Influence of the progress of medical science on medical art : address before the Medical Society of the State of New York, delivered February 4, 1863 / by Thomas Hun.

Hun (Thos.)

Influence of the Progress of Medical Science on Medical Art.

ADDRESS

BEFORE

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OF THE

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Delivered February 4, 1863.

By THOMAS HUN, M. D., President.

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ADDRESS.

Gentlemen of the Society :

The subject of the address which I am now to have the honor of reading before you, is AN INQUIRY INTO THE DEGREE AND KIND OF INFLUENCE WHICH THE PROGRESS OF MEDICAL SCIENCE DURING THE PRESENT CENTURY, HAS EXERTED OVER MEDICAL ART. In a few words, I will recall to you some of the achievements of our science during this period, embracing less than the lifetime of many members of the Society.

During the latter portion of the eighteenth century, the medical sciences had just begun to feel the impulse derived from the sound methods of investigation which had already been introduced into the study of other departments of nature. The vague and uncertain language of medical systems was giving way to the clear and accurate language of positive science, and for the fanciful hypotheses which had hitherto prevailed, were substituted cautious generalizations drawn from carefully observed facts. The treasures of knowledge and experience collected in the course of many centuries had to be separated from the rubbish of systems and from erroneous statements of facts, in order to serve as materials for the new edifice of medical science, to be now constructed on a firmer basis, and according to a better plan. The names of Haller and John Hunter at once present themselves as instances of men who, at this period, were engaged in reforming the methods and increasing the treasures of our science.

In descriptive anatomy, which, at the beginning of this century, excelled in accuracy and completeness all other branches of medical science, we have since learned almost all that is now known of the structure of the central organs of the nervous system. These organs, which were then described as a pulpy mass, presenting on section certain curious figures, are now known to be composed of two kinds of tissue, having different structure and properties, and to consist of a series of ganglia and communicating cords, constituting separate organs, the functions of many of which have been determined. Before these anatomical discoveries had been made,

the physiology of the nervous system had scarcely assumed a scientific form; it was only a collection of conjectures and errors. To judge of its progress, we have only to subtract from our present knowledge, the discoveries of Charles Bell, Marshall Hall and other succeeding physiologists, and then we shall see what a small residue will be left.

But descriptive anatomy now constitutes only a small part of anatomical science. In the first year of this century appeared the "Treatise on the Membranes," by Bichat, which was the starting point of the science of analytical or general anatomy. This science created by Bichat, improved by his followers, and within the last twenty-five years, perfected by the aid of the microscope, has now become the science of histology, which reveals to us the intimate structure and anatomical elements of the tissues, and is exerting an influence on physiology and pathology, which can only be compared to the influence of observations made with the telescope on astronomy.

Guided by histology and organic chemistry, which latter science has also grown up within the last twenty-five years, physiologists can now investigate not only the more obvious phenomena of the living body, but can penetrate to the elementary vital actions of nutrition, secretion and absorption, concerning which, their predecessors could only form conjectures, more or less plausible, but which are now seen to have been far wide of the truth. If we compare the knowledge possessed by John Hunter or by Haller of these processes, with what the microscope now reveals of the transudation of plastic matter, the cellular formations and the transformations of the cells in shape and in contents, until they become part of the organized tissue, we shall appreciate the revolution which has been wrought in this branch of physiology. In like manner, the history of the changes and transformations of the food, from its formation in the vegetable kingdom, to its conversion into organized tissue, and of the retrograde metamorphoses which the matter of the tissues undergoes till it is expelled from the body in the shape of inorganic compounds, forms a chapter of physiological science, which has been written only within the last few years.

The advance in pathological anatomy and pathology has fully kept up with that in normal anatomy and physiology. In proportion as more has been learned of the elementary movements composing the nutritive process, have the perversions of this process been better understood. The nature and essence of inflammation, which has always been one of the great problems of pathology, is now in a fair way towards solution. Enough has been learned of

it to show that it consists essentially in a perversion of the nutritive act, and that the vascular derangement accompanying it is secondary, and without the importance formerly attached to it. The relations and analogies of inflammation to other forms of disease, have also become more intelligible. Microscopic examinations of morbid growths and deposits, have changed the whole aspect of pathological anatomy.

In pathology, we have attained to a more complete natural history of disease, formed under the guidance of a systematic method of investigating symptoms and of analyzing diseases, which gives a positive character to this branch of pathology, heretofore so incomplete and inaccurate. Besides this improved method of examining symptoms, the exploration of disease by physical signs and by chemical and microscopic examination of products, has furnished the means of interpreting symptoms and referring them to the organic lesions on which they depend, and of thus arriving at a precision of diagnosis which constitutes the crowning glory of modern medicine.

The action of medicinal agents is better understood, and chemical science has furnished us with these agents in more convenient forms, and our materia medica has been enriched with new and potent remedies. But besides all this, the severe methods of observation and reasoning which belong to modern science, have taken the place of vague speculations and unfounded hypotheses, and thus, in addition to our increased stock of knowledge, we are better disciplined for the investigation of the individual cases which come before us, and for the solution of the problems they present.

Assuming then that whether we have regard to the results obtained, or to the improved methods of investigation which have been introduced, medical science has fairly kept up with the advance of the other physical sciences, the question presents itself: What has been the influence of this progress on medical art, that is, on the art of preventing, palliating and curing diseases?

When we call to mind the brilliant results which have followed from the application of the physical sciences to the material arts, we naturally look for similar results from the application of medical science to medical art, and hence the mere statement of the question would seem to suggest the obvious answer, that the art must of necessity keep pace with the science. But it must be admitted that the reality does not, at first sight, seem to answer this expectation, and that the practical side of our profession does not present so flattering a picture as the theoretical side we have been passing in review. If we have regard to the judgment of the pub-

lic, we shall find that while the great advances of our science are admitted by all, our art, as founded on this science, has fallen rather than risen, in public estimation. Men, in all ages, have been prone to trust to the absurd pretensions of empiricism in the treatment of disease, but never have intelligent men been so much disposed as at this day, to put confidence in the various sects of practitioners who do not profess to found their art on the science of which we are so proud, or even to be at all conversant with it.

Nor is it among the public only that confidence in our art is impaired, for even in our own profession, are to be found men remarkable for intelligence and scientific attainments, who are led by their science to a state of practical scepticism. They point to the various modes of treatment adopted by different practitioners, each one claiming to be at least as successful as the others, and conclude that it makes no great difference whether we adopt one or none of these modes, considering it to be rather the part of a wise physician, at the bed-side, to fold his arms and refrain from interference with diseases, as they pass through their necessary stages towards recovery or death. Thus assailed from without and from within, our profession presents the remarkable spectacle of an art sinking in public estimation and in the confidence of its own practitioners, while the science on which it is founded, is applauded for the conquests it is constantly making. It has even been said of us, as of the priests at the decline of paganism, that two physicians in the practice of their art, cannot look each other in the face, without smiling at the credulity of their dupes.

It is then an important question, whether the advance of our science has, instead of improving and strengthening our art, only served to demonstrate its futility, and whether we are called on, as honest men, to cease to practise on the credulity of mankind, by a system of fraud and imposture. I have no such mean opinion of our art, but believe that it is daily becoming more useful to mankind, and that its superiority over all those systems of practice which discard the traditions of our profession and are not founded on medical science as we hold it, is daily becoming more decided and more manifest. At the same time, I recognize the fact that a great revolution in medical practice is going on; that the notions which have prevailed, and to a great extent do still prevail, as to the object and limits of our art, require great modifications, and that our pretensions in the healing of disease must be far more humble than they have been. For want of a clear understanding of the proper office of the physician in the treatment of disease, our efforts have often been pushed in a wrong direction, and have,

for this cause, been fruitless or even mischievous; we have attempted what was beyond our power and neglected what was practicable, and it is because the advance of medical science and of general intelligence has demonstrated this, that our art has fallen into confusion and discredit. The old systems of therapeutics need now to be reconstructed in harmony with the present condition of medical science, and especially must the object of our art be defined and its limits marked out, in order that it may accomplish all of which it is capable, and that its utility may be fully recognized.

Medicine has always been a subject of ridicule by satirists and of criticism by grave men, and when we look at it as it once was, and even as it now is in many quarters, it must be admitted that the ridicule was merited and the criticism just. In the past, we find many absurd pretensions to blush for, and many fatal errors to deplore, and even in our own day, a routine of practice still prevails, which is unworthy of the age, and of the present condition of our science. The satires of Moliere which made our profession ridiculous two hundred years ago, are applicable to the art as practised in some quarters at this day. "*Clysterium donare, postea seignare, ensuita purgare,*" is about the sum of the practice, and a fair specimen of the literature of many now living. These attacks have not been without utility, for they have served to awaken attention to the subject, and are now provoking a careful examination of the grounds of faith in our art. The criticism has in many instances, been wanting in definite statement and often unfair, but it has at least served to expose our exaggerated pretensions in the cure of disease, and to show on how slight a foundation our routine of practice reposed.

Whatever may be the imperfections of our art, and however public confidence in it may be shaken, still it is impossible to dispense with it, for it has always existed and will exist. At the sight of one suffering from disease or from accident, the question will be asked, what can be done to relieve or cure him? And the answer to the question must come from practitioners of the art of medicine, for it cannot be denied that those who have applied themselves to the study of such conditions, and have acquired experience in the management of them, must be better prepared to answer the question, than those who have not passed through this discipline. The question then, cannot be whether the art of medicine shall be abandoned, for this is not possible, but rather how its object may be attained and what are the limits of its powers.

As preliminary to the main inquiry, let us now proceed to determine the object of the art of medicine, and to define its limits.

Object and Limits of the Art of Medicine.

