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THEORY OF VITALITY AND ITS RELATIONS TO MATERIA
MEDICA.

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UNDER this title, I propose to call your attention to the philosophy involved in the *modus operandi* of medicines. I do not propose to refer to all of the details connected therewith as principles involved; in fact, many very important philosophical problems must be passed by without notice, as time will admit of but little more than a reference to the leading principles.

In pursuing the duties of our selected avocation, we are required to master a certain amount of knowledge entitled theory and practice. There is, at the present day, much distrust relative to the applicability of many of our theories that help to make up the aggregate of our medical education.

I remember an expression made by Paul Chadbourne, Professor of Chemistry at that time in Berkshire Medical College. In addressing the students on the accuracy of our knowledge of chemical science, he remarked that "what you learn in this room you are to keep forever, but what you learn up stairs (which was the room occupied by the Professor of Theory and Practice) you will have to learn all over again, every ten years, so uncertain are the theories that govern our practice." I think we all endorse those sentiments more or less, which is equivalent to admitting that our thoughts are not always in harmony with the philosophy of cause and effect; or, in other words, our early ideas are not all true ideas. There is an individual and professional pride that chooses not to always confess, to each other, or to the public, that there is much possibility that we are very far from correct in the theories we choose to adhere to; this is very natural, for our prosperity and influence are based on the presumed accuracy of our knowledge. It is right that we should have this pride, and it is both right and very important that we should possess what we profess. It is rational to assume that there is a reason for all things, and that if we possessed a *correct* theory of the practice of medicine there would be a permanency of thought; and, also, that there can exist but one true code of

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fundamental principles involved in a true science of medicine. On this occasion, it will be harmless to indulge our reason for a brief time and consider whether all of our doctrines are consistent, and, by thus investigating the subject, it is not prejudice but principle that belongs to science; and it is not our duty to ask if it is pleasing or palatable, but simply if it is true.

If we admit that the science of medicine is not completely unfolded, and that more tenable premises are desirable, we must also admit, if this essay is unavailing, that the object is certainly commendable to direct our thoughts in pursuit of a better knowledge of those forces we call vital, which we are required to aid and modify in the treatment of disease. Thus, feeling that there is a sufficient cause for reverting to this subject, I will not assume that my doctrine is infallible, but present my views in that manner which to me seems consistent. In order to obtain a correct starting point, we will trace back what little we know about this universe to its ultimate condition, to that remote beginning behind which our special sensibility fails to grasp an idea. And on this first page of nature's book we find that beginning summed up in a power called force, and in elements whose physical properties we variously describe. These several forces act on the elements, the elements do not act on force. Set this down as a first principle, and whenever you get into a theoretical obscurity go back to first principles, to a principle about which there can be no possibility of a doubt. Whenever we can advance one step in perfect harmony with this interpretation, it is well to move onward, and we can with much assurance accept the interpretation that all the elements are acted upon by chemical force, and only a limited number, less than twenty, are acted upon by vital force, in that synthesis that gives form to vegetable and animal organisms.

Thus, we have one grand distinction of the application of those two forces; one, the chemical, acts on all the elements to produce forms and render forms formless, while the vital acts on only a limited number for the purpose of creating forms, and never renders them formless, the chemical force undoing what the vital had previously done. I repeat, that vital force acts on only a limited number of elements for the purpose of creating forms, but acts in relation to all elements for a definite specific purpose that will be considered in due time.

The doctrine of physiology is really the subject taught of the various duties that are performed by this vital force in the normal play of all the functions; yet many medical writers inform us of the manner which food acts on the human system, how milk acts on the stomach, and various other nutritive articles act on the different parts of our organism, while the fact is, instead of nutritive material acting it is merely passive, and is acted upon by, and becomes a part of, the organic body.

This same force removes from our bodies the worn-out tissue. Directed by instinct, it encounters another struggle, that is accomplished without the aid of our wisdom; and this struggle is termed *vis medicatrix nature*.

What are we to understand by it, and what does this power do? In all ages, there has been a recognition of a power, on the part of organic life, to manifest an ability, limited in extent, to preserve its own individual organism. Therefore we must concede this power, for we have reason for so doing, and attribute to it the governing principle, termed instinct, but not reason. This law of special organic vital instinct affords a text for volumes of thought; yet, on this occasion, we have only time to refer to it.

We will consider the ability of this force to construct our organism out of compounds whose elements are organic, and to remove the waste material, repair mechanical injuries, and exert special efforts to eject foreign material. It is rational that there should be endowed, to the ability of organic power, a *vis medicatrix nature*; otherwise, unobserved by our special senses, foreign material would, in time and by accident, so fill up the channels of our organism that mechanical impediments would prematurely terminate our mortal career. Thus comes this wise provision on the part of organic instinct to recognize the difference between food and those substances the presence of which is detrimental to the well-being of our organism, and to manifest an inherent power to eject, by vomiting, purging and sweating, those substances not proper for assimilation.

