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MEDICINE IN THE PAST AND IN THE FUTURE :

AN ADDRESS

BY

SAMUEL C. CHEW, A. M., M. D.,

PRESIDENT OF THE MEDICAL AND CHIRURGICAL FACULTY OF MD

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*With the Writer's Compliments.*



MEDICINE IN THE PAST AND IN THE FUTURE.

Vor uns liegt ein glücklich Hoffen.  
Liegt der Zukunft gold'ne Zeit.



THE UNIVERSITY OF CHICAGO

AN INDEPENDENT PUBLICATION

PHYSICAL AND CHEMICAL THEORY  
OF MATTER

BY

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AN INAUGURAL ADDRESS

DELIVERED BEFORE THE

MEDICAL AND CHIRURGICAL FACULTY

OF MARYLAND,

*AT ITS EIGHTY-SECOND ANNUAL SESSION,*

*APRIL, 1880.*

BY

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OF MARYLAND.

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## MEDICINE IN THE PAST AND IN THE FUTURE.

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*Gentlemen of the Medical and Chirurgical Faculty of Maryland:—*

Your suffrages have called me to a position the duties of which I cannot assume without expressing to you my very profound and grateful sense of the high honor which you have conferred upon me. It is indeed an honor to preside over the deliberations of a body of physicians engaged in what may be regarded as their gravest and most important professional duties. For while the individual task of single hand-to-hand combat with disease in which each of us is occupied, is as beneficent as it is arduous, there is yet an ampler and more influential sphere of usefulness that we may fill when acting as counsellors and teachers of each other.

“The wisdom of the law,” says Lord Coke, “is greater than the wisdom of any one man;” and in our sister profession this wise, but somewhat obvious apothegm has passed into a proverb. In like manner we may say that the wisdom of medicine, as embodied in the collective learning and experience of many physicians in council, is greater than that which any individual can possess. In our assemblage here each may bring his own observations and the results of his own study to bear upon a larger number of cases of disease than can be directly ministered



unto by any one worker; each may derive from the accumulated stores of other minds more than his own researches can have acquired and appropriated; and thus, giving and receiving, teaching and learning, the whole collective body is occupied in advancing the out-posts of professional knowledge, in winning new victories over suffering and disease, and in extending that noble and far reaching ministry of good which it belongs to medical science to exercise.

But if it be a privilege and an honor to preside at any meeting of medical men convoked to consult upon professional interests, it is especially so in the case of a representative body with the history and traditions which belong to the Medical and Chirurgical Faculty of Maryland. As a society we rank with the very few medical organizations of our Country which took their origin in the last century; and on our roll of members are to be found the names of nearly all the eminent men who have practiced and taught the art of medicine within the borders of this Commonwealth. It is pleasant to reflect that to-day the oldest scientific body within this State is received with cordial hospitality by this young and vigorous Institution of learning, the Johns Hopkins University, whose kindness we gratefully acknowledge and appreciate.\* The degree of antiquity that we have to show, has a value in itself; and though small in comparison with that which makes venerable the ancient seats of medical learning at Edinburgh, at Oxford, at Padua or at Bologna, yet in this western hemisphere it is enough to give the grace and dignity of age; to make us cherish our society not only for what it is, but for what it has been; and to prompt for it an attachment akin to the "love far-brought from out the storied past."

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\*The Sessions of the Faculty were held in the Hall of the Johns Hopkins University by the kind invitation of the President and Trustees.

I envy not the man who is indifferent to such associations, or who is so engrossed with the interests of the present, that he will not pause at times to listen to those voices which come echoing along the years and telling us how others in the past were actuated by the same hopes, warmed by the same attachments, and stimulated to the same endeavors, that now inspire and occupy ourselves.