There are certain cases in which medicines seem to root out and destroy the disease, causing it to cease. As instances of this, we may mention the arrest of the paroxysms of intermittent fever by cinchona, or the disappearance of the symptoms of constitutional syphilis when mercury has been methodically administered, or the cure of itch by sulphur. For the most part, we are ignorant of the mode in which such medicines produce their curative effects. It may be that they act by destroying the cause of the disease; such at least is known to be the mode in which the itch is cured by sulphur. Does Peruvian Bark destroy the poison of intermittent fever? Or does mercury neutralize the syphilitic virus? It is probable, but science gives no positive answer to these questions.

But we can adduce very few instances like these, in which the medicine seems to overcome and cut short the disease. In most cases, the disease pursues a certain course and exists a certain time, in spite of our medicines, so that recovery takes place, if at all, only at the end of a definite series of actions. Often the physician flatters himself with having cut short a disease, when in reality he has simply made an error of diagnosis, the disease being one which would have stopped of itself, without the aid of medicines. Thus many a one, giving an emetic to a child with spasmodic croup, has supposed he has cut short a case of membranous croup, when in reality the spasmodic affection would have stopped of itself, and it is very sure that no case of membranous croup was ever cut short by an emetic.

To comprehend cases like these, in which the disease cannot be cut short by art, we must adopt another view of the object and limits of medical art.

According to this view, nature institutes in disease certain processes tending to the restoration of health, and I believe it is safe to say, that the whole series of actions constituting the successive stages of a disease, are means by which nature overcomes some initial derangement or injury. There resides in the fecundated germ in the ovary, a force, or more properly, a directing agency, called the plastic force, which presides over its development, and determines the shape and texture of every organ during the whole lifetime of the being. This same force is constantly in action, maintaining the organism, and tending to bring it back to its normal condition when this has been perverted by accidental injury or by morbid agents. Under the name of the vis medicatrix naturæ, this

agency has been recognized from the earliest ages of medicine, and this is the true healer or curer of disease. The office of the physician is not to take the place of nature in this healing process, but to understand the course of the disease, the mode of this restorative action, and to aid nature by removing the cause when this is possible, by promoting the natural processes, and by placing the patient in the most favorable condition for recovery. Armed with a knowledge of the natural processes, he accomplishes this purpose by means of the agents of the materia medica, and by a proper disposition of the external conditions of existence, that is, by hygienic influences. According to this view, nature is always the healer of disease, and the physician is the interpreter and minister of nature. Just as it is impossible for us to cause the growth and development of a living being, though we can aid these processes by furnishing the proper conditions, so it is impossible for us to heal the slightest disease or injury, though we can furnish the conditions of its healing by nature. (See Note A.)

This view of the true office of the physician is not new, for it has existed from the earliest ages of medicine, though it has not always been clearly kept in view. The word "cure," which we now use as synonymous with healing, originally meant "to take care of," and the word "therapeutics" is derived from a Greek word having the same meaning. "Medicus curat, Natura sanat morbos," is an old saying, expressing a great truth which has never been accepted by the ignorant public, and only to a limited extent, by the profession. It is now becoming more and more recognized, and is destined to become a fundamental axiom of therapeutics.

Within the last twenty-five years, this view has been revived with more precision of statement, and has derived support from the progress of pathology and of the natural history of disease. A remarkable essay on self-limited diseases, was published by Dr. Bigelow, in 1835, which may be considered as the starting point of medical reform in this country, and since that time, similar views have been advocated by Dr. Forbes, Dr. Holmes, and others. In this essay, I have not so much the hope of adding anything material to the truths inculcated in those writings, as of presenting them in a somewhat different light, and thus reaching some minds which had not yet adopted them. Truths like these need not only to be stated, but also to be preached.

The process of healing incised wounds and the revolution in the treatment of such injuries, which has been completed only in modern times, will serve to illustrate the principle I am advocating, and to give an idea of the revolution which is taking place in the treat-

ment of all diseases. In former times, the surgeon undertook to heal such wounds, and for this purpose applied to them some salve or other substance supposed to have healing virtues. Hence the various traumatic balsams and vulneraries which have come down to us and are found in our pharmacopœias even at the present day. The more enlightened surgery of our time, rejects all such applications, holding them, in all cases, useless, and in most cases injurious. The surgeon now understands that all his art does not enable him to heal the slightest scratch, but he knows all the steps of the healing process instituted by nature, whether by adhesion or by suppuration, and the conditions which favor or oppose this process. He, therefore, does not undertake to heal the wound, he only dresses it; that is, he places it in a condition favorable to healing. With this end in view, he cleanses the wound of all foreign matters, ties the bleeding vessels, brings the edges in apposition by mechanical contrivances, puts the patient on a proper regimen, and leaves the healing to nature. It took surgeons thousands of years to learn that it is their business, not to heal wounds, but to let them heal, and we are now learning the same lesson in regard to internal diseases. Yet to this day, the old notion of healing salves still lingers among ignorant people, who always insist on making some application to a cut, and who suppose that the adhesive plaster used by the surgeon has some healing virtues.

In the case of a fractured bone, it is even more clear that the surgeon does not make the fragments unite. He only maintains, by mechanical means, the fractured ends in apposition, while osseous union is going on.

It is profitable to look into the history of the various applications by which surgeons endeavored to make wounds unite, until they arrived at the notion of leaving the healing process to nature, as an illustration of the revolution now going on and not yet completed, in the treatment of internal diseases. It has been suggested that the successful results of the use of the weapon ointment, which was applied to the weapon which had inflicted the wound, while the wound itself was merely bound up, without any hurtful application, presents a certain analogy to the homœopathic practice of the present day, in which the disease is left to run its course without any meddlesome interference, while the patient is amused by swallowing, at regular intervals, an infinitesimal dose of oyster shell.

Still further to illustrate this point, let us suppose the case of a thorn under the finger nail. If left there, it causes great pain, inflammation, general constitutional disturbance, and may even cause convulsions and death. The surgeon, in the commencement, removes

the thorn, and all these local and general consequences cease at once. This looks more as if the surgeon had cured the injury, but in reality he has only removed the cause, and then nature has sufficed for the restoration of the injured parts.

Now suppose the thorn is not removed. Then the local and general disturbances continue, there ensue suppuration, loosening of the nail, and ultimately the rejection of the offending substance. This is a restoration by nature, under greater difficulties, for the cause continuing to operate, it has to be removed before the restoration to health can take place. Nature, by a slow and painful process, does what the surgeon can do quickly and easily, but still it is plain that all these processes instituted by nature, have for their object the healing and restoration of the injured part.

In the former case, the action of the surgeon is important and efficacious; he removes the cause and thus cuts short the painful and dangerous process by which nature attains to the same result. In the latter, where he does not remove the cause, he can only palliate the symptoms, allay pain, and by emollient applications aid nature in her process.

These instances may seem trivial, but I have introduced them because they illustrate what I mean by nature as the healer of disease, and by the physician as the interpreter and minister of nature. As interpreter he understands the causes and the course of diseases, and the processes by which nature heals them, and is thus prepared to act as the minister of nature, aiding her by removing the cause, where this is possible, and by placing the patient in a condition favorable to recovery; and this, as I understand it, comprehends the whole office of the physician.

To apply these observations to internal diseases, suppose that in place of a thorn under the nail, the cause of the disease acts in the blood or on some internal organ, and that we are ignorant of the nature and mode of action of this cause, or that if know it, we have not the means of removing it. In this case, as in that of the thorn, we are not allowed to extract, we can only watch over the general disturbance, and wait for the processes set up by nature to overcome the cause and cure the disease, always prepared to aid in this process by the agents of the materia medica, and by proper management of external conditions. Now from our ignorance of the causes of internal diseases, and from our inability to control these causes even when we know them, we are, in most cases, precisely in this condition.

The more we learn of the natural history of disease, and the more skill we acquire in diagnosis, the more clearly do we see that

a disease once established runs through certain determinate stages, has a definite duration, and tends to recovery. When we can remove or overcome the cause, we may cut short the disease, as in the case of external injury just mentioned, or when poisonous or hurtful substances are expelled from the stomach by vomiting, and it may be that in the arrest of intermittent fever by cinchona, or of syphilis by mercury, the medicine in some unknown way destroys the unknown cause of the disease. In most cases, we do not know the cause, nor its mode of action, nor how it can be destroyed by medicines, and then the disease must run through its natural process of recovery. Sometimes we can aid nature in her process of cure, and thus shorten the disease, as when by calomel we arrest a diarrhea caused by the presence of irritating substances in the intestines, or of noxious matters in the blood. There are again other cases in which nature alone suffices for recovery, and reliable statistics prove that in many diseases, the duration of the disease is not much influenced by treatment.

In eruptive fevers, we recognize most plainly this necessary train of symptoms, occuring in a certain order and in definite periods. Ignorant both of the cause and of the mode of destroying the cause, we can only stand by as guardians, to watch over the patient. No one is so foolish as to attempt to cut short a case of measles or small pox, and when a disease which has been thought to be one of these is arrested in its course, either spontaneously or after the administration of medicines, it is not supposed to have been cut short, but that an errer of diagnosis had been made. In these diseases, the physician can do no more than to furnish proper food, air, repose and other suitable conditions, and occasionally medicines to palliate troublesome symptoms, and leave the disease to run through its regular stages. Eruptive fevers, treated on this principle, are less severe and fatal than when treated according to the old fashion of meddlesome interference by the doctor, who being imbued with the notion that he, and not nature, is to cure the disease, thinks it is his duty, as a matter of course, to give some drugs more or less potent.

