguard.*

The Albany Journal says: "There is a new species of forestalling going on, which we deem it our duty to guard the travelling public against. Passengers going on board of the steamboats Hendrick Hudson and Knickerbocker find the state-rooms taken; but they do not know that this thing is done by magnetic telegraph! Travellers (old stagers) are in the habit of securing state-rooms by telegraph from Utica, Syracuse, Auburn, &c."

On the Croydon (England) Atmospheric Railway, with a train of four carriages, including the piston carriage—which carries passengers, and weighs about twenty-three tons—a velocity of 75 miles per hour has been reached for a short distance.

LATER FROM MEXICO.

It is said the Government has received the response of the Mexican Government to the proposals for peace. Mexico refuses to enter into negotiations till the American land and naval forces are withdrawn from her territories. This, of course, is a flat refusal.

Santa Anna's administration has begun. Almonte is Secretary of War, and Rejon of Foreign Affairs. Santa Anna was at his country seat, and expected to go to the capital in a day or two.

It is ascertained that the Mexicans will make no resistance to the American army before it arrives at Monterey. Gen. Wool is to put in motion his division of 3,000 men, for Chihuahua, on the 15th inst.—*Signal.*

Life saved by Drunkenness.—The Paulding, Mrs. Clarion gives us a real instance where rum drinking was the cause of saving a life. Several years ago, a Creek was tried in Hancock county, for the murder of another Creek.—During the progress of the trial, the Sheriff got so drunk that the Judge ordered him into custody, and so found himself without an officer. The jury returned a verdict of guilty, and his honor was in a predicament. There was no Sheriff, and he doubted his power to appoint one *pro tem.*—and to save embarrassment, a new trial was granted. The prisoner remained in jail two years, and being put on trial again at the recent term of the Court, has been acquitted. The Clurion says he is probably innocent of the murder, but he would assuredly have been hung if the Sheriff kept sober!

☞ Robert McClelland has been renominated to Congress from the 1st Congressional District.

☞Mr. Pike's lectures on Mnemonics, in this village, so far as we have ascertained from his class, have generally given satisfaction.

POETRY.

ORIGINAL.

THE DEAD.

BY CHARLES G. MUGG.

Where are the millions that once have trod
This beauteous earth where the hand of God
In his wondrous works is seen,
They who have roam'd where the forest's roar,
Or have wander'd oft by the rock-bound shore
Or through valleys decked with green?

They have gone!—they lie within the tomb
Shrouded in death, like the midnight gloom
Which covers a sleeping world!
Their beauty, their power and knowledge great,
All, all have met with the same sad fate—
They are, from all their greatness, hurl'd.

Though haughty, and proud, their might is past,
And the rich and poor are one at last—
All are sleeping side by side!
The mail'd warrior.—the mitred priest—
And lordly ones, who have ruled the East
Have fallen in their pride!

The slave who has toiled for many a day
'Neath the scorching heat of a southern ray
Is resting his weary head
In the silent grave, where bondmen rest
From their toils, on the earth's cold breast—
With the departed dead!

Yes, the might of death has covered all
From their many waves, by its dreary pall;
And sorrows, and toils, are o'er!
Thus from many a scene of fearful strife,
And danger, common to human life,
They have gone to a better shore.

SPEAK NO ILL.

Nay, speak no ill! a kindly word
Can never leave a sting behind,
And oh! to breathe each tale we've heard
Is far beneath a noble mind.

Full oft a better seed is sown
By choosing thus the kinder plan;
For if but little good be known,
Still let us speak the best we can.

Give me a heart that fain would hide—
Would fain another's fault efface:
How can it pleasure human pride
To prove humanity but base?

No: let us reach a higher mood,
A nobler estimate of man;
Be earnest in the search for good,
And speak of all, the best we can.

Then speak no ill— but lenient be
To others' failings as your own;
If you're the first a fault to see,
Be not the first to make it known.

For life is but a passing day,
No lip may tell how brief its span;
Then oh! the little time we stay,
Let's speak of all, the best we can.

A GOLDEN RULE.

One appeal to God above,
Supplicating for his love
Daily offer. Peace of mind
Makes thee happy, good and kind.

Daily sing one cheerful song,
From the bosom's fiery throng;
Daily do *one* noble deed;
Daily sow on blessing's seed.

Daily make one foe thy friend;
Daily from thy surplus spend;
Daily, when the gift is thine,
Write one verse in strains divine.

Daily seek kind nature's face:
Daily seek for some new grace,
Daily dry one sufferer's tear,
Daily one grieved *brother* cheer.

Daily drink from sparkling eye
Sweeter rapture; soar on high!
Then thy life will know no night,
And thy death be robed in light.

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