FONERDEN. THE INSTITUTES OF THOMSONISM.

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OF

THOMSONISM.

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PREFACE.

It will be obvious to every one, that any scheme which proposes for its ultimate object to meliorate the condition of the human family *is* of the utmost importance to the community at large, and deserves from each individual, even the most sceptical, a calm and unprejudiced investigation. Such a scheme, characterized by universal philanthropy, we believe the Thomsonian system of medical practice to be; and we only bespeak for it a candid and impartial examination of its claims. It is alone by pursuing this means, that a stranger to the principles on which it is based, can arrive at any just conclusions in regard to its relative and actual merits. Encouraged by the hope that this volume will fall into the hands of many who will take this honourable and high minded course, as well as by his own implicit confidence in the system he espouses, the author cheerfully undertakes the task he has thus voluntarily imposed upon himself, not however without feeling his own incompetency to do

justice to a cause that well deserves a better head and better heart.

The substance of the following pages was written some time ago in short notes, which were the basis of a regular course of lectures the author intended to deliver. Uncontrolable circumstances preventing the execution of this design, the notes have lain until the present time hidden amongst various other manuscripts; and the desire of advancing the Botanic system of medicine now prompts to a publication of them in a form more befitting the public eye. It is hoped it may not prove altogether a work of supererogation, notwithstanding the variety of valuable treatises, essays and lectures that have already appeared.

The title which has been given may seem strange to many readers, and may lead others to form, at first view, an opinion of the general character of the work different from what is intended. It should be borne in mind that the Thomsonian physiology and pathology are not founded on speculation, but on actual facts observable by any one, though he may not be skilled in the philosophy of the schools; consequently, there is no need for a description of the organs of the human body, their functions; the modifications, nor the symptoms of disease.

The author wishes it distinctly understood, that he is purely Thomsonian in his principles,

and that the volume now offered to the public is designed solely for the advancement of that system which originated with Dr. Samuel Thomson. He has examined what have been called "scientific improvements" on his theory and practice, but confesses his failure to discover their superior claims so highly extolled by their advocates. Whether it is for want of sufficient penetration on his part remains yet to be tested. In the following pages his views will be given in such a manner as to afford ample opportunity of judging whether they were received prematurely, or after a strict investigation of the comparative merits of the various systems.

PHYSIOLOGY;

OR,

THE THEORY OF LIFE.

CHAPTER I.

Dr. Rush's Theory of Life examined.

THERE is no doctrine of Thomsonism that has met with more violent and unyielding opposition than that which teaches "Heat is Life." Various means have been used for the entire subversion of this fundamental principle. It has been said, with this specific object in view, that, when carried out in all its legitimate bearings, it will ultimately lead to materialism. When this objection was first urged in our hearing we were startled, and almost concluded to abandon the opinion; but, on more mature deliberation on the subject, we feel more than ever disposed to maintain it. Nor do we believe there is as much danger of departing from the paths of christianity, and becoming involved in the interminable mazes of infidelity as some are willing to suppose. The difficulty arises wholly from confounding animal life with the soul, which is manifestly an error in any system. If the immaterial soul and animal life, or the principle that animates the body, be synonymous terms, or rather if they are one and the self same principle, then the operation of

any power, or the occurrence of any casualty, that would destroy animal existence must likewise, as a necessary consequence, annihilate the soul at the same time. This reasoning will apply with equal propriety to scholastic theories, and in our opinion, will be found far more favourable to the doctrine we are now advocating, than to that of the late renowned Dr. Rush.

In saying "heat is life," we only express what we conceive to be the essence of animal existence, without clothing it with any of the peculiar attributes of the soul; whereas the author to whom we have referred, in maintaining that heat, motion, sensation and thought, when united, compose perfect life, evidently, though undesignedly, no doubt, makes the immaterial soul, and the principle that animates the body one and the same thing.

Thought, according to this theory, is one of the essential principles that constitute that state or condition denominated life. Cogitation, however, is neither an inherent principle of matter, nor the result of organization. It is one of those faculties which God, in his infinite wisdom and goodness, has seen proper to unite inseparably to the soul; and it will necessarily follow, that the duration of the cogitative power or thought, must be commensurate with the

existence of the soul. But if thought is an essential constituent principle of animal life, whatever destroys existence must likewise destroy cogitation; and if cogitation be a faculty indissolubly connected with the soul, whatever destroys thought must, in the very nature of things, annihilate the soul at the same time.

Dr. JACKSON, in his late work on "The Principles of Medicine," asks, "If the intellectual and moral faculties are not exercised by organs, how is it possible that they should be so entirely and profoundly modified by influences wholly material in their nature? Will it be said, that the immaterial principle acts independent of all organization, and yet is excited by stimuli, benumbed by narcotics, modified by climate, by aliment, by sympathetic reactions of the different organs; in fine, by whatever is capable of exerting an influence over the organic or physical structure of the economy?"

It must be evident to every observer, that although the immaterial principle may be dependent, whilst confined to its "clay tenement," on the organs for the manifestation and exercise of its intellectual and moral faculties, yet it surely does not derive the existence of those powers from physical structure or organization. If it does not, then these faculties are peculiarly properties, qualities, or powers of the soul.

As thought is one of these intellectual faculties, not deriving its existence from any organ, though depending thereon for its manifestation and exercise, but an inherent principle of the immaterial part, it cannot be considered a constituent of life without confounding animal existence with the soul.

We conceive moreover, that the term "motion," as used in this definition, has been misapplied, and that the meaning of Dr. Rush was, that the motive faculty, or power to move, is requisite to the perfection of life. If, however, we have mistaken his meaning, and if he really intended the precise idea conveyed in the term which has been used, we should have a still more decided objection to his theory. It is certain, from the structure and conformation of the human body, that it is designed for motion, yet we cannot comprehend how it is therefore, under the absolute necessity of being in constant or perpetual motion. If it is not thus necessitated, we cannot understand how motion itself, or the act of motion is required for the perfection of animal existence. But even on the supposition, that the correction we have ventured to make is proper, we cannot see that capability of motion is essential to life. There are facts which prove the contrary; for, when the powers of life are only suspended, as in

asphyxia, supervening from any cause, the motive power completely departs. If capability of motion were necessary to constitute man a living being, it must remain with him until the very last spark of vitality is extinguished; but, in the instance we have mentioned this is not the case. We therefore conclude, that the faculty, power, or capability of motion, is not a primary constitutional principle, but rather the effect or result of life.

For these plain, simple reasons we cannot receive the doctrine that either thought or motion is essential to life, but, with Dr. Thomson, believe that "heat is life." This is quite as much, we think, in accordance with the tenets of the Bible, particularly in regard to the immortality of the soul, as the theory we have just examined. For although heat, or rather caloric, the principle of heat, may be a material substance, and therefore destructible, yet we consider animal life and the soul as separate and distinct principles. This opinion is corroborated and established by the words of holy writ—"The Lord God formed man of the dust of the ground, and breathed into his nostrils the breath of life." According to commentators, the reading of this passage in the original Hebrew is, "the breath of *lives*." Here there is drawn between the life of the body and that of the soul a line of

distinction, sufficiently plain to convince every rational mind, that although when we say "heat is life," even if we do intimate that the body is animated by a material substance, we do not detract in the least from the immateriality of the soul.

Again, is it approximating any more to materialism to say, that heat is the only principle of life, than to say with Dr. Rush, that it is *one* of those principles which, when united, compose perfect life? We think not. Just so far as heat is concerned in the production of the phenomena of animal existence, are those phenomena dependent on this principle; and in the precise extent to which the body is animated, whether wholly or partially, by heat, is it animated by a material substance. Hence the same arguments drawn from this source against this principle, being that on which life *wholly* depends, must likewise preclude the possibility of heat *partially* producing the phenomena.

CHAPTER II.

The correctness of Dr. Thomson's Theory established by arguments from Physiology, Pathology, and Death.

HAVING thus given the negative arguments in favour of our belief, we will now proceed to adduce some of a more positive character. We shall endeavour to prove that life is really dependent on the heat; that disease is caused by a diminution of this vital principle, and that death is the result of its total abstraction.

Almost every one that has attentively observed the operations of nature, must long since have noticed the strong affinity manifested by vegetable productions for light. It appears, indeed, to be essentially necessary for the proper developement and perfection of their functional vessels, branches, foliage, and regenerative powers. Nor is this confined to the vegetable kingdom alone; for the presence of light is requisite for the perfection of animal nature also.

In confirmation, we may quote an article that appeared in Professor JAMIESON's Philosophical Journal. After giving a description of

the subterraneous lake, Zirknitz, in Carniola, he says. "Very singular peculiarities have been remarked of these different openings in the earth; some of them supply nothing but water, others supply both water and fishes; and there is a third class by which ducks are supplied from a subterranean lake. These ducks, at the moment that the water floats them to the surface above ground, swim with perfect facility. They are perfectly blind, and almost naked. The faculty of sight, however, is speedily acquired, but it is not till two or three weeks that their feathers are so grown as to allow them to fly, or furnish them an adequate covering."

Notwithstanding this fact and others of a similar character, have long been known to the philosophical world, the *modus agendi* of light in developing and perfecting the works of nature, has never yet, to our knowledge, been satisfactorily explained. This influence we have no hesitancy in ascribing to the presence of heat. It is true, there may be heat without light, because the substance exposed to the action of the former, may be capable of absorbing those of the latter; yet perhaps, no one will deny, that there can be no light without heat. Even from many such substances as we have alluded to, when exposed to an increased in-

tensity of heat, light will emanate, and the most beautiful coruscations be emitted. Here then we have the means of untying this Gordian knot, and, at the same time, of sustaining our theory. If light be dependent on the presence of heat, the developement and perfection of organized nature must likewise be dependent thereon. But this developement and perfection is the peculiar function of the vital power ;— therefore, " heat is life."

As heat and cold, vulgarly speaking, stand directly opposed to each other, it will follow, that in proportion to the quantum of the former, will be the resistance to the latter. Hence, during the excessive or long continued action of cold, stimulants by rousing the heat of the system have been found highly serviceable. For the same reason, persons of a plethoric habit of body, are better prepared to resist cold than others. Their full physical developement, fine flow of animal spirits, and strong passions, evince a more than ordinary proportion of the vital principle. An exposure to a current of air, which in others would be productive of a sensation of chilliness, is deemed by them a delightful luxury. They are sometimes heard to sigh for the return of the winter season, because they are not only desirous of enjoying the cheerfulness of the social fireside, but also the

bracing power of the northern winds. Their pyrexial or febrile attacks are seldom of a low typhoid type, but generally show a tendency to assume an inflammatory character. Their flesh is irritable, and phlegmonic or inflammatory symptoms supervene upon very slight wounds, indicating clearly an abundance of vital power. This abundance of living energy, and more than ordinary proportion of vital heat in plethoretic individuals, prove the identity of life and heat.

While these physiological facts prove that many of the most remarkable phenomena of life, and even animal existence itself are nothing more nor less than the results of the presence and influence of heat, which may therefore with propriety be considered as the vital principle, others may be drawn from pathology equally as demonstrative of the position that the abstraction or diminution of the vital heat engenders disease.

One of these, long known to the medical world, and mentioned particularly by Dr. COPELAND, we mean the transference of the vital power from the young to the old, has hitherto remained shrouded in impenetrable darkness; and we know not by what method of reasoning, according to the principle of the schools, it can be accounted for. It has frequently been

noticed by physicians, whose field of practice has afforded them an opportunity for observation, that when those who are just growing up, are in the habit of sleeping with aged persons, their looks become emaciated; they are troubled with functional debility and lassitude of the whole system; a distressing marasmus supervenes; and often they are brought to an untimely grave before their physical powers are fully developed. Every effort has failed to rescue the unfortunate victim from the hand of his insidious foe.