Though other diseases have not in general a course so determined, nor so fixed a succession of periods as the eruptive fevers, yet the whole tendency of a careful study of their natural history has been to show, that they all partake of these same characters, though in a less marked degree. When we seem to have cut short cases of typhoid fever, pneumonia, rheumatism, and such like diseases, we have in reality made a mistake of diagnosis or prognosis. To take the instance of typhoid fever for example; we occasionally meet

with cases of sickness in which a careful examination during the first few days, leaves it doubtful whether we have before us a case of this fever, or a temporary derangement of health which will pass off in a few days. If we resort at once to active treatment, we may think we have cut short a case of the fever, though it was not, and never would become that disease. If on the other hand, we resort to such treatment in real cases of the disease, we not only fail to cut it short, but render its subsequent course more severe and dangerous. The bad results of heroic treatment for the purpose of strangling typhoid fever in its commencement, must be apparent to those who have seen the advantage, in the management of this disease, of abandoning the attempt to cure, and who content themselves with treating it.

We conclude then that medicines have little influence in the duration of diseases except in those cases in which we can aid in the natural process, or can directly attack the cause, and that time is a necessary element in the recovery. How often do we find nervous diseases of women resisting all means employed for their removal for a long time, and then passing off without any apparent cause! In such cases, certain medicines are often supposed to cure the disease, just because they happen to be administered when the time for its cessation has come. These are instances, in which experience is most fallacious.

We learn the limited control of medicines over the course of disease not only from the study of their natural history, but also from their pathological anatomy. Many of the lesions in chronic diseases are so manifestly irremediable by nature or by art, that no one who is able to detect their existence during life, will undertake to cure them. Even in acute diseases admitting of recovery the lesions are often of such a character as plainly cannot be reached by any of the of their agents of the materia medica. Hence it is, that just in proportion as the progress of science has enlarged the field of positive pathology, and has furnished the means of looking behind the symptoms at the organic lesions on which they depend, has the distrust of the powers of medicines become deeper, and have narrower limits been drawn around our art. Hence, too, pathologists more than others, distrust the powers of medicines, and many of them by a natural reaction against heroic practice, fall into an exaggerated scepticism. Heroic practitioners are for the most part to be found among those whose diagnosis is vague, and whose acquaintance with pathological anatomy is slight.

It is easy to understand how one who sees in his patient only a of difficulty breathing which he names asthma, will resort to more

active remedies, than one who sees the mitral valve constricted or imperfect, and knows that no medicine can change this condition. In like manner, one who only knows that his patient has cough and fever will be more confident as to the effect of remedies, than one who sees a portion of lung infiltrated with fibrinous effusion, and knows the gradual process by which nature carries this off. It would be easy to multiply examples like these, in which superior knowledge leads to inactivity.

It may be said that in setting these narrow limits to our art, I am making it appear that the progress of science has only demonstrated its vanity, and am thus detracting from its dignity. This is an exaggeration or rather a misconception of the point in which our art has failed. It is not useless because it cannot accomplish all that it has undertaken. Nature alone heals diseases, but art can aid nature, and this aid is in all cases important, and in some cases indispensable for recovery. All admit that a surgeon cannot make a broken bone unite, but would we therefore say that his services are of no importance in the treatment of fractures? or when the surgeon treated wounds with vulnerary herbs and healing salves, was his art entitled to more respect than now when he only professes to provide favorable conditions for the healing? In like manner, in the management of internal diseases, though we have no power of curing, yet we have learned more or less completely the process by which nature cures them, and we can aid in this process. The views I am advocating do not lead to the abandonment of medical art, but only give to it a different direction. Our art is degraded not by our inability to perform impossibilities, but by our promising and undertaking impossibilities.

A physician with these views of the limits of his art, called to a case of typhoid fever, is ready to acknowledge that he cannot cut the disease short or cure it, but he professes to be able to find out from the symptoms what the disease is, what are the anatomical lesions accompanying it, its duration, the accidents which may arise, and its mode of termination. If he could do no more than this, his services would be valuable; but he can do more. He knows how to direct food, air, repose and other conditions favorable to recovery, he can administer medicines which aid the processes of nature tending to this end, he can guard against the prostration which he knows will come on in the course of the disease, to a certain extent he can guard against perforation of the intestine and its consequences, and allay pain and disquiet while the disease is running its course. All this pre-supposes the possession of much knowledge laboriously acquired, and in thus watching over the patient he

plays a part quite as worthy of respect, as if he professed to administer antidotes by which to cure the disease.

On the other hand, it may be said, that I have been making vain distinctions of no practical importance, and that it matters little, so long as we treat disease with the end of restoring health, whether we call ourselves the healers of disease or the aids of nature. It seems to me of great practical importance to establish the true doctrine on this point, and that much of the low repute of our art, and of the success of empirical sects outside of the profession, depend on the neglect of this view. Its practical importance consists mainly in this, that it presents the interposition of the physician in the process of recovery as exceptional and not as of necessity. The question he is to ask himself in presence of a patient is not, what shall I do? but rather, is there anything to be done? In most cases there is nothing to be done but to watch the patient as the disease runs its course. But when the physician thinks it is his business to cure the patient, he feels it to be his duty, as a matter of course, to administer some medicine so that the healing process may begin. So completely is this wrong notion fastened in the public mind, that many persons think they cannot begin to get well, till the doctor begins his operations, just as a broken machine cannot be mended till the workman has taken it in hand. Such persons forget that the human body is not composed of parts put together by a workman, but that it is formed and grows from a principle within itself, and that unlike a machine, it is capable of repairing its own derangements.

We are, after this long discussion, prepared to answer the question proposed in the commencement, what has been the influence of the progress of medical science on medical art? If by medical art, we understand the employment of means for prolonging life, guarding against disease, alleviating pain, and conducting diseases to a safe termination, then we may safely assert that its progress has been most satisfactory. But if by medical art, we understand the power of arresting or curing diseases, then we must admit that its progress has been utterly insignificant. The list of incurable diseases is longer now than it was a century ago, for medical science within that period has served rather to demonstrate the incurable organic lesions, on which many diseases depend, and to show how those diseases which are not of a mortal character, pursue a determinate course and have a definite duration, than to furnish remedies; and hence it is that the study of pathology has a tendency to impair confidence in the power of medicines over the course of disease. Indeed the great practical advantage derived

from modern science, lies precisely in the demonstration it affords of our inability to cure diseases, and of the irremediable nature of the lesions on which many diseases depend. By showing the necessary limits of our art, and the objects which are attainable, it saves us from vainly striving after impossibilities, and from neglecting the good we might do, and has thus placed the art on a sure foundation, and opened for it a career of indefinite improvement. As in the old fable, the sons who sought in the garden for the treasure promised by the father, failed to find what they looked for, but were enriched by the work they had done in turning up the soil; so our art has failed in its search after remedies, but in the course of the search has attained the object sought for, in another way.

Statistics and individual experience prove incontestably that the practice of medicine has greatly improved in regard to its results within the last fifty, or even the last twenty-five years. There has been a change in the treatment of acute diseases, tending to the greater comfort of the patient, and to more favorable results. When we call to mind the amount of nauseous purgative, and of expectorant and diaphoretic drinks, which were poured down the throat of a child sick with measles thirty years ago, and contrast this with what may now be seen in similar cases, where in place of this perturbating disagreeable and pernicious treatment, no medicine whatever is administered, and recovery is quite as rapid and sure, we cannot but feel that our art has made a great advance, nor can we greatly blame the grandmother who, remembering the barbarous treatment to which her children had been subjected, now prefers for her grandchildren the globules of the homœopathist. The latter is to be condemned in such cases, for the deception he practices, and not for his inefficiency, and since the notion has been so deeply grained into the public, that diseases cannot get well without medicines, perhaps the harmless folly of infinitesimal doses was providentially invented, so as to furnish a transition to a more reasonable system of practice.

Similar remarks are applicable to the treatment of fevers, inflammations and acute diseases generally. Patients now recover without medicines from diseases for which a few years ago, a heroic practice was not only recommended, but enjoined under penalty of a fearful responsibility resting on the head of the practitioner. Such experience cannot fail to satisfy us that our art is now emerging from a sad error, and gratitude for present enlightenment is mingled with deep regret for what may have happened in the dark paths, we and our predecessors have traversed.

I have already shown how pathological anatomy and accurate diagnosis, while they serve as guides to our practice, preserve us from the pernicious interference with the course of disease to which those who have not these guides are so prone, and even when they suggest no mode of cure, furnish better modes of management. A physician of this day has no remedies for a pleurisy which were not known a hundred years ago, but he is able by the symptoms and physical signs, to follow the disease in all its stages and through all its accidents, he can see as through a transparent body, the false membranes, the adhesions, the effusions and perforations, and this knowledge, while it shows him what he can do and what he cannot do, enables him to perceive and guard against the accidents which may occur. Hence though he cannot cure a pleurisy more successfully than his predecessors, he can treat it more successfully and safely.

We may illustrate this by another instance. Suppose a practitioner sees a patient with hemiplegia, and the examination of the case leads him to the conclusion that there is an effusion of blood in the corpus striatum, which has torn the substance of this ganglion, and is compressing the adjacent parts of the brain. He sees at once, that he has no means of removing this mass, nor of reuniting the torn fibres, and consequently he refrains from active treatment, which would be likely to do harm, and could do no good. A more ignorant, and consequently more heroic practitioner, resorts at once to blood letting, purgatives and other remedies, with the vague expectation of overcoming some imaginary congestion or pressure. The superiority of the former consists not in his greater ability to cure the disease, but in refraining from injuring the patient by vain attempts to cure him. But besides this, he knows the course of the disease, he foresees the inflammation which will set in around this effused blood, the cyst which will be formed, the gradual absorption of the blood which will ensue, and the partial restoration of movements which may be expected. Now he cannot prevent nor hasten this necessary succession of events any more than he can change the course of the seasons, but he can accommodate his patient's condition to them, and can refrain from dangerous meddling. He will not exhaust the strength of the patient by vain efforts to overcome an immaginary congestion, nor will he unseasonably stimulate the diseased brain by nux vomica.