Thus far, we contend that vital force has, by its instinctive power, acted on the food, with a view to self-preservation, an action which we call physiological; and also this same force, with a view to self-preservation, has ejected foreign material, an action which we call pathological. This important and immutable instinct that presides over the organic being has no object in view but self-preservation; its ordained duty, assigned by the Ruler of the universe, was just that, nothing more, nothing less. And just how this force behaves, under all circumstances, comprises the great fundamental principle and basis of medical science.

What is the difference in principle, or philosophical distinction, between pathological action, the *vis medicatrix nature*, and the so-called action or *modus operandi* of medicines? We will introduce a problem for consideration, by supposing a boy has swallowed a few buckthorn berries. Do the berries act on the bowels, or do the bowels act on the berries? What is the principle involved? Do the berries act by an inherent power of their own? If so, do they act on the structure of the bowels, or on the function of the bowels? We have no knowledge of a change of structure; therefore, we infer that, if they acted in any manner, they must have acted on the function, for that function was accelerated and made violent. Therefore, if the berries acted on the function, we ask what

is function? It is merely action; consequently, they acted on action, which is a poor termination of philosophical language. We admit that the berries occasioned an action, yet they have no inherent power, but are the products of an inherent power peculiar to vegetable life? So is food the product of inherent power, peculiar to vegetable life; and these products are acted upon by the life force of our organism. One is appropriated harmoniously, and the other expelled more or less violently.

It may be said, that this vital theory opposes our established theory of the action of our medicines, and that it does away with medical properties, and so our drugs become inert and useless. We confess that it does oppose our established theory of the action of medicines, but we deny that it interferes with our employment and use of medicines. Does it do away with medical properties, and render our drugs inert? I ask what law of nature, what experimental procedure enables us to determine the existence of a medical property? What is a medical property? Prof. Wood, of the University of Pennsylvania, and assistant author of the United States Dispensatory, defines medicines to be "substances capable of producing, as an ordinary result, modifications of the vital functions, by their own inherent power." This *inherent power* of the medicine, so called, is the medical property that acts on the skin, the stomach, the bowels, the circulation. Thus, a medical property, according to this philosophy, is an inherent power of the medicine to act; and that particular disturbance occasioned suggests the special name of property.

We claim that the term inherent power, as applied to medicine, is an error of interpretation, and that the inherent power is all on the other side. Therefore if a medical property is this certain attributed power, by virtue of medical philosophy, and this philosophy is erroneous, and in the medicine there is no power, it is well to again ask, what is a medical property in the language of the natural philosophy of vital force? Let us go back and retrace our premises, systematically, yet briefly; we will make three divisions of elements, compounds, or material, to and with which the vital forces behave as follows:—The first class are nutrients, and are acted on for the purpose of being assimilated. The second class consist of material that is termed by the profession, inert; that is, it neither contributes nutrient nor, by its presence, occasions any special vital disturbance in any direction, but merely abides the course of time and becomes eliminated by the undisturbed depurative functions. The third class comprises that vast array of material called medicine and poison, which, by its presence, occasions special vital efforts, strictly analogous with the principle involved in *vis medicatrix nature*. The different manner in which vital force behaves in relation to this class affords that knowledge by which we know the use of any particular medicine. The degree of incompatibility is modified by the quantity, and may be, instead of mildly alterative, violently poisonous. There-

fore, a medical property, when placed under the microscope of natural philosophy, may properly be defined thus: A substance, the presence of which within the jurisdiction of the vital force, is so incompatible with the required wants of physiological purposes, that a special effort of vital force is manifested, with a view to expel it.

There is at this time another question that suggests itself to our notice; if medicines have no inherent power, by what law are we to claim their utility in the treatment of disease? As the profession have no established theory of disease, I will omit the use of the term, disease, and confine my language to vital force. Let me again quote from Prof. Wood's definition of medicines:—"Substances capable of producing, as an ordinary result, modification of the vital forces." We have previously referred to the organic vital force as being involuntary and endowed with instinct only; therefore, this instinctive force may do an injury by its violence, it may act very injudiciously, even with positive detriment to the best interests of the tabernacle it desires to defend or maintain. This fact, this instinct without wisdom, creates the necessity for a medical profession, to develop our reason and to enable us to comprehend when it is proper to modify vital force or function, with a view to prolonging life; and medicines afford the means whereby we aid and direct vital force. This term, inherent power, as applied to medicine, is the language or interpretation of appearances, but not the language of philosophical truth.

It may be asked, what difference does it make whether one or the other acts? I will say, if we have a medical science founded on immutable principles of natural law (and it must be so founded, otherwise it is no science), and yet it makes no difference whether we base our calculations for a result on an inherent power residing in the medicine, or in the human system, then we must inevitably deteriorate into a state of degenerate philosophers of professional insignificance, to compete with quacks and patent nostrum venders. This inherent power is either on one side or the other; its source is not interchangeable; and when studied with the idea that it is latent in the medicine, the whole subject becomes involved in a medley of crude thoughts that tend to empiricism. When studied with the idea that it is latent in the human system, our theories become illuminated and our ideas transparent, and we are possessed of a quiet assurance that we are travelling on the highway of science. To me, it seems that there is no problem in the annals of science so important as a correct understanding of the source and law of this inherent power.