The cause of this imperceptible consumption of vital energy, it has baffled the philosophy of the wisest to discover. But let us turn to the doctrine of THOMSON, and we find at once a clue to direct us from the labyrinth of vague conjecture and endless speculation to the light of truth. In the supposition that "heat is life," we have the solution of this difficult and perplexing problem. Heat has a natural tendency to diffuse itself through surrounding substances, and maintain an equilibrium in all. The aged having lost a considerable portion of their vital heat, abstract from the young to make up their own deficiency. The abstraction exceeding the quantum generated in the system of the young, they daily grow more and more feeble, while the old are invigorated by the transition. Thus,

quire to convince us of our error. We have already seen, that whatever may be his theological tenets, any man may receive it safely without danger of emerging into infidelity, or even hazarding his orthodoxy. We will now inquire into its philosophy.

One of the strongest arguments against this view of the principle of life is, that "roasted potatoes will not vegetate, and a boiled egg cannot be hatched," or, as it is more commonly expressed, "heat will destroy life." In investigating the validity of this objection, we are led into the discussion of two questions which are involved in it:—First, Does heat in either of the instances named really destroy life? And secondly, Why cannot roasted potatoes vegetate, or a boiled egg be hatched?

With reference to the first of these questions we would say, it must be evident to every person who has given the slightest attention to the subject that it should be answered in the negative. Leaving entirely out of view the line of distinction which should be drawn between the embryo and actual life, there is no destruction of the living principle. In both the animal and vegetable kingdoms, a certain length of time must elapse before the principle of life is implanted in, or imparted to, the plant or body. In the human species the fœtus must remain in

the womb four months before the period of quickening arrives. Why do we speak of the period of quickening if it enjoys vitality from the very first moment of conception. The use of the term itself implies some definite juncture of time when the spark of life is first struck, from which the fire of actual existence shall thereafter be enkindled.

Dr. Howard has very justly remarked, that "a simple substance contains but one simple principle; and this, so long as it remains insulated from other matter, is inert and incapable of producing phenomena of any kind whatever. It is by combination of different [kinds of] matter, each being invested with its peculiar principle, that the operations of nature are carried on."* Now, whatever may be the varied combinations of different kinds of matter, or however peculiar their organization may be, without heat, or more scientifically speaking, without caloric, it will form at best but an inanimate mass; and, on the other hand, where there is no organization, or form of matter properly combined, heat cannot produce the phenomena of life. Hence, before the period of vivifaction, notwithstanding the combination of matter in the potato or the egg, may be a proper one for the vivifying action of heat, neither

* Sys. Bot. Med. vol. i. p. 37.

the roasting of the one, nor the boiling of the other, destroys life, because that principle has not as yet been communicated.

But, if there is no destruction of life, why cannot a roasted potato vegetate, or a boiled egg be hatched? We answer, because their organization, or the proper combination of matter in them is destroyed. But is not this the effect of heat or caloric applied in the process of roasting or boiling? Undoubtedly it is; yet there is a very wide difference between the *organization* of matter, and the *vitality* of organized matter.

We may add to the remark of Dr. HOWARD already quoted, that it requires not only a combination of the proper *kinds* of matter to produce any certain phenomena, but a proper *proportion* of each kind must likewise be observed in that combination. No one would expect to derive the sulphate of soda from a combination of sulphuric acid with lime, because lime is not the proper kind of matter from which to form that salt. If even sulphuric acid be combined with soda, it must be in the right proportion: if the acid be either in excess, or deficient in quantity, the result is disastrous in regard to the substance formed. Let us apply this reasoning to the subject in hand. However proper then may be the different kinds of mat-

ter in the egg or potato, no other principle than heat is capable of producing the phenomena of vivifaction. And though the heat be actually the principle of life, it must be in the proper proportion: its excess or deficiency producing phenomena of a widely different character from those which were anticipated.

From all that has been said, it must be evident that it does not follow as a necessary consequence, because "roasted potatoes will not vegetate, and a boiled egg cannot be hatched," that therefore heat is not life, or that Dr. Thomson used the expression figuratively. If the application of heat, before the time of vivifaction, destroys the capability of the germ or embryo to undergo the vivifying process, this does not prove that there is a destruction of the vital principle, inasmuch as that principle is as yet wanting. And if after this principle has been communicated, the organization of a vegetable or animal body is destroyed, even such destruction does no prove that heat is not life. It is well known that the full beams of a bright sun will extinguish a fire. Does this prove that caloric is not the principle by which combustion is effected? The heat of the sun may overcome the heat of burning wood, &c.; but, does this prove that heat is not heat?

But, since the existence of a vital principle has been lately denied, we will enter into a discussion of that subject in our next chapter, in order that the propriety of the preceding arguments may be duly appreciated.

CHAPTER IV.

Review of Dr. Howard's Theory of the Principle of Life.

We now come more immediately to examine the interesting question—Whether there really is any abstract or distinct principle on which the phenomena of life are dependent? Dr. Cullen ascribed them to what he denominated "*autocrateia.*" Others have used different terms to express the same principle, one calling it the *vis vitæ*, another the *vis insita*, &c. They all, however, are about equivalent to Dr. Thomson's "vital power." Latterly, the existence of such a principle has been denied by those from whom we little expected it, after the claims they have urged for science and improvements.

The reviver of this old and absurd theory says, "The compounding and decompounding [of] the matter or proximate elements of which man is composed is, undoubtedly, to some certain extent, continually going on within us. This process is indispensably necessary to our existence, and essentially constitutes vitality or *life.*"* In our opinion, the author here begs

* Howard's Sys. Bot. Med. vol. i. p. 36.

his premises, since it is by no means a self evident truth, that such a change "is continually going on within us;" neither is it allowed by every medical writer. Indeed, there are some circumstances that militate against the proposition. If there be such an operation in the animal economy, then, as some have maintained, there must be a universal and thorough renovation of the human frame, at least once, and very probably oftener, during the period of our natural life. Now, it is well known, that those who have been inoculated with the virus of the small pox, have but little to fear from the contagious character of this dreadful disease. It is true, there are instances in which even the inoculated have not been exempt from a second attack; but, a few exceptions cannot invalidate a general rule. Whence arises this security, if not from the fact that the atoms of the body remain essentially the same?

After having thus adverted to "the effect produced in the compounding and decompounding of the elements of man," and having denominated this effect "the living state or condition of the body termed life," the author adds:— "This view of what constitutes life, does away the necessity of supposing a *vital principle*, principle of life, living principle, and many other terms which have been used to express

the hitherto unknown *something* which produces the phenomena of animal existence."* If this author's views, which are certainly peculiar, or rather original, are received, we might perhaps be ready to admit his inferences likewise; but, as those views are supported by no very powerful arguments, we consider ourselves at perfect liberty to question the correctness of his conclusion.

Three points yet remain to be satisfactorily settled before we proceed any farther. The first is, Whether this change is "continually going on within us?" Secondly. Whether it "is indispensably necessary to our existence?" And thirdly, whether it "essentially constitutes vitality or life?"

The first of these questions has already been answered in the affirmative, though, in our opinion, such an answer is not warranted by the evidence in its favour, submitted to the consideration of the reader. Perhaps one of the strongest arguments in support of this hypothesis, (for such only we conceive it to be,) is the fact, that some portions of the human body, for instance, the hair, the nails; and, in the male, the beard, are frequently renewed. But, although this be a fact, confirmed by the observation of every day, and therefore no longer sus-

* Howard's Sys. Bot. Med. vol. i. p. 37.

ceptible of doubt, yet it is matter of doubt whether this change be a natural consequence, resulting from the operation of any of the laws by which the human body is governed. Indeed, this very renovation or renewal seems, on the contrary, to result from the action of external agents, or the occurrence of circumstances entirely adventitious.

Nature seems to have assigned certain limits to these portions of the body to which they may extend their growth, but beyond which they cannot go. When the glossy ringlets of the little girl are cut from time to time, nature unceasingly continues her renovating efforts; but when the little girl advances in life, blooms in the maturity of womanhood, and is no longer compelled to submit to the operation of the scissors, the rich suit of hair with which she has been favoured comes to perfection, and the renewing exertions of nature are suspended, until some new exigency shall have again required them.

The nails are also under the influence of the same determinate laws. The customs and usages of a civilized community justly demand a due attention to personal cleanliness, and in compliance with their requisitions the nails are frequently pared; thus their progressive growth is ensured. But in some of the Asiatic coun-

tries where long nails are esteemed an ornament, when they have attained a certain length they cease to grow. We need scarcely refer the reader for an instance of a similar kind, to a religious sect in our own country, who permit the beard to grow as a part of their duty.

CHAPTER V.

The question—"Is the progressive mutation of the animal economy necessary to life?" discussed.

We have already examined the grounds on which the theory of a progressive mutation of the atoms or elements of which the human body is composed; and though we even admit that such a change is actually "going on within us" at all times, the admission can by no means prove that it "is indispensably necessary to our existence." If such a mutation occur at all, it must be the result of one of three things:—First, The action of external causes: Secondly, The operation of some established principle inherent in the nature of man: or, Thirdly, The combined action of both.

That extraneous causes or agents, operating on the structure of the human frame, may produce organic lesion or structural derangement, destroy the vitality of the animal fibre, and thus effect "the *decompounding* [of] the elements of man," we can easily believe; but we cannot comprehend how similar causes or agents can restore the vital energy, or have any part in the *compounding* of these elements when once

they are decomposed. If mortification of the smallest fibre take place, there is no known cause, principle, or agent which can, independent of, and abstract from, the principle or power of life, induce a healthy action in the diseased part, or compound a new fibre to supply the loss occasioned by the sloughing of the dead one. This mutation or change cannot, therefore, be attributed solely to the action of external causes or agents.

So far as it relates to the second source, whence such change may have its origin, viz: "the operation of some principle inherent in the nature of man," we have only to remark, that perhaps no one can be found, who will seriously argue that the action, or even the existence, of a principle directly tending to the destruction of life, "is indispensably necessary," to prolong life. And yet undoubtedly this must be the inevitable bearing of the argument, if we ascribe the change spoken of to the operation of any innate principle of the constitution. One function of this principle, in order to effect such a change, would be to "decompose the elements of man," and, by consequence, to destroy vitality. If then the mutation of the atoms of the human body depends on the action of this innate principle of nature; and if such a change is "indispensably necessary to our ex-

istence," it must follow that the principle itself is equally as essential to life. But this principle must be possessed of a tendency to extinguish vitality; hence, a principle tending to the destruction of life, " is indispensably necessary to our existence." This argument refutes itself. Whatever power, therefore, this established principle may exert in the " compounding of the elements of man," we cannot yield our assent to so absurd a proposition, as, that the power of the same principle is exerted for the destruction or " decompounding" of those elements.

Consequently, as neither of the first two causes assigned, operating singly, can effect this change, we must seek the only alternative left us, and ascribe its origin to the combined action of both. Since the first directly tends to " the decompounding of the elements of man," its existence, or rather its action cannot, as we have already shown, be " indispensably necessary to our existence." If its existence is not absolutely required for the continuance of life, the change is not " indispensably necessary;" for the necessity of the change depends on the necessary conjoint action of both these causes.

