

CAROLINA WATCHMAN.

BY HAMILTON C. JONES.

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TERMS.

The WATCHMAN may hereafter be had for one Dollar and Fifty Cents per year. A Class of four new subscribers who will advance the whole sum at one payment, shall have the paper for one year at Two Dollars and Fifty Cents, and as long as the same class shall continue this to pay in advance the sum of Eight Dollars the same terms shall continue, otherwise they will be charged as other subscribers. Subscribers who do not pay during the year will be charged three Dollars in all cases. No subscription will be received for less than one year. The paper will be discontinued but at the option of the Editor, unless all arrears are paid. All letters to the Editor must be post paid, otherwise they will certainly not be attended to. **NOTICES OF ADVERTISING.**—Fifty Cents a line for the first insertion, and Twenty-Five Cents per square for each insertion afterwards. No advertisement will be inserted for less than one Dollar. Advertisements will be continued until ordered to stop them, where no directions are previously given. Advertisements by the year or six months will be made at a Dollar per month for each square with the privilege of changing the form every month.

POETRY.

TO THE SURGEON GENERAL OF THE STATE OF NEW YORK.
Why, Tom, he knows all things—An' he be not the devil himself we may thank God!—
"Village Wizard."
"Blindfold Plandome!" to give thy due,
"Freedomian Frede" and "Fredon" too—
"Mischief, lord of granite flints,
"Doers, in law—and wholesome dishes;
"Protector of the patent splints,
"The foe of whales—the friend of fishes;
"Tom-codrus"—"Septon"—"Phlogobombos!"
"What title shall we find to fit ye?
"Instructor of sprats and compost!
"Ye surgeon-general of militia!
We hail thee! mammoth of the state!
Steam Frigate! on the waves of physic—
Equal in practice or debate,
To cure the nation or the phthisic.
The amateur of Tartar dogs!
Wheat-flies, and maggots that create 'em;
Of mummies! and of mummy-chogs!
Of brick-bats—lotteries and pomatum!
Matters not how low or high it is,
"Tow know'st" each hill and vale of knowledge,
Follow of forty-nine societies!
And lecturer in David's College—
And when thou diest—(for life is brief!)
Thy name in all its gathered glory,
Shall shine immortal as the leaf
Of Delphic's Repository.

CROAKER & Co.

ABSTRACT OF THE SURGEON GENERAL'S REPORT.

Surgeon General by brevet,
With zeal for public service burning,
Thinks this a happy time to get
Another chance to show his learning:
As in consequence collected
As wis—and stow'd them in retorts;
Phyllanthisation thus perfected
As hopes to shine—and so reports:
That he has searched authorities
From Johnson down to Ash and Shelly,
And that that a militia is—
"Whom he is about to tell ye;
"Militia means—such citizens
As even in peace are kept campaigning,
"To plant souls that shoulder gus!
And twice a year go out a training.
This point being fix'd, we must, I think,
Proceed unto the second part,—
"Kindred grog—a kind of drink, sir,
Which by its action on the heart,
Makes men so brave they dare attack
A bastion at its angle salient;
This is a well established fact—
The very proverb says—*pot valiant.*
Grog—I'll define it in a minute—
"Take gin, rum, whiskey or peach brandy,
Put but a little water in it,
And that is grog—now understand me:
I mean to say, that should the spirit
Be left out by some careless dog—
It is with the world may hear it!
It is plain water and not grog.
Having precisely fix'd what grog is,
"My meaning, sir, that question settles!
We next must ascertain what grog is—
"Grog, in vulgar phrase, is victuals:
That will embrace all kinds of food,
Which on the smoking board can charm
Aye,
"And by digestion furnish blood;
"A thing essential in an army!
These things shall all be swallowed warm,
"For heat digestion much facilitates;
"Cold is a tonic, and does harm,
"A tonic always, sir, debilitates,
"My plan then is to raise, as fast
As possible, a Corps of Cooks,
"And drill them daily from the last
Editions of my cookery books!
Done into English, and likewise into
Dutch, by
CROAKER & Co.
The name of the Dr.'s country-seat
On Long Island Sound.
The name given by our learned
Philosopher to the steam ship, upon
Which he was launched during the late war.

POPULAR INFORMATION ON THE HUMAN SYSTEM.

LETTERS TO BROTHER JOHN.—No. III. (Continued.)

Whitechapel Churchyard, 15th March 1836.

My dear John.

