A discourse introductory to the course of lectures on the theory and practice of physic in Jefferson Medical College, session mdcccxxxii-iii.

A DISCOURSE

INTRODUCTORY

TO THE COURSE OF LECTURES

ON THE

THEORY AND PRACTICE OF PHYSIC,

IN JEFFERSON MEDICAL COLLEGE,

SESSION MDCCCXXXII—III.,

BY JOHN REVERE, M. D.

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To Granville Sharp Pattison, M. D. Professor of General, Descriptive and Surgical Anatomy, and John Revere, M. D. Professor of the Theory and Practice of Physic, of Jefferson Medical College.

GENTLEMEN,

We, the undersigned, are appointed a committee by the students composing your classes, to solicit of you copies of your Introductory Lectures, for publication. In complying with this request, we feel assured that you will not only confer a lasting honor on the Institution in which we are acquiring our medical education, but it may be the means of communicating to society generally, and particularly to the medical world, the great advantages we enjoy.

We are, gentlemen, with great respect,

Your obedient servants,

(Signed) M. M. LEVIS,
GEO. W. ALLEN,
J. MITCHELL,
G. A. WILLIAMS,
HUSON SWAYNE.

Jefferson Medical College,
Philadelphia, November 10, 1832.

Philadelphia, November, 1832.

GENTLEMEN,

My friends, and those of Jefferson Medical College, in whose judgment I place implicit confidence, have advised the publication of the discourse delivered by me introductory to my present course of lectures on the Theory and Practice of Physic. In compliance with your wishes and their advice, rather than from my own conviction, I have consented to this, though most remote from my intentions when it was written.

Will you have the goodness, gentlemen, to communicate to your fellow students how much I feel gratified and flattered by this mark of their kind wishes and favorable opinions.

With sentiments of personal respect, and unaffected interest in your welfare,

I remain, gentlemen,

Your obedient servant,

(Signed) J. REVERE.

Messrs. M. M. LEVIS,
GEO. W. ALLEN,
J. MITCHELL,
G. A. WILLIAMS,
HUSON SWAYNE.

A DISCOURSE, &c.

It would be affectation in me, gentlemen, not to acknowledge, that I appear before you on the present occasion with feelings of solicitude and strong excitement. To attempt to build up a new school of medicine under the shadow of an institution which has thrust its roots so deeply, and spread its branches so widely abroad in society; an institution founded by some of the ablest men our country has produced, and which has for so many years assumed a sort of hierarchal authority in matters pertaining to medical science, until her decrees have come to be considered almost infallible, and to question them almost sacrilegious; I say, such an attempt will be admitted by all to be an enterprise of no ordinary magnitude. In other countries, where the circumstances of time and existing authority control every other; where even abuses become consecrated by age, and where the excellence of public institutions is rather measured by the length of their duration than their intrinsic usefulness, our enterprise would be considered chimerical and desperate. But in this country, where inherent excellence constitutes the only acknowledged claim upon public patronage; where it is universally understood that public institutions are founded for the promotion of the public good, not merely individual advantage, we feel conscious that our school must stand or fall by its own merits. We are conscious that it is neither the sneers of our rivals that can obstruct, nor the triumphal shouts of our friends that will bear us forward

to success, but that for this, both they and we must look to one great result—the comparative facilities that can be offered for acquiring a sound medical education. This, therefore, constitutes but a subordinate source of my anxieties.

But there is another consideration which presses upon my mind, and which applies personally to myself. It is the relation in which I stand to my colleagues. With them, success as public teachers of medicine is a problem no longer to be solved. They have already passed the ordeal, and some of them with a brilliancy that falls to the lot of very few. For myself, placed in a chair not inferior, to say the least, to any other in its importance in a medical education; one that involves all the learning of the profession, and is, as it were, a sort of summing up of all the other branches, I cannot but feel how difficult it will be to sustain this high standard, so as to do justice to you and to satisfy myself. With little that is amusing in its details;—resting alone on observation and reason; and incapable of illustration by brilliant experiments or striking demonstrations to break in upon the tedium of dry investigation;—the claims of the chair of the Theory and Practice of Physic upon your attention, must altogether rest upon its intrinsic importance. Under these disadvantages, I must depend on your candor and my own unaffected devotion to the duties of my situation for my hopes of success.

