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The Relation of the Medical Pro-  
fession to Science.

AN ADDRESS

DELIVERED BEFORE THE

GRADUATING CLASS

OF THE

Department of Medicine and Surgery,

OF THE

UNIVERSITY OF MICHIGAN,

MARCH 30, 1864.

BY REV. E. O. HAVEN, D. D., LL. D.,

*President of the University.*

A Philosophical Physician is like a god.—HIPPOCRATES.

ANN ARBOR:

L. DAVIS, BOOK AND JOB PRINTER.

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## RESOLUTION.

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Extract from the proceedings of the Board of Regents of the University of Michigan, at the March meeting, 1864.

“Regent Willard presented the following resolution:

*Resolved*, That on the unanimous request of the Medical Faculty, the President be requested to furnish a copy of his Address to the Medical Graduating Class of the present year, and that one thousand copies thereof be printed for the use of the Board of Regents.

Adopted by the following vote:

Ayes:—Regents Walker, Willard, Gilbert, Joslin, Knight, and Sweezey. Absent, Regent Johnson.”

## PREFATORY NOTE.

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The Fourteenth Annual Commencement of the Medical Department of the University of Michigan, took place on Wednesday, March 30, 1864, when a class of fifty young men received the degree of M. D. On the same day the Fifth Annual Commencement of the Law Department was held.

The next term in both the Medical and Law Departments will open on October 1st.

The Department of Science, Literature and Arts holds its commencement this year on Wednesday, June 29th., and its next term will open on September 21st.

Inasmuch as this is a State University, the only payment required of students is fifteen dollars the first year and five dollars every year thereafter.

The whole number of students during the present year has been as follows :

Department of Science, Literature, and the Arts,	300
Department of Medicine,	350
Department of Law,	221
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Total,	871

Catalogues can be obtained by applying to the President.

## ADDRESS.

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GENTLEMEN OF THE GRADUATING CLASS: An event has arrived in your history which you will never forget. Unlike many hours of the past it can never fall into oblivion. Our lives here are diversified, and as, perhaps to all, there are experiences which they would forget but cannot, so there are some epochs which they neither would nor can forget. Though it is a truth well known to naturalists that *nihil per saltum facit natura*, yet it is also true that her works are free from monotony. As every exogenous plant which grows more than a year has its rings by which its winters are numbered, as every animal has its abrupt physical changes, if not so marked as when a chrysalis becomes an insect, still by which it passes into new developments, and as in the strata of the earth many successive revolutions are chronicled, so the life of every human being—noble image of God—naturally divides itself into chapters.

You now enter one of the learned professions, through what is universally acknowledged to be the proper door-way, and graduate as Doctors of Medicine.

You might reasonably expect at such an hour to receive some words of counsel and encouragement from

an experienced member of your own profession, and yet a view from without may gain in impartiality and freshness what it may lose in accuracy and distinctness. I bespeak your charitable attention, while I present a few thoughts, I hope not inappropriate to the hour.

I shall not enter into a labored eulogy upon the Profession of Medicine, partly because such a work would be like "gilding refined gold" and "decking the lily," "superfluous and ridiculous excess," no sensible man denying that the science and art of medicine is one of the main pillars on which the fabric of civilized society rests; partly because you yourselves have shown your high estimation of this occupation by adopting it as your own, and need not that it should be commended to you; and principally because a more profitable train of thought for us, in such an hour to entertain, is a glance at some one of the special topics growing out of its nature or history.

I propose to offer a few remarks on the relation of your profession to science.

In becoming Doctors of Medicine you enter the ranks of no new or modern organization. From the earliest times there have been men engaged in the healing art; and in precise proportion to the general culture of the people has this profession consisted of well developed and superior men. The necessities of life require that there should be an educated and trained class of men, devoted to the methods by which disease can be cured and the greatest amount of healthful life can be commanded. Among the oldest civilizations, such as those of China, India, Persia and Egypt, the character of the physicians reflected or exhibited the mingled

strength and weakness of their society. From that alone, the Hebrew prophets might have easily prognosticated the downfall of the great nations around them, without any special inspiration. The principles of hygiene, incorporated into the law given from Mt. Sinai have exerted, perhaps, a greater influence in preserving the people that received them, than even their moral and religious peculiarities. Physical sins, proceeding sometimes from ignorance and sometimes from moral sins, have swept whole nations into the tomb.—Accomplished physicians and good moral teachers alone could have saved them.