I have already described to you as much of the structure of the body as I believed necessary in order to enable you to understand the nature of the several actions which are perpetually going on within that structure. It is of these actions that I have now to speak. But previously to a description of the actions peculiar to living beings, it seems proper to devote a few moments to an inquiry into the nature of life itself.

Written on physiology* are accustomed to enumerate the several distinctive differences which separate the organic from the inorganic kingdom of nature. These are generally speaking, well marked and sufficiently understood by almost every one; although almost every one might not probably be able to give a scientific relation of them. To dwell upon these, therefore, would be foreign to my present purpose. But there are a few characteristics of organic matter of such vast and immediate importance to all that relates to the preservation of health, that I must not omit to take especial notice of them.

One of the few attributes I shall mention as peculiar to organized matter is death. "The dunest of all duns,"—death. "Sole creditor, whose process doth involve 'em!"

"The luck of finding every body solvent" has been so often personified—sometimes indeed as "A consummation devoutly to be wished," but far more frequently as something horrible—some "gaunt gourmand," who is, by every means, to be eschewed, that we are apt to contemplate it as though it were a real entity—a sort of "raw-head-and-bloody-bones," whose chief amusement consists in stopping folk's breath. But I need not tell you that this is mere rhetorical delusion—one of the poet's "fine frenzies." Death is a sheer abstraction, the mere cessation of life. As the cessation of sound is called silence, as the cessation of motion is called rest, so the cessation of life is called death. Death, therefore, being only the abstraction of life, it is manifest that things which never lived can never die.

Another condition peculiar and necessary to all matter intended to live is organization—the consummation result of organization. Organization, in the common sense, is that state of existence in which the elements composing the germs of matter intended to live are held together by a property, which may be called vital affinity or the affinity of vitality, a property which enables it to resist the ordinary agencies of chemical affinities to which common matter is subjected. A seed is an instance in which a germ of matter intended to live (for a seed does not live—it merely possesses vitality, or the aptitude to live) preserves its integrity in virtue of the vital affinity, and in defiance of the common chemical agencies. A melon seed a hundred years old will grow if planted in a proper soil.

But the term organization is not only used to indicate a peculiar condition of the elements of matter, but also a peculiar condition of masses of matter. Here it signifies that state of existence in which masses of matter are held together by a power which may be said to consist in the affinities of assimilation—a power withdrawing them from the influence of common chemical agencies until they shall have accomplished the final cause of their organization—a power enabling them to assimilate other matter their own nature and substance.

Another most important characteristic of living matter is its contractility, that is, not

* Physiology is an exceeding improper term. It is used by the moderns to signify the science of life: animal physiology being used for the science which treats of the life of animals, and vegetable physiology being appropriated to the science of life in vegetables. But the term physiology no more denotes the science of life than it does the science of picking pockets. It means the science of nature; and it is as strictly applicable to the laws which govern inanimate matter as to those which regulate the actions of living beings. The term, with regard to animal life, should be zoömy, which signifies that science which consists in a knowledge of the laws of life, and nothing else. With regard to the life of vegetables, the term should be phytozoömy, which means the science which makes us acquainted with the laws of plant life, that is, the life of plants. "The endless introduction of new technical terms on every frivolous pretence," says Dr. Fletcher, (a new star in the introductory philosophical firmament, and a bright one too) "seems adapted much less to benefit than to injure the cause of philosophy." True: but when the introduction is not endless, and the pretence not frivolous, an exactly opposite result will ensue. Nothing has tended so much to my scientific and abstract progress as the unscientific state of the exact meanings of words. Words are, through ideas, the signs of things; and if one word be used indiscriminately as the sign of several things, how is the reader to know which thing of the several the writer desires to indicate? Dr. Fletcher has himself taken occasion elsewhere to complain, and that loudly, of this improper indiscriminate abuse of words.

It is perfectly correct to call the assimilating processes by the term of "affinities of assimilation." For what is affinity but an alliance or relation? And is there not a relation between the food and the body which it nourishes? Is

contraction, but the power of contracting: it is the being able to contract.