The third and last point to be settled is, " whether this change essentially constitutes vitality or life?" Something may be " indispen-

sably necessary to our existence," and yet not constitute that condition which we term life; but that which constitutes vitality cannot, in the very nature of things be dispensed with without the loss of life. The question then under present consideration turns on the single pivot, whether this change "is indispensably necessary to our existence?" We have seen from the foregoing arguments, that even on the supposition that it is "continually going on within us," it may nevertheless be dispensed with. It will therefore follow, that such a change does not "essentially constitute vitality or life."

It must appear evident from what has been said, that neither of the propositions which we have investigated, has as yet been satisfactorily established; on the contrary, each one separately has been proved to be incorrect. It cannot therefore be expected that we will admit any inference, however logical its deduction may be, which is drawn from an ill founded postulate. Both postulate and inference are but consecutive links of the same chain, and such is the indissoluble connexion existing between them, that if the former is disproved the latter is destroyed; if the foundation is overturned, the superstructure must fall. Let us

now proceed to an examination of the entire argument.

If then, this change "essentially constitutes vitality or life," it must be "indispensably necessary to our existence;" and, if it be absolutely indispensable, it must necessarily be "continually going on within us." The corollary deduced from this comprehensive postulate is, that "this view of what constitutes life, does away the necessity of supposing a *vital principle*, principle of life, living principle, and many other terms which have been used to express the hitherto unknown something, which produces the various phenomena of animal existence." But since the position itself, assumed without an attempt at proof, cannot be sustained by sound argumentation, the correctness of the inference is completely annihilated, and "the necessity of supposihg a vital principle" remains as imperious as ever, notwithstanding this mighty effort to destroy it.

We are thus strenuous in advocating the existence and the continual action of a principle of life, because some of the doctrines we shall have occasion hereafter to advance, stand in the most intimate connexion with it.

CHAPTER VI.

Pathological Phenomena prove the existence of a principle or power of Life.

We shall next institute an inquiry into the character of the theory which has been offered us in lieu of that which supposes a vital principle, and we are compelled to say that like all others not derived from personal experience and actual observation, it bears impressed on its very front the stamp of gross inconsistency and glaring contradiction.

After having, as we have already seen, positively denied the existence of a principle of life, the author says, "It must be evident that the preserving power of health can be nothing else than the power of life."* Indeed, it is only on the supposition of such a principle that we can account for recovery from disease without the aid of medicines. This fact we often see exemplified, and such cases we refer with the celebrated Hippocrates to the sanative effort of the *vis medicatrix naturæ*, or restorative power of nature.

Against this opinion it is argued, "if it were

* Howard's Sys. Bot. Med. vol. i. p. 47.

by an effort of nature that diseases were cured, this event could happen only at the very onset, as it must be admitted that nature's power to make an effort is then at its zenith, and is growing weaker and weaker as disease progresses."* Here, as in most other instances, our opponents beg the question. We do not admit, that in the onset of disease, "nature's power to make an effort is then at its zenith." An admission of this kind would destroy the congruity of our medical tenets, which, at the present, commands our admiration as a pre-eminently beautiful and distinctive feature of the Thomsonian system. We could not then account for the progressive violence of fever, which we consider the friend of life. We concur in the opinion of Dr. CULLEN, that while nature appears, during the cold stage of fevers to be quiescent, she is only concentrating her forces for a more irresistible attack upon the foe. Hence the febrile paroxysm is always proportioned to the chill, which is evidence that nature is only then rising to her zenith.

This argument is as illogical as the one we have just rebutted, although it is its converse. In that we discover a wrong position assumed; in this an unfair inference deduced. For even supposing, that only in the commencement of

* Howard's Sys. Bot. Med. vol. i. p. 36.

disease, " nature's power to make an effort is then at its zenith," this is not proof that her most powerful exertions are then made for the repulsion of disease. We may with the same degree of propriety argue that a man, if he recover at all from disease, can only so recover when in the very prime of life, because " it must be admitted," that his constitution being then most vigorous, its " power to make an effort is then at its zenith." Now, although at the onset of disease, nature may be possessed of as much " power to make an effort" as she can possibly be at any other period, the full exercise of this power may, nevertheless, be suspended until the aggravation of the symptoms require it. One of the wise regulations under which the constitution of man has been placed by the Lord of Creation is, that every effort shall be exactly commensurate with the emergency that puts it in requisition. In accordance with this law, if the symptoms be mild in the onset the effort of nature is slight; but, if they become more alarming, her power is exerted in proportion to the violence of the disease. If therefore this argument against the power of nature is to be made available in any degree, it remains first to establish the premise; and secondly, to deduce a fair inference.

CHAPTER VII.

Two antagonist principles operating in Disease.

"But instead of such an hypothesis as this," [the effort of nature to repel disease,] say these scientific improvers of Dr. THOMSON's theory, "it appears much more rational to conclude, that the system of man is so constituted by the Author of his existence, that every disease produces an effect which is calculated to remove the cause by which it was produced."* Really, if we had not been seriously told, that this is more rational than the belief in an innate principle of nature, by which disease is repelled and health preserved, we must candidly confess we never should have known it. And even yet we are somewhat sceptical in relation to its rationality, notwithstanding the plausible argument which is advanced in support of it, and the dexterous manner in which it is handled.

We are ready to admit, that "the Creator of all things could as easily implant this quality or principle in the constitution of man, as to make him susceptible of being acted upon by stimulants." But what advantage will be gain-

* Howard's Sys. Bot. Med. vol. i. p. 86.

ed thereby? The mere circumstance that the Almighty is able to perform any certain thing, is no proof that He has actually done it. If it is, is it not astonishing that we are white when God could as easily have made our skin the same colour with the red men of the forest, or the sable hue of the sun burnt African?

Again, if we go farther, and even admit that God actually did "implant this quality or principle in the constitution of man," we cannot comprehend how this will prove that disease "is calculated to remove the cause by which it was produced," unless the constitution of man and disease be synonymous terms.

Such vague and inconclusive reasoning has a sure tendency to destroy itself. If disease be capable in any of its modifications, of removing the cause that produced it, or in other words, of effecting its own cure, then, he who directs the power of his remedial agents against disease should be considered the enemy of the human family; because, so far from fulfilling the indications of cure, he is only baffling, by pursuing such a method of treatment, the efforts that are made to perform it. If such be the natural effects of disease, according to the principles of true pathology, then should all who at present practice the healing art be indicted for manslaughter or for murder, since disease is the tar-

get at which they aim their arrows, whether dipped in poison or in balm. It is matter of great surprize moreover, that a solitary individual should ever die of disease, if it be possessed of this tendency; and particularly so after the disease has been raging with violence for any length of time. Its very violence, one would think, would add materially to its power over "the cause by which it was produced," and thereby render recovery doubly sure. The man who can receive such an idea, may discern much meaning in the declaration of ABERNETHEY, when he said, though with a different design, he would rather know his medicines carried off his patients, than that they had become the victims of the disease.

Since then this theory will not stand the test of a strict examination, but appears flimsy "as the spider's most attenuated thread," we are obliged to revert, in our search after the cause that exerts so salutary an influence over the animal economy, or the power by which these sanative efforts, are made to the operation of a principle of life.

If all the phenomena attending disease, howsoever diversified in their characters they may be, are the natural effects of the disease itself, there surely can be no necessity for the attendance of the physician, nor any use in the em-

ployment of remedies. But that this view of these phenomena are incorrect, must strike every man of common sense at first sight. It is an axiom, that every effect must partake of the nature of the cause that produced it; for, "how can a good tree bring forth corrupt fruit, or an evil tree bring forth good fruit?" Reasoning from this datum we could never account philosophically or scientifically for the contrariety of symptoms observable in a single case of intermittent fever.

It is characterized by alternations of chills and febrile paroxysms, varying in the length of the intervals according to the type it may assume. We have no hesitancy in crediting the chills to the action of miasmata, or other morbific matter received into the system, as its specific effect; but to what cause shall we assign the regular recurrence of the pyrexial symptoms or hot stage? Surely not to the same source whence the chill originates, for this would be contrary to the axiom to which we have just referred.

The action of morbific matter, whether introduced by inhalation, salivary solution, or cutaneous absorption, or generated in the system, is always productive of obstruction of the vital energy, by which coldness is superinduced. This coldness is either general, or such as amounts to

a chilly sensation diffused throughout the system; or local when confined to some particular organ or set of organs. We can easily trace the origin of such an effect to the operation of its peculiar cause, though we should be loth to ascribe an effect, which, in itself, is of a directly opposite character, to the same cause. Here we discover at once the action of two antagonist principles; and, as we are compelled to attribute the coldness to the disease, which stands opposed in its very nature to the principle of life, we cannot think otherwise than that the heat or febrile symptoms result from the agency of the vital power.

CHAPTER VIII.

Life considered as a natural condition or state. The action of atmospheric air in the Lungs.

We are perfectly aware, that in controverting theories, and exposing the fallacy of hypotheses which have been advanced by the learned, and are now upheld by the established prejudices of the ignorant, we are hazarding much. The little bark of reputation, thus launched upon the sea of public opinion, must not only breast the heavy surges of argumentative reasoning, but likewise dare the furious gales of sneering sarcasm. If she outride the united efforts of these combined powers, her victorious flag will be hailed with joy by millions yet below the horizon of real existence; but, if she sink, it is into the shoreless deep of eternal oblivion. Yet, with truth for our polar star, philosophy our sails, inquiry our compass and perseverance our rudder, we commit ourselves to the perilous wave.

The question has been asked by almost every medical writer, "in what does life consist?" To this important inquiry the celebrated M. Bichat answers, "the aggregate of those func-

tions which resist death." Yet, notwithstanding the glaring inconsistency between this definition and the theory, that "life is a forced state," the latter has been eagerly embraced, and is now become the universally prevailing doctrine. If there be any principle of life by which death is resisted, that principle or power, however diffused throughout the various organs of the animal economy, must necessarily be greater than the principle or power of death, else the resistance would be easily overcome. The effect caused by the predominance of a stronger power over a weaker, is surely not a forced one.

We may readily admit with the same learned author, that "such is the condition on which we live, that every thing around us has a tendency to produce our dissolution, by the affinities existing between their atoms, and the atoms of which a living body is composed," without however compromitting ourselves. The existence of extraneous substances, the operation of foreign agents, or the occurrence of adventitious circumstances, does not prove that there is any innate principle possessed of the same tendency; on the contrary, it directly supports the position we have taken.

We may illustrate our views by reference to the chemical law of simple elective attraction.

If we present pure potassa to a combination of nitric acid and lime, the nitric acid, possessing a stronger affinity for the former, leaves the latter, and unites with the potassa. Now, the existence of this composite substance is not forced, but a natural effect, resulting necessarily from the law of single elective attraction, or simple affinity. Thus the tenacity with which these aggregate functions cling to life, and the resistance they make to death, prove their greater affinity (if we may be allowed the expression), for the former, and that the latter can supervene only upon an entire reversion of those laws and principles which govern the animal economy. Even the very last spark of organic life must be extinguished before the decomposition or putrefaction of the body, which is the result of the affinities existing between its atoms, and those of foreign substances, can possibly occur. Consequently life is not a forced state.

In endeavouring to support this old theory of the schools, its advocates have gratuitously assumed the necessity of "exciting powers" for the continuation of existence. Some of these exciting powers are atmospheric air, articles of food, whether solid or fluid, &c. But if we carefully investigate the philosophy of their operation on the human system, we find they

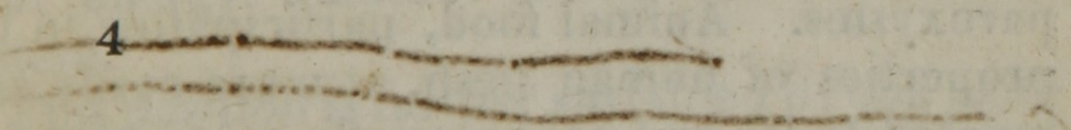
are rather objects on which the excess of action is spent.