In order that we may enter upon this important, though, perhaps, unattractive branch of medical science, with any reasonable hopes of success, it will be indispensable to establish some clear and well-defined principles and rules by which our inquiries shall be governed. I have thought, therefore, that I could not better employ the present occasion than by an examination of some of the more prominent rules and principles which will guide my inquiries.

Science is knowledge; and its only legitimate object is the acquisition of truth. The first great moving principle that every sincere disciple of science should cultivate, is an ardent, uncompromising love of truth. This must be the end, therefore, of all his exertions; the polar star by which he directs all his inquiries; and he must follow with a cautious, but unhesitating step, wherever it points the way, perfectly sure that its end must be good. For the investigations of science, a sound and discriminating judgment is the faculty most requisite, and must, therefore, be duly fostered.

The mind, naturally impatient of delay, submits with reluctance to the slow and toilsome methods of acquiring truth to which it is destined, and is inclined to overleap every obstacle, and grasp the treasures of science by a single effort. It is rare, however, that such attempts are successful. This has been strongly exemplified in medicine, in the innumerable hypotheses with which its history abounds. There is no point on which the medical student should be more guarded than this. To one just entering the threshold of science, there is something particularly attractive in hypothesis; it seems to imply genius and invention, those higher attributes of mind which always command our admiration and respect. But this is a mistaken opinion; a taste for hypothesis in science rather indicates a frivolous than a vigorous intellect. Yet it certainly forms a predominant feature in the history of our profession; through its whole progress they may be traced rising and falling, like the waves of the ocean, in endless succession. Undoubtedly there have been some which, like frost-work upon the casement, have presented forms so symmetrical and beautiful, that they could scarcely be contemplated without admiration; yet, like it, they have vanished with the first breath of reason, nor left a trace behind.

But look at those names which, in the history of the profession, have shone and still shine with undiminished lustre, and which indicate to the student the true road to professional distinction. Inquire how they have acquired this deathless renown, and come to be accounted among the benefactors of mankind.—Did Hippocrates, and Harvey, and Sydenham, and Jenner, and Laennec, and a host of others, arrive at their most enviable distinction by their speculative opinions?—Did they waste their high intellectual energies on these, the mere baubles of science? No!

The object of science is not amusement, but instruction. It is to constitute our guide in the all-important search after truth. In literature, the imagination may be permitted to indulge itself free from restraint. The fancy of the poet may wander from earth to heaven, and appropriate to its fantastic humor all it finds in each. But it is necessary to exclude this whimsical and capricious power from the sober precincts of science.

The sciences are divided into two great classes;—the *mathematical* and *physical*, which differ essentially from each other in their nature and history. The mathematical sciences are concerned in investigating the relations of number and extension, qualities that may with certainty be discovered. The nature of mathematical reasoning is such, that if the premises be true and the series accurately conducted, the result must be truth. When Pythagorus announced to the world the relations of the squares of the sides of a right-angled triangle, it must have been perceived that it was true. It was at once discovered that all the facts then known, or that might afterwards be found out, could have no effect in either increasing or diminishing its certainty. In the emphatic language of Dr. Johnson, it must have been immediately perceived, "that it was one of those truths that had nothing to hope or to fear from the lapse of time, or the

progress of human improvement." Euclid's Elements of Geometry affords another striking illustration of the universality and invariableness of the mathematical sciences. It is more than two thousand years since this book was written. It is said to have been translated into the language of every nation, ancient or modern, where civilization had advanced far enough for the comprehension of abstract truth. Since then, the most powerful empires have risen to maturity, and sunk into decay; and, at one time, almost all the records of human learning were lost in profound darkness and universal barbarism. Yet this book has survived every vicissitude, and its truths are as much admired and as universally acknowledged at the present day as in that of their author.