The skilful pilot knows all the rocks and sand bars of the bottom over which he is sailing, all the currents which act upon the ship, and foresees the dangers which beset his course, and it is because he has this knowledge that we trust in him, and not because

of the diligence with which he turns his wheel, nor of the frequency with which he changes the course of the ship. So the skill of the physician depends on his knowledge of the condition of the hidden organs of his patient,—on his foresight of what may occur, and is not to be measured by the activity of his treatment. Oftentimes the great use of his science is to give him courage to remain inactive in dangerous emergencies.

In the treatment of chronic and what are called incurable diseases, more progress has been made than in any other department of practical medicine; not that incurable diseases have been rendered curable, but that we can now manage them so as to prolong life and allay suffering more successfully than in former times. The problem used to be stated in these terms: To provide a cure for incurable diseases? and no advance was made towards its solution. When stated in another form: "To find a mode of treating incurable diseases," it has been brought much nearer a solution.

In a discourse of Dr. Rush, written in 1805, he says: "Could we lift the curtain of time which separates the year 1843 from our view, we should see cancers, pulmonary consumption, apoplexies, palsies, epilepsy and hydrophobia, and many other diseases which still retain an occasional power over life, rendered perfectly harmless, provided the same number of discoveries and improvements shall be made in the intermediate years, that have been made since the year 1766."

Now, although twenty years more than the time specified by Dr. Rush has elapsed, and although medicine has never made such rapid advances as during that period, yet it must be admitted that we have no more power of curing these diseases than he had. The whole tendency of pathological investigations in demonstrating organic lesions, present in these diseases, and in furnishing the means of interpreting symptoms, and of exploration by physical signs, in order to discover the presence of lesions during life, has been not to arm us with remedies against them, but rather to show that they must necessarily be beyond the reach of our materia medica, and to restrain us from rash and pernicious activity.

But though we have not been able to strike any one of these from the list of incurable diseases, yet much has been done to increase the comfort and to prolong the life of those suffering from them. At the present day the well instructed student goes forth from his college with a skill in diagnosis far beyond that of the most experienced physician of fifty years ago, and which would amaze and delight Dr. Rush, could he witness it. Now, accurate diagnosis is by no means useless, because it presents to us a lesion irremediable

by nature or by art, for though a disease be necessarily mortal, yet by judicious management, it may often admit of a prolongation of life in tolerable comfort for many years. Accurate diagnosis, in such instances, by demonstrating the necessary limits of art, saves us from injudicious attempts to pass beyond these limits. When we are treating a disease of limited duration and which may pass off entirely, we need not have great fear of a debilitating treatment or regimen, if such will favor recovery, because we know the patient will regain his strength when the disease has passed off. But in the case of irremediable organic disease, the restorative powers of the system are impaired, and strength once lost is regained with great difficulty, or not at all. Hence it is of great importance not to waste the resources of the system in the vain attempt to cure such diseases, but rather to spare the strength and promote nutrition so as to prolong life, with comparative comfort. Instead of attacking the irreparable lesion, we endeavor to put the other organs in harmony with it. The enemy is in possession of the citadel from which we cannot dislodge him, and instead of wasting our forces in a vain struggle, we must rather try to make terms with him, and live together as comfortably as we can.

I do not know that practical medicine can show in any instance greater improvement than in the treatment of tubercular disease of the lungs, not in the way of curing this disease, but in that of prolonging life in comfort. The means of diagnosis are now so perfect that we can detect the disease in its earliest stages, and follow it in its progress without the risk of confounding it with other diseases. This is of great importance, for in cases of acute, uncomplicated pneumonia, or catarrhal inflammation, we may, with comparative impunity, by our treatment reduce the strength of the patient to a very low condition, and yet, as the disease is of limited duration, we may safely count on the restoration of strength when convalescence has been established. But, if in a case of tubercular disease of the lungs, we reduce the strength to the same degree, we may have inflicted an irreparable evil, for here we have a disease of unlimited duration, and in which the recuperative force is so impaired that strength once lost, is lost forever, besides that the reduced condition of the system favors the development of the tuberculosis. We do not try to cure tubercular disease, but only to keep the patient alive, and with this end in view, we direct our efforts to invigorating and sustaining the system and not to attacks on the disease, and in consequence of this, the average duration of life in consumptive patients has been much prolonged, and their comfort greatly increased. It is not

long since this disease was treated by venesection, cupping, emetics, nauseating expectorants, blisters, and frightful eruptions made by tartar emetic, together with low diet and confinement to the house. We know how rapidly patients declined under such treatment. An occasional recovery from consumption seemed to take place, though it was, in fact, a recovery from some other disease confounded with consumption, because of the imperfect means of diagnosis then possessed; but it was hailed as a triumph of art, and served as an encouragement to persevere in heroic practice. At the foundation of all this pernicous treatment was the belief that it is the business of the doctor to try to cure consumption, but now that we recognize the true nature of the lesion, we abandon the attempt to cure, and content ourselves with the endeavor to prolong life. Hence the modern practice of ordering good food, fresh air, abstinence from painful and debilitating remedies, and indeed, from all medicines except such as are calculated to improve nutrition, and under such treatment the patient lives longer, more comfortably, and sometimes even recovers.

Or we may take, as another illustration, a case of valvular disease of the heart. We know, indeed, that we cannot restore the damaged organ to its healthy structure, that we have no medicines which will give suppleness and elasticity to valves encrusted with calcareous matters, thickened and hardened, nor can we prevent the consequences in other organs, of the obstruction of the circulation thus caused. Our science, while it enables us to detect the lesion, serves also to demonstrate that it cannot be remedied by art or by nature. But shall, therefore, say that our science is in such a case of no practical use? Most assuredly not. For the very reason that we are able to recognize the existence of the lesion and to understand its consequences, we save our patient from meddlesome interference. But we render more than this negative service, we accommodate the action of the other organs to this damaged organ, we surround our patient with proper hygienic conditions, directing him how to live, and warning him against injurious influences. In this way we may see his life prolonged in tolerable comfort for many years, instead of being shortened by fruitless efforts to cure him. Sometimes we are rewarded with even better success than this, for by good nourishment and other favorable influences we give to the plastic force an opportunity to bring back the organ to a condition more nearly approaching that of health. As a cicatrix of the skin may, in progress of time, almost disappear, so, under favorable circumstances, do organs, which are

the seat of organic lesions, tend to get back to the healthy structure from which they have deviated.

Such is the kind of aid which modern science furnishes in the treatment of incurable diseases; it does not furnish remedies by which they are rendered curable, but it gives knowledge by which they may be managed. It teaches us to abstain. *

The great object of our art is then, not to cure the sick man, but to carry him safely through those processes by which nature cures him, and to co-operate with nature in these processes, or when the lesion is irremediable, to prolong life with as much comfort as may be possible. This is the direction which medical science is giving to the art, and when this is well understood, then the relation which the art bears to the science becomes obvious. When we assume that medical art consists mainly in the administration of remedies to cure disease, its points of contact with medical science are few and unimportant, and the search after Indian cures by healing herbs is not altogether irrational. But when we look on the art as a co-operation with nature in the process of cure, then it appears clear that improvements in it must depend on the increase of our knowledge of disease and of the curative process, that is, on the advance of our science, and not on the discovery of new remedies. Our materia medica is now large enough if we only knew how to employ it and when to refrain from its use. Our journals teem with new remedies or new applications of old remedies, and yet almost all these novelties pass away and leave our resources against disease no greater than before, while every new fact or generalization of our science is a permanent acquisition for the art. If at this day physicians can manage diseases of the heart better than formerly it is not because they have found any new remedies but because they are more capable of detecting the existence of such lesions, of comprehending their symptoms and of tracing their consequences in other organs. So the improvements in the treatment of tubercular consumption depend on a more perfect comprehension of the conditions which promote the development and progress of tubercular disease, and not on the myriad of remedies which have been proposed, extolled and forgotten. Medical science has thus contributed to the advance of the art by confining it within its proper limits, and by setting forth the true office of the physician.

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* In a note in Joseph Frank's Pathology, I find an anecdote, which very well expresses my meaning: "The Grand Duke Ferdinand one day asked Dr. Magiotti, with what conscience he could take fees from a patient whom he knew he could not cure. I take it, answered the doctor, not as healer of disease, but as a guardian, lest some young man, who believes all that is written in books, should come along and put some medicine into him which will kill him sooner than the disease."

In proportion as we lose confidence in the materia medica, is the influence of hygienic conditions on the course of diseases better appreciated. At this day, hygiene is the most neglected department of medicine. If we look at the programme of our medical schools we should suppose that a knowledge of it must come by nature or that it is useless, for it does not enter into the course of instruction, and students go forth into the profession not knowing that there is such a branch to be learned, or only with the vague and inaccurate notions gathered from general reading. The truth is, that instruction in medical practice has for the most part been so conducted as to lead to the understanding that it is the great business of the practitioner to cure diseases by medicines, and that external conditions are of little importance, and may be left to chance. Students do not attach much importance to any branch of study which is not taught in the schools, and few practitioners acquire knowledge of a branch which they have neglected when they were students. From the general inattention to these points, it happens that those physicians who do endeavor to impress on the patients the importance of observing hygienic rules, are considered as whimsical, and their injunctions are neglected because they are not supported by the profession.