When the blood, by the systole or contraction of the heart, is sent from the right ventricle, through the pulmonary artery, into the lungs, it appears loaded with impure and irritating particles, the effete or worn out portions of the system, which tend to augment the action of the respirative organs. This action would increase still more until it amounted to an excess, were it not diminished by the inhalation of pure air, or such as contains the due proportion of oxygen. The oxygen thus inspired, operates not as an exciting power, but as a reducer of action, and a restorer of equilibrium.

This opinion, however novel it may appear, is corroborated by facts of almost daily occurrence. In hot weather the atmosphere is considerably rarefied by the action of the solar rays, and its bulk is proportionally enlarged. The capacity of the lungs remaining the same, they are not capable of inhaling as large a quantity as they could if the same weight were compressed into a smaller measure. Hence, for want of a sufficiency to reduce their action, it is more than ordinarily increased, and the increase is manifested by a more rapid performance of their functions. This accounts for the

panting of animals in the summer season. If oxygen were really an exciting power, as has heretofore been believed, its effects should be directly the reverse; its abundance should induce in the lungs a quicker performance of their function, and its diminution a sluggish one.

Again, on being brought into contact with the external organs of respiration, the pharynx, larynx, trachea, and bronchia, atmospheric air receives an addition to its own temperature, and consequently subtracts from that of the organs just mentioned, thereby lessening their action. We cannot, therefore, subscribe to the doctrine that oxygen is an exciting power.



CHAPTER IX.

The action of Animal and Vegetable Food on the digestive system.

The reasoning which we pursued in our last chapter in regard to the action of oxygen, will hold good in relation to the operation of food and drink. They, in a similar manner, reduce the excessive action of the digestive organs. This fact will be more apparent, if we mark the difference between the effects produced on the system by animal and vegetable diet.

It has long been customary among medical men to proscribe the former in pyrexial and inflammatory disorders, because of the prevailing opinion, that it, acting as a stimulant, would aggravate the symptoms. Febrile complaints have a constant tendency to the acme of their paroxysms. Animal food, participating in the properties of human flesh, is more easily assimilated to it, and consequently requires a less exertion of the chylifactive functions; and the redundancy of vital energy thus produced, increases the tendency of the disease until it arrives at its crisis. On the other hand, a vegetable diet, requiring a greater effort of the diges-

tive organs for its assimilation, reduces the excessive action, and thus allays, or at least does not increase, the pyrexial symptoms. Hence, we as Thomsonians, considering fever merely as the rising of the *vis medicatrix naturæ*, or restorative power of nature, for the expulsion of morbific matter, and the disengorgement of obstructed vessels, permit the use of animal food, if the appetite craves it, with a view to aid nature, by giving full play to her tendency to the height of the exacerbation. And we may add, the success of the practice has confirmed us in the truth of the theory.

Whilst the illustrious FRANKLIN was a journeyman printer in London, by a rigid abstinence from the stimulating or exciting diet of his fellow workmen, he rendered his physical powers far superior to theirs. By his free use of vegetable food, the excessive action of the digestive organs was reduced, an equilibrium was maintained, and the proper quantum of vital energy diffused throughout the whole system.

This position is further sustained by the painful experience of Dr. BROWN. When labouring under the most excruciating arthritic affection, conceiving it to originate from plethora, he had recourse to a vegetable diet to effect a cure, but failed to accomplish his object until he again

resorted to a more generous mode of living. Now, his abstemious vegetable diet required too great an exertion for its digestion and assimilation, thereby preventing an equalized action of the organs. On changing his theory of the cause of gout, and ascribing the origin of the disease to debility, he returned to the use of animal food, which produced the desired effect, not however by stimulation, but by favouring the action of the digestive powers, and inducing a free transmission of the redundancy to the affected organ, thus enabling it to throw off the obstruction which caused the distressing debility.

Notwithstanding animal food approaches much nearer the nature of human flesh, and might therefore be very reasonably supposed to be much better adapted to the nourishment of mankind than vegetable diet, yet, say the editors of the Journal of Health, "Man has little inclination to live solely on animal food. It is indeed questionable whether he could enjoy perfect health on a diet purely of flesh. It is well known however that vegetable substances, particularly the farinaceous, are fully sufficient of themselves for maintaining a healthy existence."* This fact appears to be totally incompatible with the theory that food is a sti-

* Vol. i. p. 277.

mulant or exciting power, and that an animal diet is more so than a vegetable one; but, with the doctrine that it is a reducing agent, it is perfectly concordant.

Again, meats which have undergone but slight alteration during the culinary process, or are what is vulgarly called rare, are considered more wholesome than those that are thoroughly done. Yet the former require a longer time, and greater effort for their assimilation than the latter, because these have their organization more completely destroyed. Now, we would ask, why are they more wholesome, if it is not because they better subserve the purpose of reducing the action of the digestive organs?

CHAPTER X.

The operation of pure water on the animal economy. The pathological action of some of the organs.

It must be on the self same principle which we advocated in the preceding chapter, that water will for a time prolong life, of which we have a memorable instance in the history of Pomponius Atticus, who, being troubled with a disease of the stomach, determined to destroy himself. He was persuaded by Agrippa, his son-in-law, to effect his purpose by starvation; he was also advised to take a little water for the alleviation of the sufferings which might be caused by total abstinence from nourishment. After passing many days in this manner, contrary to his expectation, death did not ensue; but he was cured of his malady, and lived to an advanced age.

But it may be said, the water he used acted as an exciting power, by which means the action of the vital power was continued. This explanation of its *modus operandi* might answer if it were not for two objections to it.

First, hot water is more highly stimulating

or exciting than cold water, if even the latter really does stimulate or excite under any circumstances; yet, no one will pretend to say, that the former is better fitted for the sustenance of animal life, which certainly would be the case if the phenomena of life depended on the action of stimuli. Cold water, by being taken into the stomach, imbibed by the absorbents, and carried to the different parts of the system, attenuates the fluids which otherwise would become viscid, conduces to their freer progress through their respective vessels, and thus indirectly reduces the excessive action of those organs to which it is transmitted, by lessening their friction; or, on being brought into immediate contact with the surfaces over which it is diffused, directly effects the same reduction, by abstracting a portion of that heat on which the action is dependent.

Secondly. Every one that has observed the operations of nature must have noticed the fact, that the vital action of the digestive system, when not reduced by the presence of food in the alimentary canal, is always increased until the organs appear to be labouring under a febrile attack. On this account fasting has been practised not only as a religious ordinance, but also as a means of preserving health and removing incipient disease.

"Stuff a cold and starve a fever," has passed into a proverb among almost all classes of society, although latterly the medical world have discarded the idea embraced in the first part of the adage, as unwise and of evil tendency. These gentlemen, by this rejection, have unwittingly declared in favour of Thomsonism, however unwilling they may be to allow it. On the supposition that the repletory practice is beneficial, when there is impaired action of the *vis vitæ* or power of life, and *vice versa*, and that food is a repletory or exciting power, the advice above mentioned must be good; for even themselves admit, that cold does retard the free exercise of that power. In this case then, according to their own theory, repletion is indicated; yet, with the inconsistency so intimately interwoven in their creed, they say, to "stuff a cold" is wrong. We believe however, that the indication, in every instance, is to assist nature, and that food of any kind is a reducer of action: abstinence therefore, during an attack of cold, may be judiciously recommended, for the ostensible purpose of avoiding a reduction of the vital action, and thereby permitting nature to concentrate all her energies for the counteraction and expulsion of disease.

Hence, from the facts that water actually reduces the quantum of action, and that absti-

nence from both solids and fluids increases that action frequently to an alarming and even fatal degree, we cannot believe, that in the case of Pomponius Atticus, it operated as a stimulant or exciting power.

It appears that a remark of M. Bichat's will fully sustain the view we have taken of this subject. He says :—"When acute diseases are continued for a long time, then the fat is absorbed, serosity abounds, and the phenomena become soon after like those of chronic diseases. Nevertheless, we must observe that the organs most altered, are those in which nutrition is most active in an healthy state; and, on the contrary, those which enjoy only an obscure vitality, are the least sensibly injured." In acute disease, the patients are seldom, if ever, allowed a full and generous diet, and the vital powers, having nothing on which to spend their overplus of action, prey on the organs themselves. If food of a generous kind were prescribed, that excess of energy would be reduced, the adipose substance unabsorbed, and the tendency to serosity counteracted. The absorption of the fat indicates clearly increased action of the absorbent system; the serosity points to a similar condition of the serous membranes; the changes occurring in those organs possessed of active vitality, prove the increase

of their action; whilst the final assumption of a chronic character shows the *vis vitæ* to have been expended by over action.

Now, if life be a forced state; if its phenomena depend on the excitation of stimuli; and if the articles of food operate as exciting powers, how shall we account for this increase of action when their use is proscribed?

CHAPTER XI.

Objection answered. The theory sustained by an argument from the nature of stimuli.

An argument, that seems at first view to bear with considerable weight against the opinion we have advanced is, that immediately on the reception of food into the stomach, there is a sensible augmentation of the temperature of the body. This augmentation, if indeed it be real, cannot surely be placed to the account of the stimulus of the food itself, for the stomach serves only as a receptacle, in which, by the action of the gastric juice, the food is converted into chyme. It then passes into the duodenum, where, being combined with the bile and pancreatic juice, it becomes chyle. It is then fit for the action of the lacteals which receive it and pour it into the thoracic duct. Now, if by the term nutritious particles, we are to understand the stimulating or exciting particles, we certainly cannot attribute the increase of the temperature of the body to the reception of the food into the stomach, since the fact is, whatever change is wrought on it there, none of these nutritious, stimulating, or exciting parti-

cles are absorbed until they reach the innumerable lacteals of the duodenum.

We incline however to the opinion, that this increase, apart from that caused by the various condiments used in connexion with the common articles of food, or in other words, that the increase caused by the food itself is merely relative, not absolute.

We have already noticed the fact, that when the stomach is entirely deprived of food for any length of time, its action, for want of something to reduce it, becomes greatly increased, until finally it is excessive. During this progressive rise of the temperature of the digestive organs, the surface and extremities are apparently chilled. Their coldness however is only relative. In reality, they have not lost any thing of their actual or positive heat, which remains stationary; but, when compared with the stomach, whose temperature is greatly increased, because of the want of an object on which to spend the excess of its action, their warmth appears diminished. But, let an agent be presented, which will reduce the action of the digestive system, and thereby lessen the heat of the organs concerned in the process, and immediately the temperature of the surface and extremities seems to rise in an inverse ratio. Nevertheless, this rise, increase or aug-

mentation is discovered only when the heat of the surface and extremities is considered in its relation to that of the alimentary canal. When compared with surrounding objects, it is found to have remained in *statu quo.*

If then there be no actual, but merely an apparent or relative increase of heat upon the reception of food into the stomach, and if the food, during its stay in that organ, does not give out any of its stimulant properties, we are compelled to consider its action in some other point of light than that of an "exciting power."