In ancient Greece, physicians were highly esteemed as among their most useful men, but they betrayed, more than any other class of scholars the defects of the Aristotelian philosophy, and the want of that system of inductive reasoning which was afterwards so ably developed, if not inaugurated, by Bacon, and on which, more than any other, the true art of medicine is based.

In that knowledge of the human body which can be acquired by the patient study of its external form, the ancient physicians excelled; in an empirical acquaintance with gymnastics and the regimen requisite for strength, agility and beauty, they certainly were eminent; but of all that close and minute acquaintance with the internal organism, and with the forces working in it, that constitutes modern medical science, they were almost totally ignorant. No one can notice the allusions to physicians in the Dialogues of Plato, for instance, without perceiving that some of the profound maxims of modern medicine were well known then, and that in the art of developing and invigorating the healthy man, more was demanded then than now. But in the

nursing of the feeble, and in the treatment of disease the Greek physicians were comparatively unskilled.

In one place Plato remarks that "clever physicians when one comes to them with a pain in the eyes, do not attempt to cure the eyes alone, but they attend to the head, and not the head alone, but the whole body." "By diet," he says, "they cure the whole body."\* But he soon after adds an expression which betrays in a single sentence the measureless inferiority of the ancients to the moderns in accurate observation: "The Thracian physicians," he says, "are reported to render men immortal." This simple remark betrays the great defect of ancient science—the want of care in collecting and scrutinizing *facts*. They did not discriminate between rumors and realities. They spun beautiful theories out of their own brains, they had no careful study of science. In fine, they were followers of Aristotle, and not of Bacon.† Literature they had, poetry, oratory, logic; in arts they excelled; architecture, painting, sculpture; even in some material forms of industry they were eminently successful, such as the making of roads, aqueducts and bridges; but in what is truly called science—the patient acquisition of knowl-

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\*Platonis Charmides.

†Of course it is not intimated in the above that the ancients could have been the followers of Bacon centuries before he lived, but attention is called to the fact that the ancient writings on medicine are of little practical merit for the want of a correct philosophy. Indeed some of the best illustrations of the value of the inductive system of philosophy can be drawn from medical writings. It is also worthy of notice that Bacon was led by his habits of investigation to a pretty thorough study of Medicine, though in spite of his philosophy many of his notions indicate the great darkness from which the profession was then just emerging.

edge, the detection and comprehension of general laws of which individual existences are but expressions, the rejection of all conceits and whims and theories that will not bear the most rigid scrutiny—in all this the ancients were but children, they had but just begun intelligently to live. The vast area of science, as we understand it, is of modern discovery. The ancients never saw it; they were attracted rather by the gorgeous clouds in the sky than by the rough earth that demands so much patience, toil and study.

Of course they often philosophised; they often observed and reasoned; it is impossible not to do so being human; but no one among them appreciated and announced the necessity of doing it, the boundlessness of the universe in which it can be done, the unsatisfactoriness of all theories of medicine or any other practical art, not founded on facts, and the absolute indispensableness of rejecting all teachings that will not bear a practical test—these things they did not understand. As children often lisped in tropes and metaphors before the days of Homer and Isaiah, and asked philosophical questions and answered them before the days of Pythagoras and Plato, so undoubtedly men drew conclusions from facts long before the days of Bacon; but never, till within two centuries, was there a community of men seen, as now, in many nations, speaking many languages, patiently interrogating nature—the earth, the air, the skies,—examining every plant, from the latest mildew to the oldest vegetable fossil, from the most minute vegetable cellule to the giant trees of the forest; every animal from the ovum of the insect to the elephant and whale; every element and every compound, natural and artificial, in the

range of chemistry ; every object from the grain of sand to the sun. To enumerate the mere subjects of patient observation and study would require hours and make my address like a dictionary—of which many might be inclined to repeat the old witticism of the ignorant reader, that it was full of long words, but he could not see the connection—and yet if these objects all were properly classified and their names would only suggest their natures, the recital of them would not be dry, but would cause to march before you, with infinite variety and pomp and beauty and music, the very universe, as it must ever appear to its Creator. But no mortal can aspire to such a vision. Already science has outgrown the human intellect. No one finite intellect can comprehend the Kosmos. God alone can grasp all in one.

It is the glory of your profession that it is exclusively and rigidly scientific. It is built upon the works and laws, not of man but of God—laws too not indeterminate, but which can be ascertained and classified and measurably controlled by the human mind.