Now, Indian rubber or a steel spring may be said to be able to contract. But then the one of these can only do after having been put upon the stretch, and the other only having been bent. They can only contract after having been put into an unnatural condition. In their natural condition they are, like all other inorganic matter, at rest; and can neither contract, or expand, nor dilate, without being first submitted to the action of mechanical or chemical force. But living matter can do much more than this. When at perfect rest, and in its natural state, it can contract, shrink, in its short, perform spontaneous movements merely on being excited, stimulated, or irritated, and without the agency of any mechanical or chemical power. It does this by virtue of a property called contractility. When you look at a very strong light, the iris, the coloured part of the eye, being irritated by the rays of this strong light, contracts, and almost closes the pupil; that is, the black spot in the eye, which is in fact, a round hole. When your will directs your arm to move, the muscles of the arm, stimulated, that is, excited by your will, contract and raise the arm, accordingly. When the blood rushes into the right side of your heart, that part of the heart contracts and pushes it into the left side: then the left side contracts, and pushes it into the aorta; then the aorta contracts and pushes it onward; and so on. All these contractions could not, of course, be executed, if it were not for the property of contractility—that is, the ability to contract.

Now, all the motions of the different parts of the body, without and within, are performed by these contractions and by virtue of this contractility. It is the mainspring of the watch—it is the chief wheel in the machine—it is the principal beam—the main prop of the building. By it we gather our food—by it we eat—by it we swallow it—by it the stomach sends it on to the bowels. From the bowels it is carried to the heart by it—and by it, having become blood, it is circulated through the body, for whose nourishment it is destined. Every time your watch ticks, they say, there is one human being born and one human being perished in some part of the world or other. But the human microcosm, that little insignificant world, called man, every time his watch ticks there are millions of molecules of the old body dissolved and carried away, and their places supplied by as many millions of new; and all this mainly depends upon this important property of contractility. Whenever, therefore, I use the term contractility, you will know that I mean the power, by virtue of which the several parts of the body are able to move, and perform those actions which are proper to them.

A third property distinguishing organized from inorganic matter is contractility. This is exceedingly slippery ground, and rendered still more dangerous by the darkness in which it is enveloped. I shall, therefore, hasten off the ice as quickly as possible, lest some invisible straw or other should trip up my heels.

"Irritation," says Glisson, "test perception, sensatio est perceptio perceptio;" that is, "Irritation is perception, but sensation is the perception of a perception." Said I not it was slippery ground? But Dr. Fletcher, speaking of this definition of Glisson, says, "For either terseness or accuracy it cannot perhaps be improved." To me however, I confess, has very much the appearance, not of splitting a hair,—that's but a trifle,—but of splitting the very ghost of a hair, which is no trifle. Lobstein defines sensibility as "facultatem stimulum percipiendi;" that is, the faculty of perceiving a stimulus. You probably know that any thing which irritates or excites any part of the body to action is called a stimulus. I think Lobstein is right. Thus the heart, by virtue of its contractility, has the power of contracting; but it is by virtue of its sensibility that it perceives the proper moment for exerting this power—the precise when to contract; viz: when the blood stimulates it by its presence as it rushes into its cavities. Sensibility, therefore, is that property of organized matter, by which it becomes aware of an impressing cause—by which it perceives when it is acted upon by a stimulus.

There is no alliance between them? And what are the assimilating or nutritive processes or actions but those actions or changes wrought on the food, by which its alliance to the body is drawn closer and closer, until they become identical? And so it is correct to say, that the proximate atoms of organic germs are held together by vital affinity, for this is not equivalent to saying they are brought together by vital affinity. To say this would be to assign this affinity as the primary cause of life; whereas, in fact, the primary cause of life is LIFE ITSELF: for in every instance the seed is the product of a parent plant. The parent, therefore, must have an existence antecedent to the seed; and the life resulting from the seed has, therefore, necessarily for its cause the LIFE of which that seed was the product. If you ask me for the cause of the first life, I answer your question by another—What is the cause of gravitation?—of chemical affinity?—of matter in general?—of creation itself? What, but the "causa causarum" of the heathen philosopher—the cause of all causes—the DERRY MINE? This argument cannot be turned the other way: it cannot be said, that because the plant is always the product of a seed, that therefore the seed must have a prior existence: for the seed is produced by the same economy in the plant which produces the leaves, flowers, &c.; and to suppose that the seed could exist before the plant, is to suppose that the leaves and flowers could exist before the plant. Besides, in every created being, (whether animal or vegetable,) except man, the production of seed appears to be the final cause of existence: and the end cannot exist before the means—the thing to be achieved before the means necessary to achieve it.