It is not merely for the sake of innovation that we have explained the *modus operandi* of these agents on the system in a manner differing so widely from all our predecessors, but simply because their effects are at variance with those of stimulants. The action of stimuli on the animal economy is always less and less, yet the same effect may be again produced by an increase of the quantity of the stimulus. But this is not the case with food, drink, &c. When men advance in age their appetites are more easily satiated. The vital energy diminishes in an inverse ratio with the increase of years, and a smaller amount of aliment will reduce the redundancy, and maintain an equilibrium of action. How then can we reconcile this fact with the supposition that food is an exciting

power? If this were true, would it not require a greater portion of aliment to produce the same effect than in the vigour of life? Reasoning therefore from these premises, we reject the inconsistent doctrine that "life is a forced state."

CHAPTER XII.

Our Theory supported by arguments from the primeval state of mankind, and the conditions on which we now live.

It has long been customary for natural philosophers to discourse on the adaptation of the digestive organs of different animals to the different kinds of aliment on which they subsist. They ought, in our opinion, rather to have remarked the infinite wisdom displayed by the Deity in providing food for his various creatures, suited exactly to the differences of their conformations and structures; for the food was certainly made for the animal. This idea is fairly deducible from the language of Holy Writ —"And God said, Behold I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat." From these words we may draw another argument in favour of our views on this subject.

Those who believe in the degradation of the human family by sin, will readily admit that the corporeal powers, as well as the mental

faculties, have suffered in the fall. Now, it appears, that while man enjoyed the full exercise of this undiminished physical energy, he fed on vegetables alone; but, since the depravement of his digestive powers he resorts, partially at least, to a diet more eupeptic, or susceptible of a more easy assimilation, and which, consequently, will not, during the process of chylifaction, reduce to so great an extent the action of the digestive organs. If the vigour with which the functions of life are performed, depend on the excitation of stimuli, and if animal food be more stimulating than vegetable, we would naturally expect that man, in his primeval state, drew his vital power from an animal diet. But, as this was not the case, to what can we ascribe the superior energy of both his physical and mental powers, if not to the more active operation of an innate principle of life? And this principle, in its more active state, required an agent calculated to reduce its action to a greater extent.

But it may be said that such an explication as this is only shifting the difficulty. If we pursue the text already quoted a little further, we find the position assumed by former theorists is involved in more obscurity, and fraught with greater absurdity than that which we have ventured to take. During the time which elapsed

from the creation of man, to his disregard of the divine prohibition, these agents could not possibly have operated as exciting powers, because being then endowed with immortality, he required not extraneous aid for the continuance or support of life. So that, if after all that can be said, there still must remain a difficulty it had better be *shifted* to the proper place, than to make a second and greater one, in attempting to obviate the first

A very powerful argument against the hypothesis, that "life is a forced state," may be drawn from the fact, that the period to which human existence extended, even after the introduction of death by sin, has been since shortened by nothing less than the irresistible fiat of Omnipotence. According to the Mosaic history, when the Lord determined to destroy the world by a flood, he also curtailed the days of man's life to one hundred and twenty years; and we are informed subsequently to that time by the Psalmist, that "The days of our years are threescore years and ten." So far, then, from the human frame having any tendency in itself to dissolution, it absolutely requires the agency of a supernatural power to produce such an effect.

We are perfectly willing to admit, nay, it gives us pleasure to advocate, the scriptural

and consolatory doctrine of a preserving Providence. Providence, in the preservation of life, is both active and passive; active, when he wards off those accidents which, contrary to the laws of Nature would destroy it; passive, when he merely permits those principles which he has already established, to have sway. As we have seen, it is the predominance of these principles over all others that constitutes existence. Therefore, life cannot be a forced state.

When the author of this work first advanced this doctrine, in a lecture, delivered to the Louisa and Hanover, (Va.) Thomsonian Botanic Society, August 21st, 1835, he stood alone. Since that time, however, the talented Editor of the Thomsonian Recorder, Dr. CURTIS, has likewise seen the impropriety of calling life a forced state. In the columns of his really valuable paper, he has advocated our views of this proposition, and, as an argument in his editorial annotations on a communication from T. INGERSOLL, M. D., is very appropriate, we take the liberty of transcribing it.

"If the life of man is forced," says Dr. C., "so is that of brutes, and of vegetables; for, if animal life is forced by food and stimuli, so is vegetable life forced by heat, moisture, earth, salts, &c., without which a plant cannot grow any more than a man can live without eating.

The question then arises—Is it natural or artificial for a plant to grow? If it is artificial or forced, we ask, what is natural? Nature, says philosophy, is whatever is opposed to art. Art is the ingenuity or contrivance of man. Now we ask, by what ingenuity or contrivance does man produce animal or vegetable life? It is the nature of plants to grow, and of man to live; therefore, life is not a forced but a natural state."—*See Thom. Rec. vol. iv. p.* 237.

PATHOLOGY,

OR,

THE THEORY OF DISEASE.

CHAPTER I.

Dr. Thomson's Theory of Disease. Cold the universal cause.

It is indispensably necessary to a correct knowledge of the method of curing disease, to ascertain the precise nature of its cause; for, an error in the theory may lead to an error in practice, which, in its turn, may prove as destructive as the disease for which it is instituted. Hence the great uncertainty and inefficiency which has so long been characteristic of the popular practice of medicine in all ages, and in all countries.

The next peculiar doctrine of the Thomsonian System which demands our attention is, that "obstruction is disease." In this, as well as in every other part of his theory, Dr. Thomson has evinced a degree of knowledge that does not fall to the lot of every man to possess. In our remarks on this interesting subject, we will notice the cause and the nature of disease, with some of the inferences that may be legitimately deduced from the whole.

In regard to the cause of disease, Dr. Thom-

son himself remarks in his chapter on life and motion:—"Without a due proportion of heat inward and outward, or outward and inward, there is no animal motion—no animal life." D. Eberle seems to have had some conception of the truth of this remark, for he observes, "cold is perhaps the most common and frequent of all the remote causes of disease in the temperate latitudes." On another occasion, in lecturing on this topic, we took the liberty to say, "since disease is opposed to life it is incipient death; consequently, what will produce one, will cause also the other. What produces death? The abstraction of the vital heat. Cold then, in our humble opinion, must be the cause, either remote or proximate, of all disease."

It may appear strange, perhaps, that we should hazard our medical reputation by advocating the doctrine of the unity of the cause, as well as of the disease itself; yet, we candidly avow our belief, that the cause of every deviation from health is a reduction of the natural heat, on which the phenomena of life depends. To form a correct judgment of the propriety of this belief, it will be necessary to examine the *modus operandi* of the principle of life in health.

In addition to what we have already said, with reference to the union of the vital principle with organized matter for the vivifaction of

the body, we may here say, that without a due proportion of each of the constituent principles of living matter, there can be no health; and that the only condition in which life can remain, and the functions of the animal economy be nevertheless performed in a manner which is contrary to the laws that govern perfect health, is a reduction of the vital principle. Every other condition is in perfect accordance with those laws. These functions may be performed with greater vigour, and the vital heat may be in excess for the time being; yet, neither the more vigorous performance of the one, nor the excess of the other, constitutes disease, because the phenomena occur only upon the operation of some cause tending to the destruction of life. Therefore, they are in accordance with the laws of health, which are established not only for its preservation, but also for its restoration.

The apothegm, "A house divided against itself cannot stand," which fell from the lips of the Son of man, contains a sentiment whose truth is as firmly established as the pillars of Heaven. Every simple principle has but one mode of action, and cannot, therefore, in the very nature of things, produce a contrariety of effects. Hence, when we discover that the principle of life, which we know operates as a

preservative of health, produces febrile and inflammatory symptoms during an attack of disease, we are compelled to consider that a healthy action. If this then be the peculiar mode of action, and the effect of the principle of life, disease, being in its nature diametrically opposed to this principle, must necessarily be produced by a reduction of the natural heat. Cold therefore is the universal cause, remote or proximate of the disease.

CHAPTER II.

Morbific matter introduced by pulmonary inhalation and cutaneous absorption.

In the preceding chapter we advanced the opinion that cold, or to speak more scientifically, the reduction of that heat on which the perfect performance of the vital functions is dependent, is the remote or proximate cause of all disease, whatever be its peculiar modification. Other causes may operate on the animal economy in such a manner as to give a tendency to a derangement of those functions; yet such derangement can ensue only when other causes are assisted in their deleterious influence by the unhealthful action of cold. The indulgence of the exciting or depressing passions, injuries, &c., may predispose to disease, but such is the nature of the human constitution, that this predisposition would soon be counteracted, were it not for obstruction of the circulation, arising from the constrictive power of cold.

Our present inquiries will lead us more immediately to notice the introduction of morbific matter, after which we shall consider the reason of its retention in the system.

Extraneous particles noxious to the living power, and productive of disease, may be introduced into the system either by pulmonary inhalation, cutaneous absorption, or by salivary solution, or it may be generated in the system. We shall confine ourselves to the two first means of introduction in this chapter.

In speaking of the absorbent system, Dr. Horner says, "With the exception of an imperfect observation of some of these vessels in the mesentary of a goat, by Herophilus and Erasistratus, 280 years before Christ, during the reign of the Ptolemys in Egypt, what is known of them is entirely a modern acquisition in anatomy. In 1564, Eustachius discovered the thoracic duct of a horse, which, in the ignorance of its use, he called vena alba thoracis [white vein of the thorax.] This fact remained insulated and almost forgotten for seventy years. In 1622, Asellius discovered the absorbents of the mesentery, and in the discussions consequent thereto, the original observation of Herophilus and Erasistratus, was raised from an oblivion of nineteen centuries, to be again brought to light and admired. Asellius seems to have understood that the absorbents of the mesentery collect the chyle from the intestines, but his knowledge ceased there, for he thought that they discharged into the vena portanim.

In 1634, Weslingius saw the thoracic duct again; and, in 1649, ascertained that the chyliferous vessels of Asellius terminated in it. In 1650, Claus Rudbeck, a young man pursuing his anatomical studies in Leyden, saw first the lymphatic vessels of the liver, and in a few months afterwards injected similar ones in the loins, in the thorax, in the groins, and in the armpits. Thomas Bartholine, a teacher of great reputation in those days, in a dissertation, dated in 1652, claimed for himself the priority of these observations, and from the obscurity of Rudbeck, enjoyed for some time the merit of them. In 1654, Rudbeck published and set forth his own pretensions with such force, that he finally triumphed over his antagonists, but not until the whole world of anatomy had been set in commotion, one party being for the professor, and the other for the pupil; and many bloody strifes having arisen between the students of the respective sides. In 1653, Jolyff, a celebrated anatomist of London, proclaimed his own rights to this warmly contested honour, but the period being rather late, his name is scarcely associated with the history of these feuds. Almost a century then passed before there were many additions to the knowledge of those times. After which great contributions were made by Dr. A. Munro, Dr. W. Hunter,

Hewson, Cruikshank, but chiefly by the celebrated Mascagni, who, having imagined finely pointed instruments of glass for executing his injections of these vessels, succeeded in demonstrating them in almost every part of the body, excepting the spinal marrow, the brain, the ball of the eye, and the placenta. In some of these parts, however, he says he has seen them, and he speaks confidently of their existence without exception every where, even in the enamel of the teeth.*

These vessels, studding both the external and internal surfaces of the body, serve as conductors of those particles intended for the nutrition of the system. In the performance of their function of absorption, they will readily form particles of a destructive character, as actual experiments have fully proved. Since the lungs next to the liver is most plentifully supplied with these vessels, and since their surface is brought into immediate contact with the air during respiration, it will be obvious that pulmonary inhalation presents a ready medium for the introduction of morbific matter, whilst the absorbents afford it conveyance to the thoracic duct, whence, by means of the circulation, it is transmitted to every part of the system. The inspiration of a contaminated

* Horner's Special Anat. vol. ii. p. 294.

atmosphere, in which the effluvia of animal or vegetable decomposition are floating, is a prolific source of derangement of the vital functions. Hence the various febrile affections so prevalent in low marshy countries.