We have met together to-day in our eighty-second annual session. More than four-score years have passed since this Faculty was established; and those by whom its foundations were laid, have long since, to use a gentle classic phrase, gone over to the larger number; *abierunt ad plures*. Doubtless they strove well in furtherance of the purposes for which their organization was effected, which, then as now, were the "promotion and dissemination of medical and chirurgical knowledge throughout the State." Their efforts had indeed even a larger scope than this, and extended far beyond the limits of Maryland. In proof of this we may find records of their work in various Medical Journals of former years. Thus nearly sixty years ago in June 1822, there appeared in the Philadelphia Medical Recorder the notice of a prize of fifty dollars or a gold medal, at the option of the successful competitor, offered by the Medical and Chirurgical Faculty of Maryland for the best Essay on Cholera Infantum. This resulted in the production of the elaborate treatise on that subject by Dr. Samuel A. Cartwright, of Mississippi, to whom the prize was awarded; the essay being published in the the Medical Record in 1826.

Our founders and other physicians of that time labored faithfully; and successive generations, ourselves the latest, have entered each into the labours of those who have gone before. Slowly, and with earnest toil the work has been carried on from year to year; and although at times the inspirations of



genius may seem to have removed obstacles to progress, to have won great gains, or to have established important truths, by a sudden stroke or a vivid flash, as it were; yet it has generally happened that such achievements have been the results of many and long continued efforts directed to the end accomplished. Great discoveries have been made because they have been expected, and the time has been ripe for them. Like the goddess in the Greek tragedy, laden with good for suffering mortals, they come at last swiftly flying, but only because thrice prayed for.

But whether by small and gradual gains, or by great and sudden accessions of knowledge, the medical science of to-day is so vastly in advance of what it was when this Faculty was organized, that the difference is to be measured not by years only, but by a complete revolution both in our modes of dealing with disease, and in our very conceptions of what disease is. The time is, indeed, not long since this revolution was accomplished; it is short in comparison with what has been required for working out many improvements in human affairs; but dating from a point long subsequent to the foundation of this Faculty, how many advances have been made in all branches of science bearing upon the practice of medicine. What precision in diagnosis has been attained; what extended knowledge of physiology and of animal chemistry has been gained; what additions to therapeutic resources have been discovered; in a word, what increase in definiteness of medical aims, and what enlarged power of accomplishing those aims, have resulted from the studies and labors of the last fifty years.

The period during which these changes and improvements have been made, while it has been longer than is compassed by the personal experience of any one practitioner, has yet not transcended the ordinary term of human life. Down to the early part of the present century, medicine was based mainly upon



symptoms ; now it rests in great degree upon the solid foundation of physiology ; and, if it is still, as regards some of its most important achievements, empirical, yet its very empiricisms are the results of inductions from such a vast number of accurate observations, that they have the character of axioms, or truths so perfectly established, that no one will think of denying them. Nor indeed is a rational empiricism to be disapproved, as indicating an imperfect condition of our science. Let any application of the empirical method be substantiated by a sufficiently large induction of cases, and it will straightway be as reliable and as valuable for the purpose aimed at, and therefore as strictly scientific, as any other mode of treatment. For science is in its truest sense the orderly and systematic arrangement and statement of things known, however the knowledge of them may have been acquired.

If the uses of iron in anæmia, of strychnia and galvanism in certain paralyzes, of alkalies in rheumatism and gout, and of atropia in iritis, be instances of physiological treatment ; those of iodide of potassium in specific disease, and of arsenic in dermatic affections are, while strictly empirical, as absolutely certain in results as any methods of medication claiming to be purely physiological. And what a gain to medicine is the discovery of any agent possessed of the power of working such certain results. " The neglect of specific medicines," says Coleridge " is proof of immaturity ; for in fact, all medicines will be found specific in the perfection of the science." In the ultimate analysis all medical agents are empirical in their modes of action, in this sense at least, that in their final operations, we know not how their particles act upon those of the nervous system or any other portion of the organic frame, to produce the results for which they are given, and which they do certainly effect.

If it be a great physiological discovery that opium can produce

contraction of blood-vessels, and thus arrest congestive processes and restrain the migration of blood-corpuscles, yet in tracing up its mode of action we soon reach a point where we must admit that only thus far can we go and no farther. For who can form the slightest conception of what that inherent property in the molecules of opium is, in virtue of which it exerts so wondrous an influence over nerve matter?