On the other hand, the physical or natural sciences, which include medicine and natural history, in all their various branches, are nothing more than the accumulated observations of mankind on the laws and phenomena of nature, and an attempt to classify and deduce from them certain general principles. They depend for the most part on the evidence of our senses, and our intellectual perceptions. These are liable to numerous illusions, and necessarily vary essentially in different individuals. Their origin is often the mere result of accident. Our investigation of them commences in conjecture, at first vague and incoherent; and it is only by a long series of careful and well-directed efforts that we can at last hope to approximate the truth. After all, it is a mere approximation; for it is rare, indeed, that we arrive at that degree of certainty in the physical sciences which characterizes mathematical truth. This striking difference between the exact and physical sciences, affords a satisfactory solution of the difference of their progress. The mathematical sciences acquired a high degree of perfection at a very early period in the history of human civilization; while the physical, until

within the last two hundred years, had scarcely attained that degree of exactitude which could entitle them to the rank of sciences. Within that time, however, they have advanced with a rapidity that, were it not a matter of history, would appear scarcely credible. Take any of the physical sciences, and compare their present state with their condition two hundred years since, and you cannot but be astonished at the improvements they have undergone. Take, for example, though it is by no means the most striking one, the state of knowledge at that period respecting the structure and functions of the human body. The functions of the stomach and the process of digestion were but obscurely conjectured; the structure and functions of the nervous system, as at present understood and demonstrated, were entirely unknown; the lymphatics had not been discovered; even the anatomy and offices of the circulating organs were as a sealed book. I have preferred to illustrate the state of the physical sciences at that period, by this example taken from our profession, because it is more *german* to the objects of this Institution. But the observation applies with tenfold force to the other branches of natural science. —Chemistry consisted of a mere unintelligible jargon, and was entirely in the hands of mountebanks and other public impostors; while botany, mineralogy, and geology could not be said to exist as sciences.

The question naturally arises, to what remarkable circumstance in the history of the human understanding must we impute the extraordinary advances that have been made in that short period in the natural sciences?—How has it happened, in the space of less than two hundred years, that this most important department of human knowledge; one so intimately connected with the necessities and convenience of man, has made infinitely greater progress than in the thousands of years that preceded?—Is this a cause or an effect of modern civilization?—

Has the species undergone improvement in its organization?—or have the moderns devoted themselves with more enthusiasm to the cause of learning than the ancients?—All our knowledge and experience give a prompt negation to all these suppositions. This remarkable moral phenomenon is manifestly imputable to a cause much more superficial and obvious; to an influence as simple as it is energetic. It is merely the *different modes pursued by the ancients and moderns in investigating these departments of knowledge.* I know of nothing more important in the education of a medical student, whose life is to be devoted to the pursuit of the physical sciences, than a full and clear apprehension of this all controlling circumstance. True wisdom is chiefly acquired by a right understanding of the experience and errors of others. If then we would wish to guard ourselves and our profession from the insurmountable obstacles to improvement, which for so many ages completely obstructed its progress, we must carefully study and understand the causes of these different results.

There are two different systems which have been pursued in investigating the physical sciences; they may be called the *Synthetic* and the *Inductive Methods.*

The synthetic method, which was generally pursued by the ancients, consists in assuming certain general principles to be true; in other words to form an hypothesis, by which we may attempt to explain all the known facts and principles of any science. Thus the hypothesis of the ancient chemists assumed that there were but four elementary bodies: earth, air, fire, and water. All the changes in nature were ascribed to the different modifications which these elements undergo; and the most preposterous problems were gravely proposed for solution, as corrollaries, from these false premises. Hence ages were spent by the alchemists in pursuit of those dreamy chimeras, which men in all ages have been so prone to account among the primary elements of human happiness, perennial

youth and inexhaustible wealth, under the name of the philosopher's stone.