In the warming and ventilation of houses even of the rich, in the dress and food of children, and in many other respects, the laws of hygiene are habitually disregarded without remonstrance on the part of the physician; and when disease ensues in consequence of such neglect, the patient expects to be cured by taking medicine without removing the causes of the disease.

We have read and heard shocking accounts of some military hospitals in which the filth and stench were most intolerable even to an occasional visitor, and yet the surgeons would go around ordering medicines and performing operations and dressing wounds totally regardless of those fatal influences. Of course, the wounds all suppurated, suppurative phlebitis was common, and a large proportion of the cases ended fatally.*

Now all this neglect of hygiene in private and public practice springs from the pestilent heresy that diseases are to be cured by medicines, as opposed to the doctrine that the cure is a process of nature, and that the office of the physician is to afford favorable conditions for those natural processes, and to aid them by agents of the materia medica.

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* Such instances were common in the begining of the war, but have since been, for the most part, corrected. Our military hospitals are now in a very satisfactory condition.

If we should see a surgeon dressing a cut in which bits of rags and sand and such matters were left adhering to the raw surfaces, and then applying over the whole some healing salve supposed to have great efficacy, we should turn away in disgust from the exhibition of such monstrous folly; and yet his conduct would not be more absurd than that of the physician or surgeon who tries to treat a disease or wound by medicine, while he neglects all the external conditions of the patient, and leaves the causes of the disease in full operation.

From the same mistaken notions as to the power of medicines, men apply to physicians to purchase impunity for the neglect of the necessary conditions of health, which is no more reasonable than it would be to ask for the means of healing a burned finger while it is kept applied to the hot body. A person is wearing himself out by too close attention to business or to study, living in a close air, harassed by cares, and never relieved by amusements or by relaxation, and when his nervous system has become prostrated, his appetite and digestion impaired, his throat husky and inflamed, he applies for medicine to cure all this. If one tells such a man the cause of his ailments, and that the only remedy lies in a total change of all his habits of life, he is very apt to go to some physician who will try to relieve him by medicines addressed to some of the consequences of his disease. The truth is, the patient is wishing to purchase the means of violating the laws of health with impunity, and it is an imposition or a folly to undertake to furnish him with what he seeks. After trying one doctor and another, he at length goes to some water-cure, where absence from care, fresh air, and wholesome habits restore him to health, and then he goes home praising the mode of cure, and declaring how much better it is than all the drugs he has been swallowing—and so it is.

Thus it is that by attempting impossibilities the confidence of the public in our art is impaired and the reputation of the various heretical sects of disease curers is built up.

I have before alluded to the distrust of our profession which has been growing up while our science is making such rapid and sure progress, and to the remarkable tendency of men of intelligeuce to turn for aid to some of the sects outside of the profession. It is very common to hear complaints of this neglect, and declamation against the folly and credulity of the public; but in place of unmanly lamentations and railing, it will be more wise to try to understand this tendency, and to see whether the fault may not lie in part, at least, in ourselves. There must be some cause for this error of the public, and we may safely assume that if our profes-

sion had been altogether worthy of confidence, it would not have been treated with distrust by men of intelligence and sound judgment, who are at least sincere in their choice; for what they first of all wish for is the restoration of health, and not the gratification of any spite against our profession. The choice may be unwise, when considered with reference to the merits of those preferred to us, though, when taken as a protest against the abuses of medical practice, it may be not altogether unreasonable.

The success of homœopathy, which for the last twenty-five years has been the prevailing medical heresy, has been due not to any merit of the system, but to the previous errors and inposture of the regular profession. The public had been taught to believe that medicines were necessary in all diseases, and were to be administered, as a matter of course, to every sick person. It is within the recollection and experience of most of those here present, that no person, whatever might be his age or circumstances, was allowed by his physician to go through an attack of measles or scarlet fever, or indeed any disease however grave or slight it might be, without being made to swallow a certain amount of nauseous and nauseating medicine, which greatly increased the pain and discomfort of the sickness, and the administration of this medicine was held out as absolutely necessary for safety. Now the homœopathist in similar cases is seen to give an infinitesimal dose in a palatable form, and the patient recovers equally well. What is the conclusion from this experience? Either the globule may safely take the place of this disagreeable medicine, or both are unnecessary. The latter of these alternatives is true; the former has been adopted by the public. Had the public been taught by the profession that, in a great majority of cases, diseases require no medicine for their cure, there would have been no possibility for this imposition with charcoal or oyster shell. Practitioners of homeopathy certainly merit no respect, for the system is so absurd and illogical that its refutation is difficult only because logic cannot grasp propositions so utterly unreasonable, but it has served as a merited satire on regular practice and as a demonstration of its errors and follies, answering the same purpose as the jester with his cap and bells, kept in former times at the courts of princes, to ridicule the prevailing vices and follies, and who though foolish himself was the corrector of folly in others. It will be more becoming for us to learn the lesson it teaches us, and profit by it, than to rail at its advocates, for whose error our profession is mainly responsible. (See note B.)

In combating the various medical sects we have allowed our-

selves to be drawn on a false ground, where we fight at great disadvantage. All these sects put forth pretensions to cure disease, and physicians have undertaken to show their superiority in this, but inasmuch as neither can do much in the real curing of disease, the contest remains undecided. Some die and some recover under both modes of treatment, and although there can be no question that the chance of recovery is best under the care of an educated physician, yet so many elements enter into the problem, that it is impossible to count or measure the general success of either. The real superiority of the physician consists in his science, in his knowledge of the course of disease, his ability to interpret morbid appearances, and in his skilful application of this knowledge to aid nature in the process of restoration. By placing our art on this basis we most effectually vindicate its dignity, and most clearly demonstrate the vanity of the pretensions of the disease curers.

There is in the profession a class of what are called practical men, who while making an outcry against empirics, do in reality adopt their methods, and differ from them only in name. Students fall into a sad error, when listening to the counsels of such men, they think they must devote their best attention to what are called the practical branches, and that the theoretical or rather scientific medical studies are to be regarded as accomplishments rather than necessary acquisitions. That which gives countenance to this view is that, in the mind of many persons, medical science is confounded with the hypotheses of a past age, which have now only a historical interest. If one should, at this day, begin to inquire whether dropsy is a disease of direct or indirect debility, whether it is a sthenic or asthenic disease, or whether it depends on a predominance of one of the four humors, I think we might very well dismiss the discussion as frivolous; but, if one were inquiring whether, in a given case of dropsy, the cause lay in an obstruction of the circulation, or in a degeneration of the kidney, and what was the precise nature of such obstruction or degeneration, I should consider the inquiry quite pertinent, and would have but little respect for the practical man who should look for the cure for dropsy without speculating about its cause. It would be about as wise to reject the science of astronomy because of the vagaries of astrology as to throw discredit on positive medical science, because of the fanciful hypotheses it has supplanted; but, unfortunately, these so-called practical men, not having learned either the hypotheses or the science, do not know the difference between them.

In putting forth these views, I have endeavored most especially to avoid exaggeration of statement. I do not mean to decry the employment of medicines in the treatment of disease, for there is not a day of my life that I do not think I see suffering alleviated and disease rendered less fatal by their administration. The fault to be found in some of the recent writings on this subject, is that they seem to have regard to the amount of medicines, rather than to the end for which they are administered. The point I wish to establish is, that the great use of medicines is to aid nature in the processes by which she brings about recovery from disease, in opposition to the view that by means of medicines, the doctor takes place of nature in the curative process. There are many cases in which by attacking the cause of disease and by aiding natural movements, medicines may be of the greatest service, in which life cannot be saved without them. While I freely admit this, I wish to root out the dangerous notion that a sick man of necessity needs medicine, and that the cure cannot commence till medicine has been administered. Much may be done by physicians in explaining to their patients how unnecessary medicines are in the usual course of disease, and by refraining from the administration of placebos when they are not demanded by the mental condition of the patient. A mother who has seen her children recover from measles or scarlet fever, without any medicine whatever, will not be much amazed when she sees similar cases recover after the administration of an infinitesimal globule.

It has often been remarked that practitioners, as they advance in years, become less heroic in their practice and less confident in the powers of medicines. We can all remember how we came out of the schools full of confidence in what we had learned, and impatient to grapple with disease, so that we might demonstrate the powers of our art. Actual experience of disease causes us to distrust our powers, and to put forth far more humble pretensions, and after a career more or less prolonged, some look back with painful doubts, whether upon the whole their art has been of service to mankind. I believe that no one who has been diligent in acquiring his profession, and has used his talents faithfully, need torment himself with such scruples, but it is well for beginners to know that experience has suggested them. It is to be desired that this experience which grows up and dies with the individual, should now become the experience of the profession, so that the young man entering on his professional career, may see the limits of his art as he otherwise will not fail to see them after making unwise and mischievous efforts to transgress them.

NOTE A.—(See page 9.)

I propose in this note to explain what I mean by Nature and the Vis medicatrix naturæ, and hope to make it appear, even to those who may not adopt my conclusions, that these words are not used in a vague or uncertain sense.

The advance made in our day in the physical sciences, and especially in organic chemistry, has shed great light on many of the phenomena presented by living beings, and has led some physiologists into the exaggeration of maintaining that all vital phenomena may be resolved into physical and chemical agencies. While it must be admitted that the movements occurring in the living body are of a physical or chemical character, and that the reference of every phenomenon we cannot explain to the vital principle, is unphilosophical, it is also very sure that no chemical nor physical law can explain why I have five and not six fingers on my hand, nor why they are of uneven length.

To explain the form and structure of a living organism, it is necessary to admit the existence of a plastic force or directing agency, which determines its successive stages of growth and development, and maintains its proper form in the midst of the change of matter constantly going on in the nutritive process. Differently conceived, and under different names, this principle has been admitted by physiologists in all ages.