In regard to the existence of cutaneous lymphatics, notwithstanding the ancient anatomists conceived that they were only a continuation of the arteries, intended to reconvey the serous portions of the blood to the heart, "it has been put beyond doubt by the observations and injections of M. Lauth."* Their absorbing powers have now been almost univerally admitted. We may discover this function fully demonstrated in the introduction of mercury and other medical agents, when externally applied in the form of ointments, liniments and lotions, and in the increased secretion of urine in persons immersed in water. It is by means of the cutaneous absorbents that the morbific matter of contagious disorders is introduced into the system when communicated by the touch.

* Horner's Special Anatomy, vol. ii. p. 294.

CHAPTER III.

Morbific Matter introduced by means of the Saliva. Generation in the System.

THAT the solution of morbific matter by the saliva, and its passage into the stomach, may be frequently the means of introducing disease, seems very probable. We take the liberty of presenting to our readers another quotation from the Thomsonian Recorder.

"The following preservative against infection, or the deleterious qualities of a contaminated atmosphere, is extracted from an ancient record of philosophical transactions. However, the subject is somewhat important, and among the reflecting, will prompt their inquiring minds to a more satisfactory investigation. 'Be the infection of pestilential fears [fevers?] what they may, either *seminal*, *insectuous*, *vermicular* or *gaseous*, it probably enters the system through the medium of the saliva or spittle into the stomach.' So says a late writer. The opinion has been thought by many to be correct, while some have doubted. The sentiment appears however to be supported with a tolerable degree of plausibility. We have not time to

enter minutely into the subject. We shall only give the subjoined article as we find it under the general title of " A Universal Preservative against Infection." By J. J. W. Dobrzensky, Professor of Philosophy and Physic.—*Prague*, 1680.

This Universal Preservative is this:—That whoever converses with patients affected with any disease whatever, if he would preserve himself from infection, must be sure, so long as he abides within the sphere of their steam, never to swallow his own spittle, but to spit it out, for he conceives that to be the part which first and most easily imbibes the infection; and, by that swallowed, the infection is carried into the stomach, when it works those dismal and fatal effects.

" The infection of pestilential fevers," he observes, " proceeds from a seminal ferment, which is emitted by the patient in the form of steam, into the encompassing air, and so infects all things within a certain sphere of distance."

" This drawn into the mouth by the breath is apt to infect the saliva or spittle, which being swallowed, infects the stomach, and so the rest of the body; but [to] spit out, frees the body from infection."

On these principles our author conceives,

that strong-smelling and strong-tasting substances, kept in the mouth and chewed, to promote spitting, are of very good and necessary use for physicians, surgeons, apothecaries, nurses, &c., whose professional business frequently puts them under the necessity of being in exposed situations attending the sick.

When the plague took its last general range in London, it has been intimated that smokers and chewers of tobacco were seldom attacked with the complaint. No doubt the Professor of Prague would have said, that their extraordinary exemption from the common calamity should be ascribed to those persons spitting more profusely than others. Probably, if any of these tobacco users were infected, he would have attributed their misfortune to the filthy practice of some smokers and chewers, who have strength of stomach continually to swallow all their spittle.

Most persons have noticed, that whenever any strong offensive smell arises from filthy, infected or infectious places, how suddenly nature prompts to eject the spittle, and then cast off the first intrusions of contagion. In passing through an atmosphere laden with the offensive exhalations of vegetable and animal substances, in a state of putrefactive decomposition, every person of delicate sensibility, whose feelings

are not measurably brutalized by filthy habits, or senses impaired by disease, will always commence spitting. This is an index nature has placed on our road that kindly points the way to safety.*

This extract may afford the practitioner of medicine some valuable ideas respecting the prevention of the spread of infectious disease; but the design of its introduction in this place, is to show that morbific matter, arising from the putrefaction of animal or vegetable substances, or from the exhalations of infected persons, may find its way into the system by being dissolved in the saliva and swallowed. And from the almost universal prevalence of derangement of the digestive organs, we incline to the opinion that this is the most frequent means of the introduction of such morbific matter.

Under some peculiar circumstances, of which however we do not know the true character, foreign particles introduced either by pulmonary inhalation, cutaneous absorption, or salivary solution, seem to act peculiarly on the glands of an organ or set of organs, and sometimes on the glands of the whole system generally, powerfully irritating them, and inciting them to the secretion of a vitiated, poisonous

* Thomsonian Recorder, vol. ii. p. 206.

matter, capable of self propagation. Thus, particles which are not in themselves actually poisonous, may nevertheless become the generators in the system itself of poisonous glandular secretions, which are characteristic of all contagious affections.

We cannot account for this vitiated condition of the glandular secretions, without presupposing the presence of some vitiating cause. This cause too must be extraneous, for the laws of the animal economy will always induce a healthy performance of all the organic and vital functions, unless counteracted by the influence of foreign agents.

CHAPTER IV.

The Exhalents. Expulsion of Morbific Matter. Action of Cold.

Although we see that the inlets of morbific matter are numerous, there is nevertheless provided a natural means of egress or expulsion. A set of vessels has been supposed to exist for the special purpose of carrying off all foreign particles, though it is true their existence has not yet been fully established. Boerhaave, Haller, and Bichat, are among those who believe in the existence of the exhalents; while it has been denied by Mascagni, Prochaski, and Richerand. Dr. Wm. E. Horner coincides with the latter gentlemen in opinion, and deems these vessels merely supposititious. But whether there really be a separate and distinct set of vessels provided for the performance of this function or not, it is sufficiently evident that the process of exhalation is carried on by some means or another. Dr. Horner ascribes both absorption and exhalation to the lymphatic system.

But, on the supposition that the absorbents perform this double function, the reasons for

believing in the natural expulsion of morbific matter remain the same.

Whatever be the kind or character of those vessels, by means of which exhalation is carried on, we discover, that in the exercise of this function, the effete or worn out particles of the system are thrown off: and if we can attribute to the absorbents the vital power of discrimination between nutritive and effete particles, we may surely allow them the like power of discrimination between healthful and morbific matter. Therefore, it is rational to suppose, that whenever foreign particles, tending to the destruction of the organism of the body, or to the deterioration of the animal fluids, are introduced, whether by pulmonary inhalation, cutaneous absorption, or salivary solution, nature immediately prompts to their ejection, either by means of distinct exhalents, or through the absorbent system.

But since nature has provided appropriate vessels or organs for the performance of all her corresponding functions, as for instance, arteries for the transmission of the blood from the heart to the remotest parts of the system, and veins for its return, we incline to the opinion, that she has not been less careful in regard to the exhalents; the more so when we take into the account the greater regularity and constancy with which exhalation is performed.

This opinion moreover is strengthened by the consideration, that if exhalation were performed by the absorbents, the introduction of morbific matter could not endanger the health, since it could not be admitted except when the lymphatics were in the full exercise of their appropriate functions; and this very circumstance would necessarily facilitate its expulsion.—Again, if the lymphatic system were so deranged as to hinder the ejection of noxious particles, they would likewise be incapacitated for the process of absorption; consequently morbific matter could not be introduced.

Since every part of the system is exposed or liable to attacks of cold, it will be obvious that the exhalents may also feel its pernicious influence, and becoming constricted may be prevented from that speedy expulsion of noxious matter, to which nature in a healthy state always prompts. Hence cold, or the reduction or diminution of the vital heat may very rationally be supposed to be the remote or proximate cause of all disease, either by favouring the retention of morbific matter in the system, or in the absence of such matter, by producing effects equally subversive of the laws of the animal economy.

When cold attacks the cutaneous exhalents, it closes the mouths of these minute vessels; the

watery particles which otherwise would pass off in the form of vapour or insensible perspiration are retained, and gathering together in the cellular tissues, a dropsical diathesis supervenes. When the capillary blood vessels are exposed to its action, they become so much constricted as to obstruct the return of the arterial blood into the veins, thereby predisposing to hemorrhage from the small, and aneurism in the larger arteries, or local inflammation in the organ where the arteries anastomose or unite with the veins. When it seats itself on the lungs, pulmonary transpiration is prevented, and insidious consumption fixes his envenomed fangs on his unsuspecting victim. If the lymphatic system labour under the effect of cold, the constriction of the mouths of the absorbents occasions congestion of the organ. Hence the various affections of the liver, heart, pericardium, diaphragm, kidneys, stomach, &c.

Thus we discover we are not under the necessity of supposing a plurality of causes, in order to account rationally for the many effects of disease. Whatever be their type or character, they are all the offspring of one common parent.

CHAPTER V.

Dr. Brown's Theory of Disease considered.

The nature of disease has been differently described by different medical writers. We will first examine the theories of the two most prominent authors, and then compare them with that of Dr. Thomson, that the reader may be the better able to decide on their respective merits.

Dr. Brown considered debility, either direct or indirect, as disease; but, in our opinion, the effect of disease is here mistaken for disease itself. If there be a sufficiency of vital heat in any organ, the tone of that organ must remain unimpaired. Cold produces obstruction of the circulation, thereby preventing the organ or the system from relieving itself of morbific matter, and debility is superinduced.

A healthy vital action depends on the regular diffusion of the vital heat through the system by means of the circulation of the blood. While the latter function is properly performed, the action of the different organs will be sufficiently great. To say the circulation will not proceed when the organ is debilitated, is to

transfer the peculiar functions of the heart and arteries to the whole system generally. The motion of the blood is secured by two forces only, viz:—The propulsive power of the heart and arteries, and the syphonic force of the heart exerted in the dilatation of the right auricle. These two powers, we conceive, acting synchronously are sufficient of themselves to continue a regular circulation without the intervention of other aid. The syphonic force to which we allude may be illustrated by the action of a common syringe.

If the pipe of one of these instruments be placed in a bowl of water, and the piston drawn upward, a complete vacuum would be formed, were it not for the rush of the water after the piston. In like manner in the diastole of the heart, the principle of suction comes into operation, by means of which the blood is returned from the surface and extremities through the veins to the heart, to be again sent to every part of the system by the propelling power of the left ventricle and arteries during their contraction. That these two powers are sufficient for the continuance of the circulation is demonstrated by the fact, that though the veins are possessed of contractility, they are nevertheless very slightly, if at all elastic, and therefore can exert but small influence in the performance of this function.

From this then it will be evident—First, That debility or diminished vital action cannot occur so long as there is a regular and suffieient supply of vital energy on which that action is dependent.

Secondly, That the supply of vital energy must be regular and sufficient, so long as the circulation, by means of which that energy is diffused throughout the system, remains free and unobstructed. And,

Thirdly, That therefore the loss of vital energy and consequent debility are only the effects of obstruction.

CHAPTER VI.

Dr. Rush's Theory of Disease examined.

The second theory proposed for the consideration of the medical world in modern days is that of Dr. Rush, who maintained that morbid excitement is disease. This however, in our opinion, has as little philosophy in it as that we have just examined.

We have seen, in the course of the preceding remarks, that there is only one cause of disease, and that cause is the reduction or diminution of the vital heat, on the proper quantity and equal distribution of which the healthy performance of the various functions depends. We have also seen, that no principle has more than one mode of action, and must consequently, in every instance, produce precisely similar phenomena when acting on the same kind of matter. It is equally certain, that when the operation of any principle is suspended, its effect must cease, because an insulated principle cannot produce any effect whatever. Cold acts in perfect harmony with the law of inorganic contractility, and obstruction necessarily follows. Hence, if in disease there is any ex-

citement at all, it does not result from the operation of cold.