The history of medicine, until very recently, consists of little else than a description of the different hypotheses which have flourished in different ages. They also afford striking illustrations of the insufficiency of the synthetic method in the investigation of the natural sciences. Though medicine is known to have existed as a separate profession for more than one thousand years before the birth of Hippocrates, yet he has always been regarded as its founder, because he was the first who imparted to it that degree of precision of knowledge which could at all entitle it to the rank of a science. He was the first who attempted to form a pathological hypothesis, founded on anatomy and physiology, as they were then understood. That this first attempt must have been very imperfect, necessarily followed from the entire ignorance at that period of *anatomy*, the foundation of medical science. It is quite manifest from his works, that this first medical philosopher knew no difference between the arteries, veins, nerves, and tendons, as he uses the same word to signify each.

On such loose analogies was the first medical hypothesis formed. But imperfect and inconclusive as it was, it formed the basis of all the innumerable medical hypotheses that have been in fashion from that period to the commencement of the present century. The humoral pathology, which was but a fragment of the Hippocratic hypothesis, may also be mentioned as an example of the inadequacy of the synthetic method for investigating the physical sciences. Under different modifications, it maintained its ground for ages, and was received with the highest admiration and implicit confidence as undoubted truth.

Assuming that their hypotheses must be true, physicians drew the most absurd corrollaries from them in their practice, affecting to have reduced the practice of medicine to mathematical

precision and certainty. The following directions, given for fixing the dose of a certain medicine, taken from a prescription of one of these humoral pathologists, will enable you to form some idea of the absurd extremity to which these doctrines were carried. "You are to dose so much of the medicine as is spent upon the stomach and intestines directly as the constitution; and so much as is carried into the blood as the square of the constitution; and this sum into the person's size, is the quantity required." Absurdity can go no further! This result of the hypothetical or synthetical method of investigating medical science, forms the best commentary on its entire insufficiency to this purpose, and I shall therefore press the matter no further. If, then, the object of science be the acquisition of truth, it will be admitted, that the synthetic method, which was the only one adopted by physicians for several thousand years, has been proved by experience to be entirely unsuitable for this purpose.

After so many ages had been passed in a fruitless attempt to improve this department of human knowledge, it was at last suspected that there must be something radically wrong in the mode of pursuing it. It was not until the commencement of the 17th century, that the true nature of the difficulty was discovered and the proper remedy administered.

Bacon was the first who perceived and exposed the absurdity and futility of this mode of philosophizing, and proposed to substitute in its place the *inductive,* or as it has been called after its founder, the *Baconian* method. In a work entitled the *Novum Organum* he pointed out the necessity of abandoning the synthetic method and following an opposite course. The broad basis assumed by the inductive philosophy is to take nothing for granted; to admit no proposition in science to be true until it has been proved by experiment; to suspend our reasonings about causes and to verify effects; to abandon mere suppositions respecting the operations of nature, and set ourselves

patiently to observe what those operations are. According to the principles of the inductive philosophy, nothing is to be gained in science, by assuming as true any point which is doubtful or not susceptible of proof. Science means knowledge, not conjecture or opinion; to entitle any department of human inquiry to the rank of a science, it is necessary to collect together clearly established facts, and by fair and legitimate reasonings, to deduce those useful truths that naturally flow from them. So long as we pursue this course in our reasonings, they are strictly scientific; but the moment we deviate from this line, though we may be entitled to the commendation of being ingenious, or imaginative, or clever, we are no longer scientific. These principles cannot be too frequently or too austerely inculcated, especially in an inquiry like medicine, every deduction of which affects so deeply the welfare of society. The end of science is to give precision to our knowledge; to define what we know, so that it may be distinguished from what is merely conjectured. By drawing the line manfully between them, and frankly acknowleging our ignorance, we leave open for future investigation those points that are doubtful.