Though the recognition of this principle is necessary to any complete view of the living organism, yet it is difficult to form a clear notion of it, or of its mode of operation It cannot properly be called a force, for of itself it produces no movement nor change of matter. It is rather a directing principle, under which other forces act; it furnishes the model according to which the organism is formed; it is the idea of which the material organism is the realization.

Suppose we have before us some work of art, a marble statue for example, and that we are called on to explain the mode of production of this object. If we say it is produced by the mechanical action of the chisel on the marble, and is a result of mechanical forces, our explanation undoubtedly contains a portion of truth, since it states truly one of the elements entering into the production of the statue. But it contains only a small portion of the whole truth, for it is evident that mechanical forces alone cannot shape marble into a Venus or an Apollo. These forces must be directed according to some pre-existing model derived from the idea in the mind of the artist.

First, the idea exists in the artist. To give this an external existence, to realize this idea, he uses the marble as the material, and mechanical forces as the means by which the work is made to assume a certain shape. The idea gives direction to the forces acting on the material and determines its form, which thus reproduces or embodies the idea.

The idea may exist without external realization, but the statue cannot exist without the pre-existing idea; it is the idea made real.

So in the formation of an animal; the idea exists in the Divine Artificer, and is realized in the animal. Every change, from the first appearance of the cell in the ovary to the maturity of the complex organism, is determined according to this pre-existing model. As these movements of growth and development take place in a material body, they are of physical or chemical nature, but they are under the direction of the idea. Physical forces play the same part in the explanation of the formation and maintenance of an animal, as the chisel and mallet in the production of the statue; they are the agents by which the idea is realized.

So far the analogy between the works of the artist and the creations of the Divine Artificer, holds good, but now we come to profound differences. The statue comes fully formed from the hands of the artist, and remains unchanged for an indefinite pe-

riod as the reproduction of his idea. The living organism begins its existence as a simple cell; by a series of growth and development it increases in size and becomes more complex in structure, attains to maturity, and passes through stages of decay, terminating in death. During all these changes of form and structure, the matter of which it is composed is undergoing a continual change. The plastic principle presides over these changes of form and matter of the organism from the beginning of its existence till its death, using matter and the forces of matter as the artist does in the production of his work.

The artist, by his hands, shapes his work as something outside of himself; the plastic principle mysteriously combines with matter, uses this matter as its instrument to work out the realization of its idea. In the fecundated germ in the ovary, the microscope shows a cell, but with this cell is combined something which no microscope can demonstrate—which no physics or chemistry can explain, and which will carry this cell through its determinate stages of development. The artist and his statue exist apart and independently; the idea and the organism are indissolubly connected and mysteriously united to form a unity.

This combination of the idea with matter in the living organism, is the great mystery of life—it is the mystery of the creation, the incarnation of the idea. It is "the book in which were all our members written, while as yet there was none of them."

The idea is the organism *in potentia*, the organism is the idea *in esse*.

This mysterious something which fashions the organism according to a determinate model, I call the plastic principle, for want of a better name. It must not be taken as something external to the body, nor as something which forms the body, and then leaves it as the artist leaves his statue, for, as I have just said, the living body is never formed, but always in the process of formation. It must rather be considered as something inherent in the body, and maintaining it in all its changes of matter and of form so long as it is an independent organism, and in all these changes giving to it unity and preserving its identity.

This is not the place to follow out this subject, and to show how the idea, acting at first unconsciously in the formation of the human organism, attains to consciousness after it has completed the nervous system and uses this organism it has formed, as the instrument by which it communicates with the external world. I only go so far now as is necessary to preface what follows.

To maintain the living organism, a certain external medium must be present to furnish the material of which it is composed, and the conditions for producing the physical and chemical movements by which, under the direction of the plastic principle, it is formed and maintained. In inorganic nature, the resultant of chemical and mechanical forces will vary precisely as the forces vary; but variations in the external medium of a living being, if not exceeding certain limits, do not give rise to a corresponding variation of structure, for the plastic principle constantly tends to maintain the idea of the being; it works according to a model. Hence Treviranus gives, as one of the characteristics of life, "a tendency to uniformity of reactions under variation of actions."

Under the influence of too great disturbance of external conditions, or of physical violence, the structure may be damaged or in part destroyed, and then we see the action of this same principle in the efforts to restore the normal structure. In some of the lower animals, whole limbs are reproduced after they have been cut off.

In the human organism, the power of reproducing lost parts does not exist to the same degree, but manifestations of this tendency are common, especially in early life. A cicatrix in a child by slow degrees disappears, and sometimes organic lesions are, under favorable circumstances, replaced by healthy structure.

Hence the action of the plastic principle may be seen not only in the growth, development and maintenance of the organism, but also in the tendency to the preservation of

its proper form under a change of external medicine, and in the restoration of injured or lost parts. In this latter point of view I now examine it.

It is so common to see the living organism restore itself when it has been deranged, that the frequency of the occurrence makes us insensible to its marvellous character. When in a machine, any derangement occurs, it has no power of self reparation; it ceases to move at once, or when it continues its movements, the derangement becomes more extended. In the living organism, when any derangement occurs, provided it does not cause death at once, a series of processes is set up, tending to restoration. The plastic principle, when acting in the establishment of such processes, is called the *vis medicatrix naturæ*.

We may see the operation of this principle most obviously in the repair of injuries. In incised wounds, we see it in the spontaneous cessation of hemorrhage, in the plastic exudation, in the cellular formations and transformations in the exudation, in the for mation of new vessels, and finally in the closure of the wound by a cicatrix. Or we may study it in the healing of wounds by granulations, or in the union of broken bones. All these processes are as explicable as the original formation of the parts in which they occur, and are no more explicable than this. They are phenomena of the same order, and are under the guidance of the same mysterious principle.*

Many of the processes for the repair of injury are understood and are recognized as such, but there are phenomena following injuries, the use of which is not understood, and which are not generally recognized as reparative in their nature. A very common sequence of severe injuries is an increased action of the heart and the general constitutional disturbance called fever. Is the fever, in such cases, to be looked on as an extension and aggravation of the primary injury, as in an engine in motion, the breaking of one portion leads to the breaking of other portions, or as a part of the reparative process? This is a question of great practical interest, for if the former view is true, the sooner we subdue the fever the better; if the latter is true, then we must be careful how we interfere with it.

Although we cannot, in the present state of the science, demonstrate the mode in which fever contributes to the reparative process, yet we have no right to conclude from this that it must be without use, or of noxious tendency. It may be concerned in the elaboration of the matter of exudation, or it may have other uses not known. We find that if after severe injuries, no fever, no reaction, as it is called, comes on, they are fatal. If reaction is necessary in severe cases, may it not conduce to recovery in those which are more slight? Analogy thus points to the conclusion that fever is a part of the reparative process.†

When inflammation comes on, either from external violence or from internal causes, fever ensues, and according to the therapeutic doctrines most prevalent, means must be taken to prevent and to overcome this fever. This practice is partly founded on the hypothesis that fever is an added evil, and that it aggravates the inflammation by driving the blood more forcibly into the congested capillaries. A more sound physiology

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*A fact has been observed in the formation and extension of new vessels in healing parts which demonstrates the existence of a guiding power, under which the process is carried on. Vessels are multiplied by outgrowth from those already formed, in the following way: At two points of the old vessel, projections occur, which grow out in the form of opposite halves of an arch till they meet in the middle, where these opposed walls give way, and thus a single vessel is formed. Here the direction given to the two outgrowths so as to make them meet, has been compared to the case of workmen making a tunnel through a mountain, starting at opposite points, and meeting in the interior. In both cases, the meeting proves that the direction had been given by some general superintendent, and not left to chance or accident. (Paget's Surg. Pathology, p. 146. Philadelphia edition.

†Of course it is not denied that fever may be excessive, and need to be restrained by remedies, just as exudations may be too abundant, or granulations too exuberant.

demonstrates that the inflammatory process consists essentially in a perversion of the nutritive act, and that the capillary congestion is only secondary to this, and not the essential part of the process, and hence refuses to admit this mechanical effect attributed to the increased action of the heart.

In studying the processes by which external injuries are repaired, we know the mode of operation of the cause, we have the process under our eyes, we can thus follow, and to a certain extent comprehend them. In the case of internal disease, the difficulties in the way of learning the mode in which nature brings about recovery, are greatly increased.

In eruptive, and what are called idiopathic fevers, we do not know what is the primary action of the unknown poison causing the disease; we only see its effects in the successive stages of the disease. This series of movements, which in most cases terminates in recovery, and in all cases tends to it, is the effect of the initial injury caused and kept up by the poison. Suppose that we should observe in a patient all the constitutional disturbance caused by a thorn under the nail, and for some reason could not trace it to its cause, we should then be somewhat in the position in which we now are in regard to most internal diseases. Now the point I wish to establish is this: that these processes which follow an external injury, or the action of an internal cause of disease, are not destructive but sanative. This proposition cannot be rigorously demonstrated because we are not sufficiently advanced in pathology to understand all these movements, nor to see their object, but we infer that they are sanative because we can show how some of them tend to recovery, and because in most cases, if left to themselves, they do terminate in recovery. In cases of malignant eruptive fevers, the fever, eruption and other usual sequences do not appear, and death ensues from the initial injury, whatever that may be. Experience has shown the danger of interfering with some of these processes, such as the eruption or the perspiration, and these, by general consent, are promoted, and yet some others, especially the increased action of the heart, is considered pernicious. Now it cannot be shown how the eruption in measles conduces to recovery any more than how the accompanying fever has this tendency, and the reasonable conclusion is that both are alike parts of the sanative process.