The only circumstance which, in health, seems to favour the idea that cold may, in some instances, be productive of excitement is, that the affusion of cold water throws over the body a delightful glow or flush. It is from the healthy that we are te reason concerning the pathological phenomena. The latter must arise from the action of some other cause than that which produces the former.

Now, if we inquire into the cause of the glow we have alluded to, we find that it is not the coldness of the water, but the operation of the conservative vital principle, which stands diametrically opposed to cold. We have before remarked, that whenever there exists in the system any thing possessed of a tendency to depress or obstruct the vital action, the principle of life or the vital heat is immediately aroused for its expulsion. And since cold, whenever and by whatever means applied, has a direct tendency to produce an obstruction, and if continued, a total cessation of the vital action, the excitement or glow consequent on the affusion of cold water, must be attributed, in the absence of any other cause to which we may rationally ascribe it, to the reaction of the vital heat.

The propriety of this position may be more

clearly discerned, if we take into the account, that when cold affusions are used for the preservation or restoration of health, they are generally succeeded by the process of rubbing or active exercise; either of which, under any circumstances, is naturally calculated to increase the action or excitement.

We think enough has been said to satisfy every unbiased mind, that the excitement observable in so many modifications of disease, is not produced by the same cause that produces the pathological phenomena, but is, on the other hand, the counter effort of nature.

If there be any principle implanted in the constitution of man, whose action, when there is no derangement of the vital functions, tends to the preservation of health and the continuance of life, the operation of that principle must always be healthful, because it cannot possibly have more than one mode of action, or produce more than one kind of effects. The principle of life in the exercise of its powers during health, produces a salutary excitement, and this effect must invariably, in a greater or less degree, follow its operation, and partake of its salutary nature. The excitement, therefore, whether it be violent or slight, cannot in itself be disease, nor can it be morbid, or partake of the detrimental character of disease.

CHAPTER VII.

Dr. Thomson's Theory. Unity of Disease. Identity of Disease and Obstruction.

Dr. Thomson, in pursuing his medical inquiries, laid aside speculative reasoning and hypothetical theories, and studied Nature as she is. His observations of the manner in which she acted for the preservation of health, as well as the effects of disease on the human system, led him to the conclusion that obstruction is disease.

The remedies he exhibited were calculated to raise the natural heat to its proper standard, to equalize the circulation, to remove obstructions, to expel morbific matter of every kind, and to restore the tone of the suffering organs. These indications were fulfilled and his patients were well. Thus every circumstance tended to confirm him in his theory.

The unity of disease may first be proved by the *modus operandi* of its cause. Cold, we have seen in another chapter, is the universal cause of disease, whatever be the peculiarities attending it. It may indeed be variously modified by circumstances, but were it not for the constric-

tive power of cold, no morbific matter could remain in the system long enough to do it detriment or injury, inasmuch as such matter could not be assimilated, and would soon be naturally expelled through the proper emunctories or excreting vessels provided for its egress.

If every principle requires something else on which to act, or by which to be acted on, before it can produce phenomena of any kind, it may be rationally inferred, that upon the abstraction of the vital heat on which the vital action depends, that action must be obstructed. If every principle produces, in all cases, an effect partaking of its own nature, then cold must produce obstruction in every instance; and if the action of cold produces disease, then obstruction is disease, for both are the result of one cause; therefore, disease is a unit, and that unit is obstruction.

Another argument in favour of the unity of disease, may be drawn from the effects of the Thomsonian medicines. We know our opponents deride this method of reasoning, but we are willing to abide by the decision of honest men, if themselves do not in fact pursue the same method. The only reason which can be assigned for the continual incongruity of their reports is, that their remedies being so uncongenial with the principle of life, and so equivo-

cal in their operation, are constantly producing in the hands of different practitioners effects and phenomena as discordant as multiplied. Yet every one demands universal assent to the peculiar theory he may advance, because, forsooth he has tried certain remedies which resulted in a cure.

In supporting our views, then, by reasoning from the effects of the Thomsonian medicines, we ask no more than what others do. But we possess this decided advantage: all our arguments derived from this source, perfectly harmonize with each other, though advanced by different persons, and under different circumstances.

The one indication fulfilled by the exhibition of our remedies is, to assist Nature, though it may be by processes differing somewhat in their character. Since Nature relies solely on the operation of the vital heat for the counteraction of disease, we attempt to raise that heat, until by its action all morbific matter is expelled from the system, and the exhausted energies restored to their wonted strength. These effects are never controlled simply by the particular type or modification the disease may assume. In every case in which Thomsonian medicines are administered, and which is curable by human means, they follow, and the ra-

ging power of disease is subdued. These are facts, and facts too that afford us an irrefragable argument in support of the unity of disease, and the identity of disease and obstruction.

THERAPEUTICS,

OR THE

SCIENCE OF CURING DISEASE.

CHAPTER I.

Therapeutical Science should be in accordance with Physiology and Pathology. The indication of Disease. Stimulants.

In establishing a system of therapeutics or method of treating disease, it is necessary to have continual reference to physiology and pathology, in order, first, that the remedial agents employed may not counteract the beneficial efforts which Nature may make for the restoration of health: and secondly, that those medicines may accomplish the objects of the curable process. That the Thomsonian system of medical practice is admirably adapted to produce these desirable results, abundant evidence is afforded by the nature and effects of the remedies prescribed.

The physiological doctrines to be remembered are, that heat is life, and that this principle ever acts for the preservation of existence. The pathological principles are, that disease is a unit, and that unit is obstruction. These tenets have been so firmly established in the preceding part of this volume, as to warrant us in

the declaration, that the exhibition of remedies acting in unison with their requisitions, or, in other words, which will increase the vital heat, remove obstructions, and restore the natural tone, will fully accomplish the object of medical science. Let us then institute an inquiry into the nature of the Botanic medicines, and see whether these effects are produced by them.

The first indication (to increase the vital heat) should be fulfilled, if at all, by the use of stimulants. These, and these only, possess the property or power to aid the principle of life. Sir ASTLEY COOPER, in his "Treatment of Inflammation," states, that the sudden application of cold for a short time is highly stimulating. We have already attempted an explication of the real cause of the glow consequent on the affection of cold water, viz: the efforts of the *vis medicatrix naturæ*, or restorative power of nature, to counteract the sedative effect of cold. In addition we may here subjoin, that although there even were no actual increase of the vital heat for this purpose, yet the action of cold closes the mouths of the cutaneous exhalents, and thus that portion of this principle (heat) still remaining is prevented further expenditure from the process of perspiration.

Nature, however, does not stand stationary

or passive, but according to the laws that govern her operations, proceeds immediately to the generation of a fresh supply of animal heat. If the sensation of heat depends on the action of caloric, how the abstraction or reduction of this principle can produce that sensation we cannot comprehend. Verily, in the language of Sir ASTLEY, "this appears like [is it not really?] contradiction." Hence the operation of cold, whether transient or continued, can never in itself subserve the purpose of stimulation, though it is no doubt useful in toning up the system after too great relaxation of the muscular fibre, by favouring the inorganic contractility.

But even if we admit that cold does act as an indirect or mediate stimulant, we would not prescribe its use to meet the first indication of disease, since this obviously requires direct stimuli, or such as will immediately increase the vital heat.

CHAPTER II.

Stimulants should be pure and diffusive.

In the second place, in many of the stimulants in general use, so many different principles are combined, that they are impure and consequently objectionable. They frequently require an exhibition of correctives along with them. In fulfilling the first indication, it behoves the intelligent practitioner to select such articles as will best answer the end proposed, without producing any other effects which may prove prejudical. The operation of different principles combined in one remedy will frequently induce results neither anticipated nor desired.

A careful examination of the Thomsonian stimulants has led both friends and foes to declare them the purest known. Numbers one, two and six, act as powerful stimulants, without any of the evil effects of ardent spirits or alcoholic liquors, and without injuring the finest tissue of the body. We can therefore recommend them with a degree of confidence not to be reposed in any other stimuli.

Another advantage not to be overlooked is,

that the Thomsonian stimuli are all diffusive. This is of no small importance when we remember, that a local specific must of necessity be a general poison. Those remedies whose action is confined exclusively to one organ, or to one set of organs, will, to a greater or less extent, produce derangement in every part of the system, on which they do not operate beneficially; and the injury thus sustained is frequently more to be dreaded than the disease for which they were given. Even if the patient recover from the original attack, he is perhaps the miserable victim of some chronic affection for life. Witness, for one moment, the horrid effects consequent on the use of the various preparations of mercury, antimony, arsenic, and a host of other articles equally deleterious in their nature, and then say if this opinion is unfounded or untrue.

But it is our conviction that a local stimulant is never indicated; for, though the disease may manifest itself under a local form, such is the intimate sympathy existing between the different parts of the whole economy, that all suffer in some degree with the part afflicted. Diffusive or general stimuli should therefore be used in every case.

It moreover frequently happens, to the great mortification of the medical practitioner, that

the vantage ground which has been obtained, is lost from the simple circumstance, that the salutary effects of the stimuli exhibited are easily dissipated. It will therefore be obvious, that remedies combining the qualities referred to above, with permanency or durability of effect, will prove exceedingly useful in repelling the inroads of disease. Perhaps no article can be found in the whole materia medica, possessed of properties so permanently stimulant as NUMBER TWO.

How much more rational then is that practice which will thus answer the first indication, than those antiphlogistic or depleting means usually resorted to in febrile attacks? The very first and main object should be to aid Nature in her efforts, because the certainty of cure depends greatly on such a course. Now, how does Nature strive to counteract disease? By rousing the vital heat. If this be the principle on which Nature acts in the exercise of her conservative powers, we should likewise endeavour, by all means, to increase that heat; to do which there is nothing better calculated than the direct, pure, diffusive, and permanent stimuli of Dr. THOMSON.

CHAPTER III.

The second Indication. Relaxation. Vapour Bath.

The second object of the curative process is the removal of obstructions. Two things are here to be kept in view :—First, the relaxation of vessels constricted by the action of cold; and Secondly, the expulsion of morbific matter.

It will at once strike the reader, that the first is considerably promoted by the exhibition of stimuli. It will be remembered that the constriction of vessels originates from the reduction or abstraction of the vital heat. Any medicine therefore that will increase this principle, without detriment to the system, must necessarily have a tendency to produce relaxation, thereby affording a ready passage to any morbific matter that may have been retained by the contraction of the different excretories. But, as a very valuable, and in many cases an absolutely indispensable, adjunct or auxiliary to the stimulants we use the vapour bath, which it is well known has a powerful influence in diminishing the tension of the muscular fibre.

We think a remark of Sir Astley Cooper

will fully sustain this mode of practice. In the lecture we quoted before, "Treatment of Inflammation," speaking of the effects of heat and moisture combined, he says: "The application of heat alone would be injurious by increasing action; but, when combined with moisture, it is beneficial, by producing relaxation, opening the cutaneous pores, and giving rise to perspiration, thereby removing congestion, and producing effects nearly similar to those which arise from the application of blisters. The effects of heat and moisture combined are well exemplified by what happens when persons take to the warm bath, for instance, a person whose pulse is at 75, places himself in a bath, the water of which is heated to 100, his pulse soon rises to 100; presently he perspires freely; his pulse becomes less frequent, but soft; great relaxation follows, and if he were not removed he would faint, so great is the exhaustion it occasions."