The soundness of these views were at last perceived and admitted. The introduction of the Baconian, or inductive philosophy, constitutes a new, and by far the most important era, in the physical sciences. Though its adoption was slow, yet its influence, on their advancement, has exceeded all that could have been anticipated, even by its most sanguine admirers. Its truth is now universally admitted, and all who are engaged in improving the physical sciences, or instructing others are, or at least affect to be, governed by its laws.

We have only time to make a hasty comparison of the different results of the synthetic and inductive methods, in a few striking examples. Perhaps a more favourable example of the synthetic method of reasoning in physical science cannot be found than the Natural History of Pliny. It was written in a

country and at a period when the exact sciences were cultivated with success; when the standard of literary taste had attained its highest elevation; and when all those arts which minister to the luxuries and elegancies of life, had arisen to a degree of perfection, which has, perhaps, never been equalled in the history of our species. Its author, Pliny the elder, as he is usually called, was not only a statesman and a soldier, but one of the most indefatigable and enthusiastic scholars and learned men that ever lived. Every moment that could be spared from more urgent and active duties, was devoted to literary and scientific pursuits, and his life at last sacrificed to these pursuits. He perished during an eruption of Mount Vesuvius, while observing that phenomenon, about the commencement of the Christian era. His Natural History is the only one of his works that has been transmitted to us. It bears abundant evidence of the genius and industry of its author, and is the most valuable relict of ancient natural science we possess. It comprises all that was known at that time on the various subjects on which it treats.—Compare, then, the Natural History of Pliny with the works of our most eminent modern natural historians and chemists; for example, Cuvier, Sir Humphrey Davy, or Mr. Dalton. You will find the former containing a few doubtful facts and principles, mingled with dreamy speculations, amusing fables, and idle conjectures. In the latter you will find no facts or principles, admitted as such, that are not well defined and clearly established. The speculations and deductions founded on such bases as these, though grand and imposing, and sustained by the strongest analogies, you will find proposed with modesty, as proper subjects for inquiry, not advanced as theories, the truth of which is ascertained, and which no one is at liberty to question. When Mr. Dalton published his views of the atomic theory, he must have been conscious that the thought was surpassingly brilliant, and that it was sustained by all the known analogies of the science of chemistry. But

animated with the true spirit of the inductive philosophy, he modestly proposed it as a fit subject of inquiry, leaving to time and accumulated observation to test its truth and elaborate its consequences. Sir Humphrey Davy informs us, in one of his last communications, that the decomposition of the alkalies and his discoveries of the electro-chemical relations of the metals were founded on a generalization, conceived by him quite early in his career, viz. that chemical and electrical attraction are identical. This brilliant idea, the foundation of so many admirable discoveries, and which appears to lay open a mystery of nature almost as profound as that of life, was not decidedly announced until near the period of his death, and then, only suggested as a speculation worthy of being further investigated. The inference I draw, from this comparison of the most eminent of the ancient with those of the modern natural philosophers, is, that the striking superiority of the latter is not attributable to individual excellence, but to their having enjoyed the happiness of living in an age when sounder principles of philosophizing prevailed.

To form a somewhat more definite idea of the potency of the inductive philosophy, I may be permitted to allude to a few of its more remarkable achievements. Some of them will be found such, as apparently to surpass human ability. It has enabled man to vanquish two obstacles, apparently insurmountable to a being of his finite powers—time and space. It has enabled him to solve mysteries, the very enunciation of which seems to involve impossibility and absurdity. When it was first proposed to inquire respecting the changes which had taken place in the crust of this globe, thousands of ages before the creation of man, it was ridiculed as the most monstrous of human absurdities. The geologist was compared to a fly lighting on the side of an elephant, and, after thrusting his proboscis into his skin, undertaking to speculate on his internal constitution and structure. Again, how preposterous does it

appear, at first sight, to inquire whether this earth was originally a distinct body moving in space, or a mere fragment of another planet.--Yet the investigations of modern natural philosophers, among whom the name of Cuvier stands pre-eminent, sustained by the spirit of the inductive philosophy, have already gone far towards the elucidation of these most extraordinary problems.