But modern medicine has worked in both of these directions. It has turned to best account, and is continually availing itself of the immense advances in physiological knowledge made in recent years; and it is ever ready to accept the results of legitimate experiments with remedies, though the explanation of these results may still be wanting.

We may, perhaps, best appreciate the difference between the practical medicine of the latter part of the last century or the beginning of the present, on the one hand, and that of our own time on the other, by endeavoring to picture to ourselves how some of the ordinary daily tasks of the practitioner, the constantly recurring problems that present themselves for solution, were met and undertaken in the former period, in comparison with the way in which they are encountered now.

Consider, as one example, the extreme importance, with reference to treatment, of an accurate differential diagnosis of diseases of the thoracic organs, which constitute so large a proportion of the cases with which we have to deal.

There is, I think, in the entire range of all branches of knowledge no more remarkable illustration of human ingenuity and skill than is afforded by that science of auscultation, which sprang forth almost perfect and complete from the brilliant genius of Laennec; a science which has converted previously unheard, unheeded and confused sounds into an articulate language



speaking with logical precision, and conveying truth with the certainty of mathematical demonstration.

Of this marvellous language, and all the treasures of knowledge which it can impart, our predecessors of the time we are referring to, were wholly ignorant; and whether their patients were suffering with pneumonia, or pleurisy, or phthisis, or pericarditis, or endocarditis, were problems which they were often powerless to solve.

I well remember, though it was uttered many years ago, and I refer to it only for its bearing on this subject, the dictum of a physician, who, though practicing medicine in the light of the present, might very deservedly be considered an illustration, if I may so speak, of the darkness of the last century. His statement,—*horresco referens*,—was to the effect that he had found the best guide to the diagnosis between phthisis and pneumonia to be a copious bleeding, when, if the blood became buffy, he knew that he had a pneumonia to deal with, and if not, a consumption. According to the received ideas of the time represented by this worthy and enlightened practitioner, the disease, if it was pneumonia, was already dealt with by the diagnostic venture, and thus much was gained; but if on the other hand it were consumption, the poor patient having his life “set upon a cast, must stand the hazard of the die,” and was under the painful necessity of taking the consequences.

Happily we have changed all that; or most of us have done so; but, although such a method was a flagrant anacronism even at the time when it was practiced by the physician referred to, yet it represented what was common and often unavoidable at an earlier day.

Now, however, the very earliest stages of thoracic diseases are detected with certainty at the period when treatment is most applicable and most beneficial. Moreover, affections of the chest



bearing some resemblance to each other, but wholly unlike in the pathological conditions involved in them and in the treatment that they required, were constantly and necessarily mistaken, the one for the other, and often, no doubt, with disastrous results. How impossible, for example, without the aid of auscultation must it have been in many cases to determine whether pneumonia or pleural effusion, whether hypertrophy or dilation of the heart existed; and how wide the the difference in the treatment to be pursued, accordingly as one or an other of these affections was present.

But consider again the different conditions of underlying disease, of which dropsy is a prominent symptom.

How speedily and by what certain proofs is the question now settled as to whether the pathological cause of this symptom is to be found in the heart, in the kidneys, or in the liver; or again whether the effusion is peritoneal or encysted. And how vast is the importance of settling this question with reference to the treatment to be pursued.

Imagine, if you can, the feeling with which any of us would approach cases of this kind, if the power of determining the conditions on which they depend, were wanting, and if we had no more means of detecting their true nature than were possessed by our predecessors of the last century. Remember that at that time the mode in which dilatation occasions cardiac dropsy was wholly unknown, as were also the manner of detecting such dilatation, and the marvellous powers of digitalis and iron to relieve and retard it. Remember too that the department of renal pathology had not then been created by the laborious and exhaustive researches of Richard Bright, and you may form some appreciation of the state of mind of the practitioners of those days when they encountered that manifestation of disease which was well termed *dura hydrops* by the Latin poet.