In vain would the heart be organized—in vain would it be endowed with contractility, that is the power of acting, if it were not also endowed with sensibility, that is, the power of knowing when to act—of feeling the presence of a stimulus. The several stimuli may be likened to a number of messengers sent out from 'head quarters,' the heart, in order to tell the several parts of the body when to act; and the arteries are the roads along which they travel—the principal stimuli within the body being the countless streams of blood flowing along its arteries. You must remember, however, that this office of stimulation is by no means the main duty which the blood has to perform. It is only an adventitious office—only one of the numerous functions which the blood performs. Besides the blood, there is another remarkable stimulus—another messenger sent to certain parts of the body to summon them to action. But it is sent, not from the heart, but from the brain. This messenger is a strange, incomprehensible being, and his name is WILL.

Comparing organized matter to a musical instrument, and its aptitude to act, i. e. live to that instrument's aptitude to sound one might liken the stimulus offered by the blood, to the performer whose office it is to 'play upon the fiddle.' These two properties, sensibility and contractility, constitute vitality. I say vitality, not life.

And here allow me to caution you against falling into the vulgar error of confounding vitality with life. The term vitality no more signifies life, than the word fiddle signifies music. Vitality signifies, not life, but livability, (if I may coin a word); that is, the aptitude or fitness to live, as musicality, (if I may be allowed to coin another word,) would denote, not music, but the aptitude or fitness to give rise to musical sounds. Vitality is a secondary cause—a necessary condition of organized matter in order to give rise to living actions, as musicality is a necessary condition in a fiddle, in order to give rise to musical sounds. A fiddle may be perfect in all its parts, and yet, for want of this necessary condition, which I have called musicality, be wholly unable to produce musical sounds. For instance, if you were to fill the body of Paganini's best fiddle with sand, and soak its strings in tallow, Paganini might go mad perhaps, but twenty Paganinis, or one Paganini with a twenty-Paganini power, which is the same thing, would not be able to extract from it a single musical tone. Why? Because the instrument would have lost that necessary condition which I call musicality—the sand and the tallow have destroyed it. "En captus es cerebrum non habet!" Which being interpreted into the vulgar tongue for the benefit of 'ears polite,' signifies, 'there is the fiddle, but where is its aptitude to discourse most excellent music?' I will make this clear in a moment. The first condition necessary to life is organization—that is, the holding together of the elements of matter, or that condition or manner of existence necessary to the production of living actions—that's the musicality, or that particular mode of a fiddle's existence necessary to the production of musical sounds, viz: perfect freedom from sand and tallow, and all other musical impediments. And as we have just seen that a fiddle may exist perfect in all its parts, and yet be wholly destitute of musicality, and therefore perfectly unable to utter sound; so organized matter may exist, and yet for want of vitality be wholly unable to live. I know a man who is the sole and undisputed proprietor of a most fine and flourishing wen, situated on the back of his head. If this wen were shaven off, it would still, for a time, remain perfectly organized—but it could no longer live. Why? Because it would have lost its vitality—that condition necessary to life—which in this instance depended upon its connexion with the man's head. It would have lost its contractility and sensibility.

And again: as organization may exist without vitality, so may vitality without life. Seeds are an example of this. A grain of mustard seed does not live. In it there is neither motion nor fluid, and it is utterly impossible for a moment to conceive the existence of life without both these. But it possesses the aptitude—the ability to live—that is vitality; and if you plant it in a proper soil, it actually will live, and become possessed both of fluid and motion. A grain of sand, on the contrary, possessing neither organization nor vitality, will remain a grain of sand for ever—plant it in what soil you please. At least it can undergo no changes but such as are purely chemical or mechanical.

As vitality is not life, then, so neither is it organization; but merely a condition of the latter, necessary to the existence of the former. Life, then, being neither organization nor vitality, what is it?

"Life," says Richerand, "consists in the aggregate of those phenomena which manifest themselves in succession for a limited time in organized beings."

"Life," says Dr. Fletcher, "in one of the most erudite, elegant, and ingenious works that ever fell from the press—life consists in the sum of the characteristic actions of organized beings, performed in virtue of a specific susceptibility, (vitality,) acted on by specific stimuli." These two definitions are perfectly contemporaneous with each other, and to them I have nothing to add. Life, like death, is not an entity. It is merely an aggregation of effects. To say what life is, is only to enumerate all the actions of which a living being is capable—not only the visible actions, as of the members—but also the molecular actions, as these invisible motions among the proximate molecules of the matter of which he is composed, and by which his nutrition is effected. Life is no organization, contractility, sensibility, and

stimuli, what chemical phenomena are to the contractile and contractile forces, and the antagonisation of these forces by each other—what the motion of the hands of a watch is to the main spring and its elasticity—viz: the sum total numerous effects of which these four attributes of organic matter above mentioned are the secondary causes. These effects we call living actions—actions, the totality of which constitutes life.