It is a remarkable fact, that though there is no class of men who have been so much devoted to science in modern times as the members of our profession, yet in none of the physical sciences has the inductive philosophy been admitted with more reluctance than in medicine. Apollo was formerly the God of physicians as well as poets;—and it will be admitted that none of his worshippers offered more abundant gifts upon his altars, or performed their prostrations with more zeal and devotion.—But the spirit of the inductive philosophy has at length arisen, and, with an unsparing hand and homely good sense, brought about a medical reformation. The consequence has been, that the altars of the false God have been thrown down, and his image trampled in the dust, and the temple of nature and the spirit of truth substituted in their place. From this altar, every offering of the imagination is rejected: its motto is, "Observation and experiment."

The maxims of the inductive philosophy have been more and more strictly adhered to in anatomy, physiology, and several departments of surgery. The brilliant discoveries of the circulation of the blood; of the structure and functions of the lymphatics; the magnificent investigations of Mr. C. Bell on the anatomy and offices of the nervous system; and the astonishing results of modern operative surgery, are among the glorious fruits of this mode of philosophizing. In *medicine*, from various causes, the progress has been slower. The greatest obscurity necessarily pervades all living processes,

whether healthy or morbid. But in those internal maladies where there are none, or but slight and doubtful changes of structure, and where, in most cases, death does not occur, the difficulty of arriving at correct opinions is vastly increased. But though it must be admitted that the difficulty of attaining that degree of precision in our knowledge which may be said to constitute science, is particularly great as applied to the principles and practice of Physic, still it is equally apparent that these difficulties can only be overcome by a strict adherence to the maxims of the inductive philosophy. The obstacles which have been vanquished in the other physical sciences, are sufficient to show, that perseverance must at last be crowned with success also in this.

As preparatory to a consummation so ardently to be wished, the first step has been taken, though tacitly, by the profession. It is the abandonment of the taste for system-making and voluminous writing, which, for so long a time, engrossed the master spirits of the profession. Since the time of Cullen, the last of the systematic writers of any name, the gifted men of the profession have devoted themselves to elaborating those various departments of medicine that inclination and the force of circumstances have thrown in their way. When we look for the works and names of those who have produced the greatest influence in the profession for the last half century, we find them in the form of detached memoirs in the transactions of learned societies; in periodical publications, and separate treatises. Every new and important fact, mingled, no doubt, with many that possess neither of these qualities, and many doubtful old ones, have thus been brought, as it were, under the purview of the profession, and strictly scrutinized and compared with the observation and experience of others. The periodical journals, which constitute so important a part of modern medical literature, have been found most effective

machines for separating the wheat from the chaff, the diamonds from the mud and exuviæ with which they were mingled.

By pursuing this system, already have we arrived at some noble results in the cause of humanity and science. I shall here advert to but two examples of this kind; the admirable discovery of Jenner, and the invention of the stethescope, and its application to investigating the diseases of the chest by Laennec. They are both the results of pure induction. The former is the greatest achievement in the whole circle of the sciences in diminishing human suffering and waste of life. The latter, one of the most admirable examples of exact observation and philosophical induction with which I am acquainted.

With such a noble basis for the improvement of our knowledge of the principles and practice of physic, is it not a matter of regret, that an individual should be found endeavoring to mar and set aside a system of investigation from which such first fruits have already been obtained, and to restore the synthetic method, so long the opprobrium of our profession?—Is it not a matter of surprise, that in this country individuals should be found, occupying the high places in the profession, willing to become the disciples of such a master, the propagators of such doctrines?