Groping blindly in the dark without guides, knowing of dangers with which they had to do, but not knowing where those dangers lay or whence they sprang, they were entangled in a perplexity involving the dread issues of life and death. In their fears and misgivings they may almost without exaggeration be likened to Dante when he found himself wandering in the mazes of the gloomy wood ;

"E'en to tell  
It were no easy task, how savage wild  
That forest,"\*

But from this obscurity the medicine of to-day has completely emerged ; and among all its achievements none rests upon a firmer basis of scientific accuracy than the diagnosis of the causal conditions producing the different dropsical effusions. And along with this increased knowledge of the true nature of these maladies, there has grown up a vastly enlarged power of relieving them ; so that in some, the dropsy of acute tubular nephritis, for example, attended perhaps with a pulmonary œdema imminently threatening life, there will result from proper treatment a perfect recovery, with entire restoration of function and structure ; and in others, not admitting of such complete cure, great alleviation of distress, and prolongation of life may yet be effected.

Once more, consider the scant knowledge possessed sixty years ago either of the physiology or the pathology of the nervous centres, and the consequent utter inability of our forefathers to interpret the phenomena of many diseases having their seats in these centres. Then reflect by way of comparison upon the accuracy with which the diagnosis of such diseased conditions may now be made ; upon the increased knowledge of cerebral and spinal topography which our day has witnessed ; upon the preci-

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\*Ahi quanto a dir qual era e cosa dura,  
Questa selva selvaggia ed aspra e forte.



sion with which lesions of the brain and cord are now referred to their proper situations; and upon the admirable therapeutic results that flow from the appropriate and timely use of the great neurotic medicines, and of the galvanic and faradic currents.

These are but a few, though signal instances of the improvements and advances which modern medicine has made; and they are the earnest of what the future has in store; the promise of what is still to come; the evidence of things not yet seen.

Rendering unto those who have gone before us all honor for what they did achieve, let us see how these same conditions of disease that we have been considering, were regarded in their day, and by a representative medical man.

Dr. William Heberden, Fellow of St. John's College, Cambridge, Fellow of the Royal College of Physicians and of the Royal Society in London, Associate of the Royal Society of Medicine in Paris, occupied the foremost rank in the medical profession during a large part of the last century, and closed his long career of beneficence and professional usefulness at a time somewhat subsequent to the foundation of the Medical and Chirurgical Faculty of Maryland.

His Commentaries on the History and Cure of Diseases are, many of them, well worthy of perusal even at the present day on account of the remarkable powers of observation that they show, and the admirably correct judgments based on what would seem to us very imperfect data. Among his conclusions, however, on the subjects that have been referred to, we may find the following:

"Water," he tells us, "has often been found in the thorax; but there do not appear to me any infallible signs of a hydrops pectoris. The nature of this part hinders the swelling from being perceived externally, and the respiration is not oppressed by the water in a manner so different from what it is by



other causes of the asthma, as to afford indubitable signs of its presence."§ That is, he gives up the diagnosis of pleural effusion as a hopeless task. Who among us would ever so regard it now?

Again in another place, speaking of the diagnosis of consumption, he says that it might be made out, "if we had any infallible signs by which to distinguish the matter of an ulcer, from the mere exudation of an inflamed membrane; but all the criteria mentioned in books are insufficient for this purpose; and I have known some attentive and very experienced physicians mistaken in their judgments upon this point."\*

In his discussion of paralysis he makes this remark, which is interesting as showing correct observation in part, but erroneous reasoning upon the observation from want of knowledge of cerebral topography: "A rupture of some blood-vessels, in the brain," he tells us, "may be the origin of some apoplexies; but probably of few; because these can hardly escape being instantly fatal, and we know that there is a far greater proportion which do not end in present death."† Or observe the following statement showing how from imperfect physiological knowledge affections having the merest superficial resemblance, but wholly unlike in nature, were grouped together; "Chronical rheumatisms, or imperfect gouts, after hanging on for many months, have deadened and perfectly destroyed all ability to stir the limbs affected; but this species of palsy has gone no further; so that the senses and faculties of the mind have still continued in their usual vigor."‡

But if in reading these and similar medical opinions, we are tempted to contrast too strongly the richness and the reality of our present possessions in medicine with the meagreness and errors of the past, we may find perhaps a useful corrective to

§ Ib. Chap. 48.