Now, if the result of the tepid bath is so decidedly beneficial, the application of aqueous vapour must be more so, because being a more subtile fluid, it will more readily penetrate the cutaneous pores, and produce relaxation. Moreover a degree of heat may be borne, when applied by means of the vapour bath, which, under other circumstances would be insup-

portable. If, then, the united action of stimulants and the vapour bath has a tendency to relax constricted vessels, they are both serviceable in promoting the first part of the second indication.

The objections that have so often been urged against the use of the vapour bath have been founded altogether in error. It should ever be borne in mind, that this invaluable agent is always to be used in conjunction with the free exhibition of stimuli. When these are neglected, there is danger of congestion of the brain, instances of which we have known to occur in the hands of the faculty, but never in those of a Thomsonian; or, that the determination will be from the surface to the centre, a circumstance which cannot be too sedulously avoided.

When the temperature of the surface is increased above that of the centre by the administration of the vapour bath, without the internal use of stimulants, the system is placed in precisely the same situation as when the internal heat is diminished below that of the surface by drinking water while warm, the evil effects of which we have elsewhere described.* Hence, when the vapour bath is deemed necessary, it should be preceded and accompanied by the internal use of stimuli, thus keeping, as Dr. Thomson expresses it, "the fountain above the stream."

* Vide, p. 20.

Here two we may mention the NUMBER ONE. This article is likewise an excellent stimulant and diaphoretic. Its administration immediately after, or in conjunction with the vapour bath, promotes a natural circulation, and opens the cutaneous pores, by which means the salutary effects of the preceding remedies are gently kept up. Its relaxing qualities render it very appropriate to the purpose of a deobstruent. But as it will be more particularly noticed here after, it is unnecessary to speak further of it in this place, especially, as its power in counteracting the rigidity of the muscular fibre is well known to all who have watched its operation.

CHAPTER IV.

Deobstruents. Derangement of the Alimentary Canal. Canker.

The next thing to be attended to in answering the second indication is, the expulsion of morbific matter from the various organs. This morbific matter, as we have already observed, may be introduced by cutaneous absorption, pulmonary inhalation, or salivary solution, or it may be generated in the system. But it must be evident to every one who has attended to our explication of the cause of disease, that, whatever be the manner of its introduction, or the mode of its generation, it cannot have any agency in the production of disease, unless detained in the system by the constrictive influence of cold, or the obstruction consequent on the reduction of the vital heat. Hence the imperious call for deobstruents.

Those we have already mentioned—diffusive stimuli, and the aqueous vapour bath, will answer in many cases where the morbid effects are not too deeply rooted. But others of a more powerful nature are indicated where these morbific particles have fixed themselves in any part of the alimentary canal.

ETMULLER, a German physician of note, maintained that acidity of the stomach was the cause of all febrile affections. Whether such disorders always originate from acidity of the stomach or not we are not prepared to decide, but we may rationally infer, that all morbific matter must be diffused abroad in the system through the medium of the stomach, this being the centre of sympathies, and the organ by means of which all the articles of food are prepared for the action of the chyliferous vessels.

This supposition is rendered quite probable by other considerations:—First, Many articles which produce evil consequences on the human system by an external application, generally manifest their deleterious influence, by their operation on the stomach. If, for instance, a green leaf of common tobacco be bound or laid on the abdomen, the peristaltick motion of the alimentary canal is soon reversed, nausea and violent vomiting occur, and death follows. Secondly, in every modification of disease there is more or less vitiated lymph, or Dr. THOMSON'S canker, discovered in the stomach and intestines.

In view of this circumstance, medicines that will disburthen the fauces, stomach and intestines of their load of canker, may be administered with a salutary effect. Such are the va-

rious preparations of NUMBER ONE, NUMBER THREE, and the INJECTIONS, recommended in the New Guide to Health, all of which will be found highly advantageous.

CHAPTER V.

Number One. Alarming Symptoms. Number Three.

NUMBER ONE is among the most active emetics of the whole Materia Medica, and although much prejudice has been excited against its use by interested persons, we conceive ourselves fully justifiable in asserting it to be one of the safest ever yet discovered. We have administered it, in some cases, to the amount of six large teaspoons full of the first preparation; and we have taken, during an attack of bilious fever, so called, five teaspoons full of the powdered seed, the most active part of the plant, in every instance with the most indubitable benefit.

Two facts conspire to establish the conviction of its perfect safety:—First, in itself it is stimulant, thereby promoting the generation of the vital heat; and secondly, when combined with NUMBER TWO, which also increases the vital heat, its effects are more certain. It therefore acts in entire harmony with the principle of life, according to the physiological requirement before laid down; and if its operation be

congenial to the power of nature, it assuredly must be safe.

Its activity is frequently manifested by the supervention of what have been termed "the alarming symptoms." These, however, so far from producing alarm, should be considered as affording the most triumphant proof of its beneficial effects. Operating as a diffusive stimulant, it is opposed to the inorganic contractility resulting from a reduction of the vital heat, and by increasing this principle of life, it exerts an expansive influence on the muscular fibre, thereby producing a tingling sensation throughout the whole system.

It has latterly been found, however, that this unpleasant effect of LOBELIA may be completely obviated by its union with BITTER ROOT. The publication of this discovery has been eagerly seized by the opponents of Thomsonism as a flagrant inconsistency, as they suppose, of the system. That opposition must be preposterous in the extreme, which has nothing in its favour but sophistry, such as the merest tyro in logic may overturn.

The burning sensation caused by a plaster of cantharides or Spanish flies, is undoubtedly considered a good symptom, by which it is ascertained that it draws; but, if it were possible to produce the blister without the burning,

would the Faculty lightly esteem the discovery? We think not. Again—an accoucheur looks on the violence of parturient pains as a favourable symptom; but, if he could devise some method of alleviating the misery of his patient, without diminishing the expulsive efforts of nature, would he not pursue it? He might even do so, and yet view the natural labour pains as a favourable, though certainly not a pleasant symptom.

Dr. THOMSON, therefore, is not to be considered as retracting one word of what he formerly predicated of "the alarming symptoms" following the use of LOBELIA, when he advises the addition of BITTER ROOT as a preventive of those symptoms.

The action of the emetic is very much facilitated by the exhibition of NUMBER THREE, which completely loosens all morbific matter that may adhere to the villous coat of the stomach and small intestines, thus obviating the difficulty which might arise from the non-secretion of the gastric juice, or from the non-absorption of the nutritious portion of the chyle. This cankerous matter when loosened by NUMBER THREE, is easily ejected from the stomach by the powerfully emetic properties of NUMBER ONE, or carried downward by the operation of an enema or clyster. Since this vitiated

lymph or canker is always discoverable in the stomach and intestines, in some degree, there is no form of disease in which the use of NUMBER THREE should be proscribed or neglected.

CHAPTER VI.

Deobstruents continued. Injections. Number Six.

THE operation of the injections is two-fold: —First, they promote a gentle dejection; and secondly, they restore a healthy action to the intestines. When the intestinal portion of the alimentary canal becomes coated with canker, the mouths of the lymphatics are obstructed; and when the superficial emunctories are closed, the intestinal exhalents pour forth a superabundance of their fluids; in either case diarrhœal and dysenteric affections follow. At other times, the mouths of these latter vessels are constricted by the direct influence of cold, or are obstructed by a cankerous coating, and violent constipation is the consequence. In all these cases the INJECTIONS will be found highly serviceable in removing both the canker and the crude injesta.

We can scarce too much extol these INJECTIONS; for unlike the drastic purgatives of the day, they do not exhaust the strength of the patient, or leave any unpleasant effects behind. One or two evacuations is generally the extent of their action on the bowels, and those produced

in a manner almost natural. It might be supposed by those unacquainted with their genial operation, that in view of their apparently slight effect, they must be frequently repeated, and that the repetition would render them a troublesome agent. Such would be the case if they merely removed the contents of the intestines; but they likewise restore a healthy action.—They allay irritation, subdue any inflammatory symptoms, and prevent the tendency to mortification. By their stimulating properties they increase the general heat of the system, promote the natural action of the bowels, and thus preclude the necessity of repetition, unless in obstinate cases.

NUMBER SIX may likewise be mentioned here, for when applied externally, besides being detergent and antiseptic, it likewise operates as a deobstruent. It is true, Sir ASTLEY COOPER, in the quotation we have already made from his "Treatment of Inflammation," denounces the application of heat alone, because of its tending to increase action; but then he had allusion to extraneous heat simply. NUMBER SIX, however, increases the internal heat; and since local inflammation originates from local obstruction, it may be dispersed by an agent, which will increase that heat, by the reduction of which the local congestion is occa-

sioned. NUMBER SIX may therefore be applied with advantage.

If then these remedies act in accordance with the requisitions of physiology and pathology, they must necessarily be beneficial in every modification of disease. From the foregoing exhibition of their nature and *modus operandi*, we arrive at the following conclusions:—First, their properties are such as act directly in aid of the principle of life; and secondly, their effect is the removal of obstructions which, if permitted to remain, would eventuate in results as disastrous to the animal economy. Hence, they are admirably calculated to accomplish the second design of therapeutial science, and, by consequence, are eminently useful in every form of disease.

CHAPTER VII.

Third Indication. Alteratives. Tonics. Numbers Four and Five.

The next grand object to be aimed at in the treatment of disease is to restore the tone of the system, which should be done by means of alteratives and tonics; these should act through the medium of the stomach and bowels on the whole system. Bad habits of body are easily established, and when thus established become second nature. It is therefore requisite, after having removed the obstructions which produce such habits, to exhibit alteratives and tonics, in order to promote a healthy performance of the functions.

Since the digestive organs exert so great an influence over all the vital functions, and since the stomach and bowels, in every form of disease, are to some certain extent labouring under impaired action, of which the nausea, loss of appetite, and furred tongue, the usual concomitants of disease, give proof; it will be found expedient to direct our remedies intended to effect the object of the third indication to them primarily. Correct the depraved habit they

may have contracted, and that of the other organs will be more easily overcome.

But it is one thing to gain the victory, and another to maintain it. Bad habits are almost as easily recontracted as at first established, particularly when they have been of long standing prior to their removal. It therefore becomes necessary to guard against their return. Tonics will render the solids of the body firm, and enable the system more successfully to resist a second attack, and the various organs to perform their respective functions with uninterrupted regularity. When the regularity of functional action is not thus continued, we may take it for granted that the debility, arising from the predominance of a bad habit, is not entirely removed; and, as the *finale* of our treatment we should prescribe correctives and tonics.

Both these qualities are contained in NUMBERS FOUR and FIVE, which ought never to be neglected. Nevertheless, it should be recollected, that this end is not to be accomplished by medicines whose operation is confined to the stomach and bowels alone, but by such as will act on the system generally. Hence the addition of NUMBER TWO to the NUMBER FOUR will increase its salutary effects.

These remedies, fulfilling the third and last indication, viz:—The restoration of tone or

strength to the system, will leave the patient perfectly free from disease, and prepared to resist its influence more effectually at a subsequent period.

Inasmuch as the Thomsonian medicines are so well calculated to promote the three great designs of the healing art, or in other words, to increase the vital heat, remove obstructions, and invigorate debilitated organs; and as they act in harmony with that principle, whose peculiar function it is to animate the corporeal frame, and repel the invasions of every foe to health and life, there cannot possibly be any form of disease in which they may not be used with perfect safety and success, if the attack be at all curable by human means.

THE END.

ERRATA.

Page 12, line 7 from bottom, for "act of *motion*," read "act of *moving*."

Page 15, line 5 from top, omit "*the*."

Page 22, line 4 from top, for "*emerging*," read "*immerging*."

Page 32, line 4 from top, after "*composed*," read "*is based*."

Page 74, last line, omit "*the*."