In many cases, we can explain the remedial or preservative character of certain phenomena of disease. The powerful action of the heart and its hypertrophy, in cases of valvular disease or of constricted orifices, are means by which a damaged organ is enabled to carry on the circulation. And yet in such cases we find practitioners who try to reduce the action of the heart by digitalis! Diarrhea is often caused by the presence of noxious matters in the intestinal canal, or of poison in the blood eliminated by the intestinal glands. No wise physician will try to check such a diarrhea; he will rather by purgatives assist nature in her efforts.

Within the last few years, it is very common to be assured by practitioners that by the administration of veratrum viride, they have reduced the pulse in pneumonia from 100 to 80. How do we know that it is not best the pulse should be at 100? The quick pulse does not cause pneumonia, and all analogy favors the belief that instead of aggravating, it tends to overcome the disease It is true that it cannot be shown how an acceleration of the heart's pulsations is conducive to recovery from pneumonia, but this proves nothing to the point, for we really know nothing of pneumonia except the anatomical lesions and the symptoms. We cannot tell why the disease ever passes off instead of getting progressively worse; but seeing the disease ceasing after certain

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*In the Hippocratic doctrine of the coction of humors, they are supposed, in the beginning of a disease, to exist in a state of crudity, and by the febrile movement to undergo a coction which fits them to be expelled from the body by some of the emunctories. The hypothesis is vague and unproved, but it shows that the facts of which I am treating had been observed from the earliest ages of medicine.

movements set up by nature, we may infer that these movements are sanative and not destructive. When the pulse falls, it indicates that the inflammation is subsiding, or when it rises, that the inflammation is extending, but these variations of the pulse are consequences, not causes, of variations in the disease; they are only signs. But we do not change the condition of the lung by changing the sign manifesting it, any more than we change the time of day by moving the hands of the clock.

The mode in which diseases are spontaneously healed, presents a problem of great difficulty, and which has not received the attention it merits. We know that nature unaided by art conducts most diseases to a termination in health by certain processes, some of which we can understand as sanative, while others are unintelligible to us. Now though we cannot trace the connexion between these latter processes and the restoration of health, it is not logical to assume that they are pernicious and opposed to this restoration. Thus though the proposition cannot be rigorously demonstrated, yet a number of broken lines all point to the conclusion that when the cause of the disease has once established the initial injury, the succeeding movements are to be considered as sanative and not destructive.

To resume: The object in this note is to establish these points: That the living organism is formed and maintained under the influence of a plastic principle, which carries it through its proper stages of growth and development till they terminate in death. Though the external conditions may vary, this principle maintains a certain uniformity of structure, and in cases of physical injury or disease, this same principle institutes movements tending to the repair of the injury or to the healing of the disease, and when so acting, it is called the vis medicatrix naturæ.

From this, it follows that the office of the physician is to remove or overcome the cause, when this is possible, to promote the natural process of cure, and to place the patient in such external conditions as may favor his restoration.

NOTE B.—(See page 24.)

I take this opportunity to introduce a few remarks on the subject of homœopathy, for the reason, among others, that I find some persons have misconstrued passages of the address into a sort of approval of this remarkable system of folly and imposture. When I maintain that in many cases of disease, recovery will take place without any medicine whatever, it follows of course that in these cases, recovery will not take place any the less because an infinitesimal dose has been administered. Hence homœopathy cannot be reproached for its inefficiency, except in those instances where medicines are useful or necessary, and in some cases, it is even preferable to pernicious medication. If homœopathists can find any comfort in that, they are very welcome to it.

It brings to my mind a fable of Lessing, which I cannot now find, but which I will quote from memory.

A council of beasts was held, at which the lion presided. Each beast was called on in turn to give his opinion on the subject of deliberation, beginning with the ass, as the most foolish of the assembly. When, last of all, the lion had given his opinion, "see," cried the ass, "the lion thinks as I do." "Yes, ass," answered the lion, "but not for the same reason."

It seems to me a vain thing to attempt to refute the homœopathic doctrine by reasoning, for if the mere statement of the doctrine, as found in Hahnemann's works, does not suffice for its own refutation. then no argument can overthrow it. Those minds which do not at once reject it, are so constituted as to be beyond the reach of any logical refutation. Like the belief in table turnings, spiritual rappings and other delusions, it cannot be shaken by logic, because it is not founded on logic.

But it must be admitted that there is a class, in which are found eminent lawyers,

learned divines, shrewd and prudent merchants, who conduct their affairs with wisdom and discretion, and who yet adopt the homœopathic system of practice for themselves and their families. It would be highly presumptuous to assert that such men are incapable of forming a sound judgment on any subject. How, then, can what has been said of the utter absurdity of the homœopathic doctrine, be reconciled with the support given to it by such men?

The truth is, these men do not believe nor disbelieve in the system; they have not taken the pains to examine into it, and do not know exactly what it is. Just as this same class of men is, in general, unacquainted with the medical doctrines of the regular profession. That which they do believe, is that sick persons, when treated according to the homœopathic system, recover at least as well as when treated according to the regular practice, thus founding their judgment not on the reasonableness of the system, but on what seems to them to be its fruits. Accordingly we find that when they talk with us on the subject, they do not attempt to explain the sanative effects of a decillionth of a grain of charcoal, nor to show how a disease of the mitral valve is in reality only the remains of an uncured itch; but they tell us of the surprising effects which are seen to follow the administration of a globule, or of some sick person who has recovered under this mode of treatment.

Undoubtedly there are to be found, even among educated men, some who delight in the extravagance of the system, just as there are some of this class who believe in spiritualism and table rappings; yet by far the greater number of those who adopt this system of practice, do so because they think they have witnessed good results from its application. If, then, we would convince these men of their error, we must meet them on this practical ground, and show to them that, in any given case, our system holds out the best prospect of success.

They state the case somewhat in this way: We have seen cases of disease for which, from all we have learned from physicians, active medicines are demanded, treated by a homœopathist with his globules, and the recovery has been quite as complete and satisfactory as is usual when similar cases are treated according to the regular practice; besides which, the treatment has been much more pleasant. Hence, though we do not pretend to know how or why these globules have the power of curing disease, yet it is sure that the disease is cured, and for this reason we believe in the efficacy of these globules.

Now it must be admitted, that a great many recoveries take place under homœopathic treatment. I account for this by showing that, in many cases, Nature suffices for recovery, and that in these the interposition of the physician by active medication is not necessary, and that the inert globules have nothing to do with the cure. It is true that Hahnemann, in his Organon, denies that Nature can be relied on for bringing diseases to a happy termination; but this looks like a precaution against the argument which he foresaw would be urged against his system. But the advocate of homœopathy replies to the explanation I offer: if Nature suffices for the cure of these diseases, why is it that formerly, and even at this day, so much disagreeable medicine is given in these very cases, by physicians? To this question I know of but one answer. The profession has been and still is in error; much of the medicine given was and is unnecessary and even hurtful. It is only by this confession that we can refute the main argument in favor of homœopathy, and relieve ourselves from the penance we now undergo, of being placed in public estimation on the same level with mountebanks and impostors.

Besides this general statement of the success of this mode of practice, we often have particular cases of remarkable cures cited to us, which prove nothing, because their apparent importance depends only on erroneous diagnosis. I have heard from an intelligent lawyer of a case of inflammation of the brain cured in twelve hours by a homœopathic dose of aconite, though, from the account he gave, there could be no doubt that

it was only a case of hysterical excitement in a young girl, such as is frequently seen in practice, and which passes off of itself in a short time. We constantly hear of cures of croup by the globules, in which we recognize a mild disease which may indeed be relieved by medicine, but which is not of a fatal character when left to itself. Much of the reputation of homœopathy is acquired by giving frightful names to mild diseases. Is our profession altogether free from similar blame? Is not the impression often left on the mother, when a child has recovered from spasmodic croup, that if the doctor had not diligently used remedies, it would have passed into membranous croup?

There are then cases, in which recovery will take place without medicines; there are other cases of a mortal character, which will end in death whether medicines are administered or not; and there are cases which will be fatal unless medicines are judiciously given. I say cases, and not diseases; for instances of each of these may be found in almost any disease. Now the homœopathic practice in the third class o cases, rejects the only means of saving life, as for example, in a pernicious intermittent fever, which will be surely fatal unless large doses of sulphate of quinia or of some equivalent medicine are administered. But even in the two first, in which life may be preserved under either system, we have the advantage of possessing means by which pain may be alleviated, or the course of the disease shortened, or in incurable cases, life prolonged by medicines. A diarrhœa which does not threaten life, but which would last several days. may often, by medicine, be arrested in one day.

The advantage of the regular practice is, that it puts in our hands means for interposing with advantage in the course of many diseases, and of absolutely saving life in some. To counterbalance this, homœopathy has only the advantage of avoiding the mischief which may be caused by injudicious administration of medicines. Soldiers who go into the field with blank cartridges run no risk of hurting their friends, but they certainly cannot kill the enemy.

In this statement I have assumed that both classes of practitioners have the same acquaintance with disease and the same skill in hygiene, which certainly does not correspond with the reality, but I am making a comparison of systems and not of persons.

IS HOMŒOPATHY QUACKERY?

The answer to this question is not so obvious as many suppose.

The word quackery is not very well defined; it has several significations differing greatly from each other, or in other words, several modes of irregular practice are included under this term.

There is a kind of quackery which consists of indecorous conduct, such as advertising or haranguing in the streets, or in other unbecoming ways attracting particular attention. Dishonorable professional conduct also belongs to this kind. Those who are guilty of such conduct are held unworthy of associating with the profession, without reference to their skill or learning, though in such cases it may safely be assumed that the qualifications are no better than the conduct.