\* Ib. Chap. 72.

† Ib. Chap. 69.

‡ Ib. Chap. 69.

pride in the thought of what physicians of a former time did accomplish by cultivating their powers of observation and reasoning, without the aid of modern means of diagnosis. We may ourselves too much neglect the older methods, and attend too exclusively to the details of each individual case, important as they doubtless are, without regarding sufficiently what Sydenham would term the tendencies and characteristics of the period.

It may be wholesome also to reflect on what the great masters of the olden time would have accomplished, had they been helped by modern methods in addition to their own, which, as far as they could go, were admirably exercised, and were productive of great results.

In respect to the faculty of observation, the moderns in no degree excel the ancient physicians. We may well sit at their feet and learn from them. No better observer of the phenomena of disease, which we call symptoms, has ever lived than Hippocrates, who practiced and wrote four hundred years before the Christian era; but with his remarkably sagacity, he appears to have been conscious himself of the imperfections of a system depending on the observation of symptoms alone. Besides the study of symptoms something more is needed; and it is to the supply of this need that the labors of modern medicine have been mainly directed, in investigating carefully both the normal functions of the body, and also those changes in its functions, which underlie, and are the occasions of symptoms.

The only guides to a truly scientific system of medicine are normal anatomy and physiology; pathological anatomy or the alterations in structure, and pathology proper, or the perversions in function, which constitute disease; together with manifold and careful observations of the effects of remedial agents.

This truth has been set in prominent relief by modern medicine, that disease is not a substantive entity, as it was once illogically



and superstitiously held to be ; not always a usurping power which has intruded and must need be expelled ; but that it is simply disturbed or perverted physiology. Hence the importance of the study of physiology ; and because the medicine of our own day is based largely upon this study, it makes a claim, not chargeable with arrogance, of being superior to all methods that have preceded it ; of having the elements of perpetuity in it ; of resting upon principles which will not change, but will need only to be faithfully followed out, in order to secure the most abundant results.

And now, wherever civilization extends, medicine is prosecuted by multitudes of earnest workers in accordance with these principles, and in the spirit of that inductive philosophy, of which it has been finely said that "It never rests ; is never perfect. Its law is progress. A point which yesterday was invisible, is its goal to day, and will be its starting post to-morrow."

Though much has been accomplished, much remains to be done ; and the attainments of this present time may hereafter seem but faint beginnings in comparison with what will then have been achieved. A broader light will surely illumine much that is now obscure. More delicate and subtile methods of examination than any we now possess, will foreshadow impending diseases, or detect them at earlier and more remediable periods of their courses. The histological changes in which inflammations take their rise, will be more clearly made out in their very incipience, and their train of consequences arrested. The poisons by which "the life of all the blood is touched corruptibly," and zymotic affections produced, will be more thoroughly investigated, and more efficiently guarded against, expelled or neutralized. Epidemic disease, the nature and origin of which are involved in obscurity, the pestilence that now "walketh in darkness," will be set in clear light, to be blotted from the sum of human ills forever,



Anæsthetics which will charm away pain without jeopardizing life will then be known. The great subject of neuro-pathology, now almost in its infancy, will receive immense development, not only through increased knowledge of the special functions of different portions of the brain and cord, but by the power which may then be possessed, of tracing the earliest disturbances in vascular and glandular action to altered innervation.

If all this seem optimism, then let us avow ourselves optimists at least in this degree, that we continually hope and strive for better and still better things.

Yet all these gains which the future may have in store, and countless others of which now we do not even dream, will be acquired by the faithful pursuance of methods like in kind to those now used.

And if hereafter we shall be regarded as

" the ancients of the earth,  
And in the morning of the times,"

yet it will be looked back upon as a morning not clouded over with the mists of error, prejudice and superstition, but bright with the radiant promise of those good things which then will be living realities.