One noticeable and valuable peculiarity of scientific investigation is, that all of its practical benefits are imperishable and cumulative, so that in the use of them each generation may advance beyond their fathers.—Therefore each generation of doctors should be superior to their predecessors. It is not so at least in so large a degree with metaphysics, nor theology, nor law. The metaphysician of to-day is obliged to repeat much of the reasoning of the school of Socrates and Plato before he can obtain precisely the same strong conviction of the elementary truths of the reason, which they entertained. He must grapple with sophistry that has

long since been exploded. Philosophy, Logic, Faith, cannot be transmitted from father to son. They cannot be poured from mind to mind. Indeed ability to do it is not much strengthened by the directions of a teacher. In this respect we see a peculiar meaning in the maxim of Euclid which perhaps HE did not appreciate—"There is no royal road to learning." Even the many who have passed over it do not much smooth the passage way for others—they can only fire the ambition and stimulate the zeal of their successors. All alike start at the bottom; few reach the top. But in regard to the practical fruits of science this is not true. The plough once invented can never be forgotten.—The use of water, wind and steam as motive power, having once been discovered and applied, can never pass into oblivion. Indeed the practical results of science become the daily necessities of life. Without them the millions of human beings on earth would be reduced to a few straggling tribes, struggling hard for existence. Also the most of the false theories of science once exposed can never be revived. No man now, for instance, could credit the theories of Ptolemy or Tycho Brahe, nor many of the notions believed by Hippocrates or Avicenna.

The profession of medicine, as I understand it, is more intimately connected with this growth, especially of natural science, than any other profession. It is not therefore wonderful that many of the great leaders in science have been practicing physicians, and that nearly all of them have made themselves thoroughly intimate with the laws of human life. It is not regarded as singular that a physician, Harvey, should have discovered the circulation of the blood; that an-

other physician, Jenner, should have discovered an almost infallible preventive and annihilator of the worst scourge of modern times, the variola,—in vaccination; nor that the use of nearly all the grand remedies, and alleviants of pain, and compensations for bodily afflictions, should have been suggested, discovered, or devised by physicians—for this is in the line of their profession—but it is gratifying to observe that such men as Linnaeus, the father of Botany, Cuvier, the projector of a comprehensive theory of nature, Sir Humphry Davy, the brilliant improver of chemistry, and many others of the great pioneers in science were physicians. Remove from the natural science of to-day all that has been contributed to it by men of your profession, and the world would be thrown into great confusion, and much of the darkness of the past ages would settle down again upon us.

But the great glory of your profession is the practical use which has been made of knowledge by its members. The very soul of its life seems to be a constant inquiry, How can suffering be alleviated? How can disease be removed? How can life be made more comfortable and be prolonged? To accomplish this no investigation can be too minute, no ratiocination too thorough, no labor too severe, no exposure too dangerous. The death-damp of malaria, the terrors of the pestilence, the slaughter of the battle-field, cannot drive away the physician. Wherever man, woman, or child in pain and wretchedness is found confronted by death, there you meet the physician. The mysterious nature and origin of disease is investigated with observation, experimentation and analysis, in the fond hope that some remedy may be ascertained, and the constant am-

bition is to alleviate the sorrow and lengthen the life of man. It is the confirmed habit, the second nature of a true physician to do good.

How much the profession has accomplished for man it is impossible accurately to determine ; but there is little danger that it will be over-estimated. When we note the fact that all through the highly civilized and Christianized nations, every family, with scarcely an exception, is more or less visited by a physician ; that no sooner does disease betray its presence than science is summoned to investigate, check or direct it ; when we look at the hospitals in all our large cities, at asylums for the blind, deaf and dumb, and insane—institutions that would be nearly useless but for the medical art ;—when we reflect that diseases once common are now unknown ; that epidemics once fearful are now prevented ; that the demon of pestilence that once followed war and slew vastly more than the sword is now almost entirely banished from the earth ; and that the average life of man in those nations where medicine is thoroughly studied has actually increased several years,—the combined effect no doubt of Medical Science, and Christian morality and serenity—and that life, is much less painful and feeble than formerly—what language shall express, what mathematical formulæ even shall truly symbolize the blessings of your profession ?

All this it has accomplished too in spite of ignorance, superstition and charlatanry, enough almost sometimes to weaken one's faith in human nature, in science and truth, and to drive a wise man mad.