It may be advocated that the long time during which this doctrine of inherent power in medicine has been inculcated, and the vast array of talent that has already concurred in its adoption, is sufficient to place it beyond all controversy, and that we must accept it as a correct scientific interpretation. This is a problem of natural law

which conventional approvals neither do nor undo; yet we must admit that ages of thought in that channel, and theories that lie upon the book-shelves of every physician have instituted ideas and given modes to our thinking. Moreover, the very thoughts that emanate from our schools of science largely predominate and give color to the national mind, that makes up, moulds and controls that sense of duty which we call belief.

The adoption of the theory that there is an inherent power in medicine has already had a blighting effect upon the influence of the profession. It has taught the masses that the great secret of success was hidden in the mysterious potion; and if the application of this power failed, we must search for other inherent powers in new compounds. Thus, to-day, the great leading idea, in the profession and out of the profession, is to find a new compound, with new inherent powers, which shall act on our organic system. No matter what the physician thinks to-day about the soundness of this philosophy of inherent power, the multitude are firm believers in it, and in that belief quackery finds its spacious fields of labor, and the quack heralds all his medical properties to all the rest of mankind. The masses are all ready to believe it and to try it; and they sing praise to his name, for the indefatigable labors and unfathomable research that have brought to the surface this wonderful inherent power of eradicating disease; and, in the meantime, they berate the regular physician for his stupidity. It is natural that the people should believe this quackery more or less, for medical schools and medical men have been talking and training the people into this channel of thought, and the legitimate result is that quackery must succeed. Thousands whom we call intelligent people will place themselves, unhesitatingly, under the treatment of the most ignorant quack and confess their knowledge of his ignorance; and yet they defend the man of their choice by the argument that his medicines have new and wonderful powers to eradicate disease. It is not the man, but the medicine that they believe in. And again, the prevailing opinion of a mysterious "inherent power" in alcoholic liquors that contributes to the well-being of the functions of organic life, and effectually performs, by virtue of its ability, wonderful exploits in removing the causes of disease, to the influence of this opinion among the people is due a conscientious purpose among physicians which forbids giving aid to any means for the suppression of intemperance, and which, in fact, becomes the most formidable barrier against reform in the use of intoxicating liquors as a beverage. Moralists tell us that there is no question before the American people to-day that is of so much importance as the temperance question. It seems to me that there must be something wrong in the interpretation of a science when its doctrines conflict with the harmonious development of a well-governed people.

But let us take the other side of the question, and adopt the theo-

ry that vital force is always the "inherent power," in health and disease; let us turn our attention to the study of vital force, and how it governs itself in self-limited disease, learn the full force of the term "instinct," which legitimately belongs to this vital force, which in itself is a subject freighted with more wisdom than becomes the lot of any quack to comprehend. Let us become familiar with vital force as manifested by the three vital properties, contractility, sensation and sensibility, and with the law of sensation when manifested under the term irritability; with its toleration of long-continued medicines, and how it acts when the causes are relatively large or small, and just where reason should interfere to modify, with medicines, this force for the well-being of the patient. Let us comprehend that vital force, acting in relation to things abnormal, in its peculiar manner, furnishes us a problem which, when solved, gives us an ability to maintain a rational *theory of disease*. Let us learn to expect no more of medicine than the law of its usefulness; to rate it at its real value. We shall then find the medical profession elevated to a position that commands respect and influence for the knowledge it possesses of the great law of force, as ordained by the hand of our Creator, a knowledge which becomes a specialty of acquired wisdom, above the reach of quacks, and which carries with it an influence that precludes the possibility of any reposing of the people's faith upon a quack doctor, any more than upon a quack chemist or a quack astronomer.

SURGERY OF THE ABORIGINES.—The following occurs in an address on surgery, before the Canadian Medical Association, by Dr. W. H. Hingston:—

The aborigines had their surgery—simple but effective—to which their usurpers were sometimes forced to have recourse. Contused wounds and bruises were treated by cold douches from springs and running streams; and suppurating wounds with the bark of the mucilaginous slippery elm (*Ulmus flava*), and basswood (*Silia*), and the resinous bark of the tamarac (*Larix americana*)—all excellent emollient and stimulant cataplasms; and ulcers were stimulated to granulation by the inner wood and berry of the juniper (genus *juniperus*). They reduced dislocations by main force, and also, it would appear, by a rotary method, which seems somewhat like that introduced to the profession by that distinguished American surgeon, Nathan Smith. Fractures (which rarely occurred among them) were carefully set, and splints of cedar or broom, ingeniously padded by the squaws with leaves or grass, were bound upon the limb with withes of the young birch (genus *Batula*); and amputations were performed at the joints with knives of flint or jasper (and in some places of copper), polished and keen as steel*—and spouting vessels were seared, and hæmorrhage arrested with stones heated to redness. These practices are still continued among the tribes far removed in the interior.—*Canada Medical and Surgical Journal*.

* The preparation of these instruments was oftentimes the work of years.