Gentlemen of the Faculty, there are two aspects in which our calling may be viewed.

Objectively considered it is, no doubt, a constant ministry of good, of which others reap the benefit, and we, gladly and ungrudgingly, I trust, give the toil, which perhaps is its own best reward. As Arthur Clough somewhere sings ;

" To wear out heart and nerves and brain,  
And give one's self a world of pain,  
It is not in itself a bliss,  
Only it is precisely this,  
That keeps us all alive."

In this aspect the praises of our art should not be dwelt on by ourselves; and yet I cannot but suspect, that, were the question submitted to the general suffrage, which of all departments of merely human knowledge is most valued and held dearest by mankind, the answer would come back to Medicine in some such words as these; "Many daughters have done virtuously, but thou excellest them all."

But Medicine is somewhat more than this ministry of good. It has another aspect which we may well contemplate.

Subjectively considered it is a philosophy, which, if its good influences be obeyed, may strengthen and develop the mental and moral nature of its votaries. Medical science is calm and passionless. It does not strive to make the worse appear the better reason. It is never engaged in maintaining any cause irrespectively of its real worth; but is always seeking the pure and perfect truth.

"The truth shall make you free,"—*Veritas vos liberabit*,—are the divine words which have been fittingly chosen as the motto of this noble Institution of Learning and Research; and as in that highest sense in which they were first uttered by Him, Who is the Truth indeed, so in every subordinate sphere in which truth is earnestly sought for, will they be found to justify themselves. Freedom in some form and in some degree is ever gained by a knowledge of truth. Freedom from the shackles of ignorance; freedom from the follies of false systems; freedom from the physical ills of pain and disease, with which human life is environed; these are the good gifts to be imparted by a knowledge of those truths for which we, as physicians, are striving.

Perhaps the chief claim of medicine to excellence as a discipline is to be found in that mingling which its studies afford, of demonstrative and probable evidence.



The precise methods of chemical, microscopical and to a certain extent clinical, research, will lead, if they are properly pursued, to habits of exact thought, which will be satisfied with nothing less than certainty, when it is attainable.

But on the other hand problems in diagnosis and therapeutics are of frequent occurrence, into which elements of uncertainty necessarily enter. Such elements are obscurity of symptoms at early periods of disease; or the personal and intangible influences of will and emotion, which often modify disease, and modify also the effects of remedies; or again, that sort of variable vitality or tenacity of life, under which one will live on and respond to treatment with an amount of disease that another would succumb to; or which might preclude a treatment in one case, that would be beneficial in another.

These and the like uncertainties which sometimes constitute a disadvantage in the practical application of medicine, may render its study, I venture to think, even more valuable as a means of mental training. They give skill in reasoning upon probabilities, which, as Butler taught, are often the best or the only guides of life. They teach us to discover analogies and to estimate the value of varying indications.

By such skill men are best able to discriminate the true from the false in many of the difficulties and trials with which this world is beset; and by just such skill and discernment, the wise and able physician is chiefly distinguished.

All votaries of medicine, according to their original endowments and the faithfulness with which they give themselves to their work, may profit, some more, some less, by the teachings of their professional school. Every one may take to himself, whatever his abilities, the words of encouragement and warning, uttered by the great philosophical poet of our time:



If thou indeed derive thy light from Heaven,  
Then to the measure of that heaven-born light  
Shine *ever* in thy place and be content:—  
The stars pre-eminent in magnitude  
And they that form the zenith dart their beams,  
(Visible though they be to half the earth,  
Though half a sphere be conscious of their brightness.)  
Are yet of no diviner origin,  
No purer essence, than the one that burns  
Like an untended watch-fire on the ridge  
Of some dark mountain; or than those which seem  
Humbly to hang like twinkling winter lamps,  
Among the branches of the leafless trees:  
All are the undying offspring of one Sire,  
Then, to the measure of the light vouchsafed  
Shine *ever* in thy place, and be content.