Homœopathists are, as a class, not chargeable with this sort of quackery.

Another ground of accusation of quackery, is gross ignorance, as where one who has never learned medicine as taught in the schools, professes to cure by Indian remedies, or to reduce dislocations by a natural faculty, or makes other pretensions of this nature.

Medical schools and other recognized examining boards have established the minimum of qualifications for admission into the profession, and every one who has passed that examination is, prima facie, supposed not to be grossly ignorant.

At present, most of the homœopathists have gone through a regular course of instruction, and have been pronounced by the proper boards qualified to practise. These men cannot then be charged with gross ignorance, and they conduct themselves with deco-

rum, and yet we refuse to associate with them, and call them irregular practitioners. On what grounds is this exclusion to be sustained?

It may be said that this practice is irregular, because it is founded on error; but a little reflection will show that error does not constitute a sufficient ground for the charge of quackery. There is no fixed orthodoxy in medicine, and we constantly charge men with being in error, whom we do not think of calling quacks. One physician bleeds and depletes in a given disease, another in the same case gives tonics and stimulants, and a third perhaps does nothing, but leaves it to nature; and though they all differ, and attack each others opinions even with bitterness, they do not for that reason call each other quacks. A few years ago, the medical system of Broussais was in vogue with a large portion of the profession, and was bitterly denounced by another portion, and though he was called by his opponents absurd and wrong headed, though his system was denounced as false in reasoning and pernicious in practice, yet the common sense of the profession never suffered him to be called a quack, nor were his disciples excluded from association with the rest of the profession.

It would seem then, there must be something more than mere error to justify the charge of quackery. Each man having learned his profession, is allowed to form opinions and to adopt a practice according to the best light he can find.

How then did it come to pass that the system put forth by Hahnemann, who was a well instructed physician, and a learned man, was attacked not as an error but as quackery?

For two reasons, one depending on the degree of error, the other on the kind of error.

Though great latitude of opinion is tolerated in medicine, yet to this there must be some limits. The most opposite doctrines may be promulgated, the most opposite modes of practice may be proposed, and yet neither party claim the right to turn the other out of the profession, but after all, there must be some show of sense and reason in these doctrines or this practice. There must, in fine, be some limit to the absurdities which a man can be allowed to maintain.

Now homœopathy passes these limits.

For proof of this, I refer to any page of Hahnemann's Organon.

If this is so, how can we account for the fact that Hahnemann invented so absurd a system? Many years ago, I accidentally met with a suggestion which seems to me to solve the difficulty. It is contained in a small satirical essay entitled, Panegyric of Modern Medicine and Natural History, by Dr. Mises* (a pseudonym for Gustav Theodor Fechner.) After some ironical praises of medicine, he says:

"Let it be carefully noted that all these glories which I have ascribed to the medicine of our day belong only to the true Hippocratic, the only saving system. But the world loves to blacken what is bright, and to pull down what is lofty, and thus recent times have brought forth an infamous satire on this divine art. I allude to the system of Hahnemann. In truth, I believe most people mistake the meaning of this system. Since it is generally admitted that Hahnemann is not crazy, how can it be believed that he really put forth such a system in earnest? No, he is a sly fox, who meant in this piquant way to decry our orthodox medicine, because satire is now better paid than earnest truth, and we can imagine how he must have laughed in his sleeve when he saw how furiously his system was attacked on the one hand, as if he really meant in earnest all that he had said, while on the other hand men were equally zealous in maintaining its truth. How heartily would Swift have laughed if men had undertaken to show on physical and philosophical grounds, that his Lilliputians and Brobdignaggians never could have existed, while others, confiding in his assertions, had undertaken long and wearisome journeys to the countries he had described. All this must be

*Panegyrikus der jetzigen Medicin und Naturgeschichte von Dr. Mises, Leipsig, 1822.

rare sport for Hahnemann. The followers of Hippocrates are men of great learning, who cure according to rational methods, give medicines in sufficient doses, and combine them to meet the existing case. Opposed to such a Platonic republic of doctors, our joker sets up another, composed of people who may be *rationis et intellectus plane expertes*, provided they only have senses to see, hear, smell and taste the symptoms, and who need not have wit enough to count three, if it were not for the great number of symptoms with which they have to deal, and who require no further preliminary knowledge than to be able to look up the case in Hahnemann's Bible. These people oppose to the most complicated symptoms, the simplest medicines, or rather let the patient go without medicine, since the infinitely small is equivalent to nothing; and notwithstanding this, they perform the most wonderful cures, so that numbers abandon the wise and rational followers of Hippocrates to be cured by them in four weeks, of diseases which had lasted for years. Truly a more gross satire has never been written, than has here been enacted in living reality."

The above seems the most plausible explanation of the origin and promulgation of this grotesque system. Intended as a satire on medicine, the author found that it was received in earnest by a certain portion of the public, and so he carried out this remarkable experiment on the credulity of mankind. Without some such assumption, it is difficult to conceive how a man who had learned medicine, and who understood the general nature of scientific investigation and evidence, could have put forth such a collection of absurd propositions, entirely unsupported by any kind of proofs.

As for his disciples and followers, I think we need not be at the trouble of framing an hypothesis to account for their adoption of any system, however absurd.

But apart from its utter absurdity, there is another reason why homœopathy ought to be considered as outside of the profession; having reference not to the degree, but to the kind of error. As this applies to other systems besides the one we are considering, it is worth while to look at it with some care.

The history of every science shows that in the beginning it consists of facts imperfectly observed and of vague speculations. By the labors of successive generations, its store of facts is increased, the problems are more clearly stated, and advance is made towards their solution. Each generation takes the science at the point where it had been left by its predecessors, and continues the work. At intervals, appear men of genius, who by adding new facts, and by more extended generalization of those already collected, give an impulse to science, and change its whole aspect, but their work begins on a science already wrought up and perfected to a certain point, and never starts from the beginning. Thus the Copernican system of astronomy, or the law of gravitation in physics, or the theory of combustion in chemistry, gave a new aspect to these sciences, but each had its origin in the past, and would not have been possible without the past. Aristotle could not by any possibility have discovered the law of gravitation, nor the law of chemical equivalents, for the reason that science was not in his time prepared for these discoveries.

Each science has, then, its tradition, and the greatest genius must start from the tradition given to him by the past, adding to it, reforming it, and extending it. Science grows and is developed like a living organism, and just as nature never produces a mature animal, except as the continuation of successive stages of development, so a mature science is a continuation of one less mature, and thus it may be traced back till it is lost in the darkness of antiquity.

Occasionally men present themselves who, discarding the traditions of science, and supposing that by an intuition of genius they have, without using the labors of their predecessors, gone beyond them in divining the secrets of nature, pretend to found a science *ab ovo*. Now, from the law of descent first laid down, we know, even without examination, that all such attempts, whether in science proper, or in law or politics or religion, must be vain, and we call these authors quacks, not because they are in error,

for that may occur to the genuine cultivators of the science, but because their method is vicious, and must of necessity lead to naught. These systems are not the legitimate children of the science, but bastards, or rather worse than bastards, they are the products of spontaneous generation, having neither father nor mother.

Every great catholic doctrine has its roots in the past, and is formed as part of the development of an organic whole. We apply to science the saying of Leibnitz: "The present engendered by the past is big with the future."

Hahnemann does indeed try to show that the germ of his doctrine, *Similia similibus curantur*, is to be found in the past, but it is evident that this system, theoretical and practical, has no dependence on what has preceded it. For the practice of his system there is no possible need of anatomy or physiology or pathology, and indeed throughout his Organon these branches of medical science are ridiculed as vain and practically useless. He finds a patient vomiting, and notes his symptoms, but he does not inquire whether it depends on the presence of irritating matters in the stomach, or on a cancerous obstruction of the pylorus, or on peritonitis, or on disease of the brain. He might, indeed, maintain that the accompanying symptoms would be different according as the vomiting depends on one or other of these causes, but he does not undertake the interpretation, which in his system would be superfluous. Thus the homœopathic system discards the whole body of medical science as constituted by the labors of successive generations, and founds the art of healing on something entirely different from this science.

It is true that homœopathists of this day do profess to learn medical science, and some do in fact learn it, but it has no possible application in their system. So too, they do undoubtedly give medicines in sufficient doses, because they prefer rather to be inconsistent than to be absurd. I am speaking of the system and not of the way in which it is carried out by those who adopt the name from mercenary motives. It is well known, that young men now graduate at the medical schools and assume to practice homœopathy, because there seems to be a demand in the public for this kind of practice, just as a milliner makes bonnets of a fashionable shape. Adopting the title to secure the patronage of a certain portion of the public, they practise what they have been forced to learn in our schools.

In confirmation of this independence of homœopathic practice of the whole tradition of medical science, may be mentioned the remarkable fact, that although the system has been in existence more than half a century, and has been well known over the world more than thirty years, so that a medical generation has grown up under it, yet it cannot show a single improvement in medical science made by one of its professors. Never has there been such activity in our science as during the last fifty years, and yet in all this time, not one discovery in anatomy or physiology or pathology can be cited as coming from this source. A great deal has been done within this period in perfecting the natural history of diseases, and the system of Hahnemann, professing a minute examination of symptoms, might be supposed to lead to some advance in this branch, but no disease has been so well described by its followers as by the regular cultivators of our science. This sterility of homœopathy depends on two causes; the one is, that medical science finds no application in their system, and the other is, that those who are capable of making advance in science do not adopt such a system, except for the sake of money, and the reward of scientific discoveries is not of a pecuniary nature.

These then are the reasons why the system of Hahnemann is to be considered as quackery; it exceeds the limits allowed to scientific error, and discarding the traditions of our science, it has no roots in its past nor organic connection with its present.