Organized matter is a barp of which vitality is the musical power; stimuli are the fingers of the performer; and life is the music produced—a hymn, day and night, in praise of the goodness and power of Him who permits

"This harp of a thousand strings
To keep in tune so long,"

Such is life—now what is health? As life consists in the aggregate union of all the living actions, and indifferently whether those actions be well or ill performed: so health consists in the aggregate union of such of those actions by which nutrition is carried on—and not indifferently whether they be well or ill performed, but exclusively when they are well performed. And disease consists exclusively in their being (one or more of them) ill performed.

You will now readily understand of what tremendous importance to health are the properties contractility and sensibility. For as health consists in the due performance of certain actions, it is clear that they will be feebly or energetically performed, accordingly as these two properties are themselves energetic or feeble. You will also see, that the stimulus which the blood offers to them is of vast importance likewise. The stimulus is a sort of messenger sent to summon them to action. In proportion as the stimulus is feebly delivered, it will be faintly heard and feebly obeyed. Contractility and sensibility are a horse that gallops furiously, moves sluggishly, or goes to sleep entirely, exactly in proportion as the stimulus of the whip is gently or vigorously applied. Like the horse, too, the faster they are driven on by the whip, the sooner they are tired—like him they may be driven even to death—like him they require rest and repose. Do not therefore be led to undervalue the importance of these properties, because of the playfulness with which I have occasionally spoken of them—as, for instance, in the allusions to Paganini and his fiddle. "Ridentem dicere verum quid vata?" What reason on earth is there for always telling the truth with a grave face? Why should we not sometimes tell it with a smiling eye as well as a scowling brow? Gravity is not wisdom, nor a smile folly. Besides, if to smile be a folly, what then? "Qui vitans folie, n'est pas si sage qu'il croit," says Rochefoucault.

Organization then, is that arrangement of the component parts of matter which fits it to be endowed with contractility & sensibility. Contractility is that property which endows it with the power of executing living motions. Stimuli are impressing causes, acting on its contractility, & exciting it (organized matter) to action; and sensibility is the property by which it perceives the presence of these impressing causes.

"The muscles of your arm are organized, and they possess contractility, and sensibility; and when you will to raise your arm, your will becomes an impressing cause, exciting those muscles to action, that is, to contract. Their sensibility makes them aware that this impressing cause, or stimulus, (viz. the will,) is acting upon them, and they contract in obedience to it, and your arm is raised accordingly.

But if the nerves which convey that stimulus from the brain to the arm be paralyzed, you may will 'till the crack of doom,' your arm will not stir—it will care no more for your willing than did the mules of the Abbess of Androuillet for all that pious old lady's pishing and pshawing, and thumping with her cane on the bottom of the chaise. There are the organized muscles still: there are still remaining the contractility and sensibility of those muscles; and the impressing cause is still in energetic operation, like the good abbess's cane. But then this operation is confined to the wrong place—the cane is thumping on the bottom of the chaise instead of being applied to the drupper of the mule—the stimulus of the will still exists, it is true, but then it is in the brain only. From the muscles of the arm, where its presence is required, it is absent—absent without leave like the abbess's muleteer—and your arm will remain as obstinately immovable by your side, as did the mules of the Abbess of Androuillet at the foot of the Burgundian hill.

I trust, my dear John, there are now clearly depicted on the canvass of your mind, four distinct and well defined ideas, representing organization, contractility, sensibility, and stimuli; and that you plainly perceive their intimate connexion with each other, and the necessary co-operation of all in order to produce the phenomena of life. As to stimuli, when you consider the literal meaning of the word, you will have no difficulty in understanding that modified sense in which it is used in the language of science. It means literally, a long stick with a sharp point, with which husbandmen were wont to goad their oxen along, in times and countries where oxen were used for agricultural purposes.

Now these properties, contractility and sensibility—these important properties upon which, it is manifest, life depends, and without a healthy condition of which, the health of the body can no more be preserved, than the true motions of a watch can be maintained with a broken or otherwise injured mainspring—the proper-

ties, I say, are subject to certain laws. I am now about to endeavor to establish these laws—or rather, I am going to endeavor to convince you of their existence. That they do exist, is a truth that has been well and incontrovertibly established and admitted among all men acquainted with the animal economy, the effect of medicines upon it, &c. &c. ever since Hippocrates practised physic at Athens, and that is more than two thousand years ago. But it is not sufficient that medical men are aware that these laws exist—my object is to convince you of their existence. I want you to know what is good and what is injurious to your health, not from my dictum, but from the simple exercise of your own reason.