These evils—ignorance, superstition and charlatanry, or quackery, are so intimately connected that they

must rise or fall together. They may seem to be independent, and in individual instances may be, but these are exceptions, and should be so regarded. Generally it is only an ignorant person, that has never been trained to perceive the connection between cause and effect, who believes in charms, and luck, and in remedies which appeal only to the imagination. It is this class that are imposed upon by the venders of secret medicines, and employ ignorant charlatans, to obtain their funds, and hurry them to the grave.

The more intelligent, informed, and educated a community are, the more clearly will they see and appreciate that men who study and acquaint themselves with all that has been ascertained by the experience of ages, are alone deserving of respect and confidence to cure disease. And especially when they come to know the peculiar liberality and progressiveness of your profession, will their trust in it be immovable.

The future of your profession no human mind can adequately describe. If the fond dreams of human perfectibility which ever since Leibnitz\* wrote have characterized modern times, are the healthy products of an imagination which God has given to man to provide for the future, and are in any measure to be fulfilled, much of it will be due to the efforts of medical men. Leaders in your profession believe that very many of the shocks that flesh is heir to now, might be entirely obviated and annihilated by a proper mode of life. Such are the recuperative energies of the hu-

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\*Not that Leibnitz originated this habit of thinking, but he was the first, or one of the first, to draw pictures of "a good time coming" which so strikingly characterize both philosophers and Christian writers of modern times.

man body that, by obeying the laws of life, scrofula with its innumerable horrors, consumption, scourge of millions, and other prevalent diseases, might be made to retire into the oblivion that has already covered the leprosy and plagues that once desolated Europe.

Here we see the connection of your profession with the sister professions of law and theology. Social science is the most complicated and the most valuable of all sciences. Precisely where law should begin and end in its control and direction of the individual for the general good, to secure an exemption from disease and the comfort of the whole people, is a problem that requires the vastest accumulation of knowledge and the best wisdom of man. Therefore able physicians should always be found in all our law making bodies. Our town and city councils, our school committees, our State Legislature, and our National Congress should always have a fair proportion of men learned in medicine as a profession.

The physiological aspect of the profoundest social questions has not yet been sufficiently considered. It becomes all who have any influence upon public opinion—and who has not?—to look at this matter carefully and discharge his duty connected with it.

No other profession so perfectly combines in itself all that is good in conservatism, and all that is good in novelty, so far as the two principles apply to its range of investigation and practice. The true Medical profession discards all schools, or cliques, or parties. It is as old as civilization. It never forgets anything. It neither receives nor discards anything because it is old, or because it is new. Its practice is beautifully summed up in the apostolic precept---

“Prove all things: hold fast that which is good.” Therefore it is continually advancing. Researches in botany, chemistry, physiology, mental and moral science—for the body is affected by the soul; political and social science—for the condition and habits of the people affect their health; all are contributory to the advancement of the healing art.

Therefore a physician should be a thoroughly educated man. If any class among us should be well-trained scholars, familiar in particular with mental, moral and natural science, it is the physician. No in-born talent, no power of display, no social position, no pompous pretension can take the place of intelligence and skill.

This is why I believe that there is a glorious future before the profession in this country, in spite of the looseness of our laws to protect the community against ignorant pretenders. Even here, where men do sometimes falsely assume the title of Doctor or *M. D.*, and are not punished as for other theft, and are not always frowned upon by an indignant community as they should be; even in this country, where, without a thorough examination by a competent board, men are suffered to practice medicine forsooth, and charge for their useless and dangerous advice and collect their bills—the profession will, as heretofore, flourish, and still more abundantly. The truth will triumph in a fair field. The growing intelligence of the people will repel sciolists and hypocrites. Solid science and worth must prevail.

On this account we ought particularly to rejoice that the leading and best Medical Colleges of our country are Departments of Universities. This is as

it should be. The education of a Doctor of Medicine is one department of that universal education which a University intends to afford. Up to a certain extent men of all professions should receive the same education, and even in their peculiar professional studies they should be able to appreciate thoroughly the points of connection with other departments.

We need broad and liberal culture to prevent narrow prejudices and conceits. A thorough man never thinks his profession embraces universal knowledge, or is necessarily the most important of all. He looks upon all departments of thought and activity as co-ordinate and parallel, and tending to the same comprehensive result.