I have thus endeavored to lay before you a rapid sketch of the true nature and only legitimate objects of the sciences —*the acquisition of truth;* of the causes which, for so many ages, obstructed the physical sciences, so that they could scarcely be said to have advanced at all; and, lastly, of the nature of those influences by which they have made such rapid progress towards perfection during the last two hundred years. It has constituted a principal object in doing this to furnish your minds with a just standard by which you may test the remarkable system called Brousaissism, or the "physiological system," of which so much of late has been heard. I am induced to direct your attention to this innovation in medicine, not

from its intrinsic importance—for in Europe its influence is chiefly confined to Paris, and even there, for the most part, to the purlieus of Val de Grace. But in this country, it has been attempted, by the authority of public teaching, and the influence of the medical press, to disseminate and enforce these doctrines. You are well aware that it would be quite out of the question, in the little time that remains to me, to pretend fully to expose its dogmatism and innumerable fallacies, which I cannot but regard as most pernicious and disgraceful to the medical literature of our country. I must content myself with pointing out a few of its more glaring defects.

The first grave charge against the writings of M. Broussais, is the total abandonment of all the great principles of the inductive philosophy. Instead of following the universally acknowledged maxim in all the physical sciences, of admitting nothing to be true until it is proved, the works of Broussais are filled with assumptions so gross, that they absolutely confound us by their audacity. These gross assumptions are so mixed up with principles notoriously true, and universally admitted, that none but a well read physician can discriminate between them. You constantly meet, in the same paragraph, generalizations at which the united observation of the profession had long since arrived, and the wildest speculations of this presuming theorist, stated precisely in the same tone, as if equally entitled to confidence and equally the results of his own original observation. The doctrines of Broussais being essentially different from those of Cullen or Brown, the last writers of any reputation who have pretended to found new systems in medicine, persons of limited acquirements have therefore inferred, that what they find in Broussais different from these authors is originally and peculiarly his. I cannot but suspect that this is the foundation of the popularity of the doctrines of Broussais in this country. The ground of this opinion is, that, both in Europe and the United States, with very few exceptions, his

followers are confined to the younger, and by no means the best informed members of the profession. On the other hand, with scarcely an exception, as far as my personal knowledge goes, all those physicians who are distinguished for the soundness of their education, the profundity of their acquirements, and the vigor of their minds, unanimously agree that there is scarcely a doctrine advanced by him, that has the least claim originality; while the few that appear to possess this claim are false in principle and fact, and tend to the most dangerous errors in practice, especially in this country.

But you would suppose that the characteristic doctrines of M. Broussais, right or wrong, were at least sufficiently well known, and strongly marked. This, however, is far from being the case; the whole affair is clouded in mystery. Like the veiled prophet in Lalla Rookh, whose august presence could not be endured, and whose dazzling countenance, it was profanation to look upon, the features of the "Physiological Doctrine" are unknown even to its disciples and worshippers. I have anxiously perused the published works of Broussais, and several of those of his disciples, in the hope of becoming acquainted with what was claimed as original—but without success. I have inquired of some of the most intelligent Broussaisists—what do you consider the peculiar and distinctive characters of these doctrines?—I have never met an individual who gave a direct and intelligible reply. I have narrowed the question, and inquired—has M. Broussais discovered any new fact or principle in physiology or pathology, or thrown new light upon old ones?—They cannot point them out. I have said,—do you consider his doctrine, that inflammation of the mucous membrane of the stomach is the *primum mobile* and *ultimum moriens* of disease, as constituting his principal claim to distinction, and that he has clearly established its truth by induction?—or was it Broussais who originally suggested that inflammation of the stomach is the proximate cause of fever?—

Even his most enthusiastic admirers will not pretend to answer in the affirmative, if their minds are in the slightest degree imbued with the learning of their profession.