I beg that you will consider what I am about to say on the subject of these laws with great attention—examine the proofs and arguments carefully, but fairly. For I tell you, at the outset, that if you admit the existence of these laws, you will not afterwards be at liberty to question or doubt the truth or propriety of what I shall say with regard to diet and regimen. For the existence of contractility and sensibility are like the axioms of Euclid: they are self-evident truths of which any one may convince himself by experiment. For instance a dead man may easily be made to move his limbs, to breathe, and frown, &c. by exciting the appropriate muscles to contract by means of galvanism. And the laws to which these properties are subject, and of which I am now to speak, are, if I prove them, of the nature of the propositions of the first book of Euclid. If these be true, the propositions of the second book must be true also, of necessity—the truths of the second book arising out of the truths of the first, 'as naturally as pigs squeak.' As, for instance, if you admit that twice two are four, you must of necessity also admit that the half of four is two. So if you admit what I am about to say of these laws, you must also admit the propriety of what I shall hereafter say as to diet and regimen, as the correctness of the former. As for instance, if you admit, now that sensibility can be worn out, and that such and such a regimen is calculated to wear it out, then I say, you must also, of necessity admit, that this particular regimen is injurious to health. When I come to apply these laws to the subjects of diet and regimen, I repeat, that either what I shall say then must be true; or what I am about to say now must be false.

As all the actions of the body are performed by contractions, and as these contractions are performed in virtue of the contractile power, that is, contractility, it is evident that the physical strength of the body—that strength by which we raise heavy weights, walk, run, leap, &c.—will be in proportion to the energy of the contractile power. A high degree of contractile power, then, is synonymous with strength, and a low degree of contractile power is synonymous with weakness.

But not only are the motions of the limbs performed by contractions, but also those motions of the internal organs by which nutrition is effected. Now this being the case, and as these internal contractions are also performed in virtue of the contractile power, or contractility, it is again manifest that the energy with which these internal motions are performed, (and by which nutrition is effected,) will be also in proportion to energy of the contractile power; and as health consists in the due energy (as we have been seen) with which these motions are effected, it follows, clearly and logically, that a high degree of contractile power is synonymous with a high degree of health; and that a low degree of contractile power is synonymous with feeble health.

Having premised the above short paragraph, I now proceed to mention to you the first important law to which contractility is subject, viz. EVANESCENCE. Contractility can only exist in perfection in recently organized matter. No sooner has a molecule of matter become organized and assimilated to the living matter, than its contractility begins to fade—to evaporate, as it were, like breath which has been breathed upon a highly polished surface, such as steel, or looking glass. Indeed, it seems to be the evanescent essence of contractility, which has given occasion to that particular continuance by which life is supported—viz. by constant organization and disorganization—that is, perpetual building up by the arteries, and pulling down by the absorbents. For if contractility could continue to exist in full energy in an organized body during the whole time that body was destined to exist, what necessity was there for this constant renewal?—this constant pulling down & building up? The evanescent nature of contractility may, I think, be accounted for thus. It seems to have a pre-determined law of nature, that the only permanent condition of matter should be the inorganic condition. Nevertheless, certain ends in the general scheme of creation were to be fulfilled, which required for their accomplishment the existence of organized matter. But in order that organized matter might not be permanent, and so destroy or neutralize that original law, by which it was enacted that there should be no permanent condition of matter except the inorganic, all organized matter was made subject to the laws of fermentation and putrefaction, whose office it is to destroy its organization, and bring it back to its inorganic condition. But if this had been all that was done, the objects for which matter had been organized could never have been accomplished; for no sooner would matter have become organic, than it would instantly have begun to be disorganized again by virtue of the laws of fermentation and putrefaction to which it has been made subservient. But the ends to be answered by organized beings required time—required a continuity of existence, in a perfect state of organization, for a determinate period. It was necessary, therefore, that there should be another contrivance, in order to withdraw organized beings beyond the influence of the laws of putrefaction and fermentation for a definite time—that is, until the purposes for which it had been organized be accomplished. The phenomena of life are this contrivance—a number of temporary phenomena, set up in order to withstand the phenomena of fermentation and putrefaction for a limited period. But since the phenomena of life result from contractility, and because contractility can only reside in full activity in very recently organized matter, it was ne-