Nor is this indirect and moral influence the only advantage from connection with a University. By a common library, and common societies, and lectures, and an interchange of information and opinion, and a longer tarrying in the University to complete some special investigations—all of which will become more and more prevalent and efficient—each Department in our University will yet find itself greatly benefitted by the common welfare.

I rejoice—and I am sure that I express the opinion of these Regents, and of the Professors in the other Departments, and of all well-informed citizens of the State—we rejoice at the unprecedented prosperity of the Medical Department of the University of Michigan. Patiently it has pursued its course, with scarcely any addition to its force or attractiveness, for many years, till by its intrinsic worth, by faithfully accomplishing more than it promised, by rigidly inculcating upon its graduating classes the necessity of thorough

study, and by making them accomplished theoretical physicians, prepared at once scientifically and safely to prosecute their noble calling, it has won its way to celebrity and approval. Four hundred and twenty-four of its graduates have left its halls wearing its honors, and are now scattered over the country doing good. The least we can say of them is, that of such a body of alumni any Medical College in this or other lands would be proud. Many hundreds of others have enjoyed its advantages without graduation here. One hundred and seven are known to be or to have been, in the army as surgeons. And I can confidently say of them, not only that they have not shrunk from their posts of duty in the hour of danger, but that, in battle and in camp, they have been able to bring the last and best results of science to bear, to save the lives of our brave soldiers. It is theirs to save, not to destroy, and faithfully have they wrought.

And now, Gentlemen, suffer me to add, that we trust you carry with you an affectionate recollection and a high appreciation of the University of Michigan. You have shown your estimation of it by coming hither and remaining here to the last. You and your Juniors have filled the old lecture room to repletion.—Though mathematics is not a part of your curriculum, you have demonstrated one mathematical problem practically and splendidly,—that is to ascertain how many human beings could be packed into a room of given compass.\* It has been often said that “he is a

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\*Pleasant allusions were designed to be made in these remarks to the very crowded condition of the lecture rooms in the Medical College during the past year, and to the increased accommodations now in preparation. The Regents of the University have voted to erect a new

benefactor who makes three blades of grass grow where but two grew before ;” what then shall we say of him who makes three medical students sit where but two could sit before ? The old building I am glad to see, could not contain the internal pressure longer, and as the students begun to grow under their instructions, it has exploded—a striking illustration of the swelling that preceeds graduation ! Gaze on it gentlemen, long, for you will never see the like of it again. When you visit us, as we trust you often will, coming from your several fields of practice wherever they may be, you will see if not a splendid, certainly a respectable, large convenient, model temple of medical science—one of which the whole country, and this State in particular, and especially this city, will have occasion to be proud. We owe an expression of thanks to the citizens of Ann Arbor for their prompt, unanimous, liberal response to the suggestion of the Regents that aid in enlarging the Medical College building was needed. In behalf of the University I acknowledge the favor, and will only add that the response has been so hearty and so encouraging that if we ever find ourselves in like circumstances hereafter we shall know where to call again !

But, Gentlemen, I must not detain you longer. I remember that you have heard many lectures, and do not desire to inflict upon you a wearisome address at

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Medical Building to which the old building will be attached, at an expense of about twenty-five thousand dollars. The city of Ann Arbor, at a meeting of citizens called to consider the subject, and which was largely attended, voted to appropriate ten thousand dollars to aid in the erection of the building. Hereafter the conveniences of the Medical Department of the University will be much greater than heretofore.

the close of your course. Suffer me in conclusion, to say only a word or two consonant with the spirit of my own profession. The moral influence, yes the religious influence of a physician must be great. It is possible, as you well know, to contribute to the physical health and the moral disease of the people at the same time. Thus may you kill while you cure. It is also possible to benefit both body and soul at once.—Fortunate is that community blest with a good physician who is at the same time a thoroughly good man. The sick man looks up to him as a superior intelligence; husband, wife, children, friends, and strangers, confide in his wisdom and have no fearful suspicions of his fidelity; and he has that best reward of earthly labor, that true ambrosia, food only fit for gods, a consciousness of the deserved love of others; and even in hours of misfortune when perhaps he is blamed for not working miracles, for not saving the lives of those appointed to die, he has the interior peace arising from having done his duty, and the exterior support of a good life.

May you all have abundant success in your profession and meet at last where God shall wipe away all tears from all eyes, and where

“Sickness and sorrow, pain and death,  
Are felt and feared no more.”