Nor is this obscurity confined to the great doctrines of M. Broussais, but it appears to me to pervade all his works, and almost every part of them. In the course of our lectures we shall have occasion to examine more at large some of the doctrines advanced by M. Broussais. It is necessary, however, to give a specimen of the defects in his works, to which I have alluded. They may be found in every part of them. I have taken but little trouble in selecting the following, and chiefly for its brevity. It is taken from his 15th Phys. Prop. "Every stimulation," says he, "capable of producing a perception in the brain, passes through the whole assemblage of the nervous system of relation. It goes then to be repeated in the mucous membrane, from whence it is again sent back to the centre of perception, which judges of it according to the opinion of the viscus to which the mucous membrane belongs, and which disposes itself to act according to the pleasure or pain it receives; and the object of this action is always to cause the duration and repetition of the impression, or the removal of the cause of it."—This is a fair sample of M. Broussais' physiological opinions and modes of reasoning. It sounds very learned –but will any man of sense pretend that he understands it?—and as far as it is intelligible, can any thing more preposterous be found in the wildest vagaries of the humoral pathology, than this consultation between the brain and the mucous membrane?—Even the mathematical prescription I have before quoted is not more senseless or ridiculous.

It may be laid down as a rule, gentlemen, to which there are very few exceptions, that the soundness of men's views on scientific subjects may be tested by the clearness with which they are expressed. It has been remarked as the highest test of literary excellence, that the truths which it imparts to our mind

are so clear and graphic that they seem to be the mere shadowing forth of our own thoughts. If a man has clear and distinct images in his own mind, he rarely fails in communicating them to others. If they will not bear this test; if they are confused and mystified; and, especially, if they affect extreme nicety, making distinctions where others can perceive no differences; and if, to all these suspicious circumstances, be added a pretension to something new and original, you will be seldom mistaken if you conclude either that the individual is misled by his own confused and muddy thoughts, or that he is a charlatan and means to mislead others. The adage is as true as it is current, "if the well be clear you may see the bottom." So it is with men's thoughts; if they are turbid and incomprehensible, it is owing to a want of transparency in the medium in which they exist.

I have one more observation to make on Broussaisism.—We might pass over the dogmatism of his manner;—we might smile at the formal obscurity in which himself and followers so much delight, and which they appear to have mistaken as an evidence of science;—we might have submitted in silence to his violation of all the maxims of the inductive philosophy; but I should have omitted an important duty did I not point out to you the dangerous practical tendencies of these doctrines. In the temperate and long cultivated regions of France, diseases are slow in their progress, and demand the use of less powerful remedies.—But in this country, especially the southern parts of it, where the diseases, like those of tropical climates, are sudden in their attacks, and rapid in their course, if any thing is to be done to arrest the fatal result, it must be done energetically.—I confess it is to me surprising that any physician, practically acquainted with our summer and autumnal fevers, could feel justified in treating them according to the Broussaisan method by a few leeches and gum water.

Some of the followers of M. Broussais have had the modesty to compare him with Bichat. Yes! gentlemen, with Bichat,—perhaps the most illustrious of modern medical philosophers.

The splendid genius of Bichat, and the magnitude of his achievements in medical science, have thrown into the shade his *few* defects;—yet, in common with the rest of humanity, he had his defects. Some of the generalizations introduced by him in the *Anatomie Generale* were, undoubtedly, formed without that rigid adherence to the spirit of induction by which we can alone hope to impart to medicine that degree of certainty which can alone entitle it to the true dignity of a science. But these defects in Bichat, like the spots on the sun's disc, are lost in the flood of light shed by the effulgence of his genius. It is only when we find these errors imitated and repeated by a minor spirit; one who, without one spark of his inspiration, has attempted to pass himself off as the "Bichat of Pathology," that we are reminded of this only infirmity of a noble and mighty intellect.

But time admonishes me that I must bring these remarks to a close. Let me then urge upon you, gentlemen, to resolve to enter upon the objects of this chair—an inquiry into the nature and treatment of disease—with a single purpose in view, —the discovery of truth. Aware of the danger of speculation in Physical Science; unawed by names—untrammelled by authority; with a modest, but manly, confidence in your own good sense, resolve to be governed by its dictates. With such resolutions, let me assure you, gentlemen, that in the inductive philosophy, you hold a talisman, which, like the spear of Ithuriel, cannot fail to elicit light and truth from whatever it touches.