

# James Cuming (1833–99)

President Belfast Medical Society

1860–61

President Ulster Medical Society

1868–69 and 1881–82

## Presidential Opening Address<sup>1</sup>

Ulster Medical Society

2nd November 1868

GENTLEMEN—It is a portion of the duty which devolves on me, as President of this Society, to address to you some observations introductory to our Winter Session. In the first place, permit me to return you thanks for the honour which you have conferred upon me in electing me to this chair. Nothing could be more gratifying to me than such a spontaneous mark of regard coming from my professional brethren, and I had no hesitation in accepting it, knowing that I could rely on your kindness and consideration to aid me in the discharge of duties for which I might otherwise have felt myself inadequate.

Sixty-two years have elapsed since this Society was founded; for we are the legitimate successors of those who originated the Belfast Medical Society in 1806, although its continuity was temporarily interrupted before its re-organization in 1822. In 1862, the Clinical and Pathological was amalgamated with the Medical Society, and the name of Ulster Medical Society adopted. From that period the meetings have been more frequent, and the number of contributions from the members have considerably increased.

We owe much to our predecessors in this Society. They formed and transmitted to us an admirable collection of works, amounting to above five thousand volumes, and including a large number of rare and curious works, which are invaluable to the student of the history of medicine. They have handed down to us also gifts still more precious in the memory of lives honourable to their profession and useful to the community in which they lived. The annals of a town which has produced many distinguished citizens, record no names which deserve a more honourable place than those of Drennan and M'Donnell, who were among the original members of this Society.

In 1806, the medical profession in Belfast numbered nineteen members; the town contained 22,000 inhabitants. Now there are eighty-one practitioners of medicine, and the population of the town probably exceeds 150,000.

The period of the foundation of the Society was



one of great intellectual activity in medical science. Jenner's great discovery of vaccination had been first announced eight years before, and was rapidly making its way into public notice. Hunter's famous treatise on the blood and on inflammation, which changed the face of the existing pathology, had been published in 1794. Abernethy was in the meridian of his unequalled reputation. Astley Cooper and Charles Bell were rapidly rising into eminence. Dupuytren had just been appointed to the Hotel Dieu, where his surgical ability was so long unrivalled. Laennec, to whom our art owes more than probably to any single man of either ancient or modern times, was commencing the investigations which have rendered such imperishable services to the science and practice of medicine. Cuvier was in the zenith of his fame.

The whole method of investigation had also undergone a complete change. Authority was no longer regarded as paramount. The ancients, it is true, had been long dethroned, but, in their stead, more modern masters had arisen, whose teachings had acquired a sway over the minds of physicians almost equalling that exercised by Hippocrates or

<sup>1</sup> From the Dublin Quarterly Journal of Medical Science

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Galen. Twenty years before the celebrated Cullen related an anecdote, in a lecture which he delivered in the University of Edinburgh, which shows how the authority of Boerhaave was enough to weigh heavily on the freedom of inquiry. "My friend and patron, George Drummond (Provost of Edinburgh), came to me," he said, "requesting seriously that I would avoid differing with Dr. Boerhaave, as he found my conduct in that respect was likely to hurt myself and the university also." He adds, with characteristic prudence, "I promised to be cautious; and upon every occasion I spoke very respectfully of Dr. Boerhaave." Now, with the growth of science, and with the development of new means of investigation, the received opinions were examined with a freedom and minuteness which had been before unusual, and from which results of the highest value soon flowed. Looking back on the state of knowledge at the beginning of the century, we can recognize the vast strides which have been made in every department of medicine.

Now, this very progress, of which we are justly proud, has been made a subject of reproach to the profession of medicine. The pharmacopeias of past generations have been disinterred, and the public made merry with such complex formula as the Aqua Coelestis and the Mithridate Andromachi. The opinions, often, it must be admitted, crude and fantastic enough, of the earlier physicians, have been cited as evidence that medicine has been practised without any solid foundation for its precepts and methods. In reality, however, this only proves that the growth of medical science has been accompanied by errors and imperfections, such as are known to have occurred in abundance during the development of other branches of knowledge. The history of astronomy, of chemistry, of geology, afford us multiplied examples of speculations as baseless as those of Paracelsus or Van Helmont. Besides, it must be remembered, that physicians could not be mere *curiosi naturae*—could not be content to be simply spectators of phenomena. They found themselves in the presence of formidable maladies, of devastating epidemics, and these they had to meet with the best means at their disposal. In the face of difficulties and danger, often of the most urgent character, sometimes of even appalling magnitude, they had to act with the limited knowledge which they possessed. No doubt many of their principles were erroneous, and much of their practice useless, some even mischievous, but still their knowledge was always vastly in advance of the popular notions of their day.

It is easy to point out mistakes into which they

have fallen, just as it is easy to discover defects in the criminal legislation of our ancestors, in their notions of political economy, and in many of their methods of administration; but we know how incomparably better than anarchy is even an imperfect system of government; and in estimating the value to the world of the medical art of earlier times, we must bear in mind the extreme ignorance of medical subjects which was shared by the foremost intellects of their generation.

When the student of the history of medicine is wearied and disheartened by the laborious trifling and the idle discussions of his predecessors, let him turn to the pages of the most eminent contemporary authors, and learn their opinions on kindred subjects, and he will rather wonder at the acuteness and penetration of the earlier physicians. It is only by investigations of this kind that we can calculate the true position which the cultivators of medical science have held in relation to the general progress of human knowledge. It may not, accordingly, be devoid of interest, if I allude to some of the opinions on medical subjects held by several of the foremost thinkers of modern times; selecting only those philosophers who have given serious attention to questions connected with our art, and who have given deliberate expression to their views. Nor need we search for our examples among the followers of Aristotle and the ancients; we can find them in abundance among those most deeply imbued with the new methods.

Probably we could find no more typical representative of modern thought and of the spirit of modern investigation than Bacon. He, more than any man of his generation, had thoroughly broken with antiquity. Bacon had a high idea of physic, and a genuine respect for physicians, although, according to a custom which is not altogether unknown even in the present day, he was fond of lecturing them on their shortcomings, and of giving them a good deal of perfectly well-intentioned advice.

"Medicine," he tells us, "is a science which hath been more professed than laboured, and yet more laboured than advanced." He advises physicians to raise their thoughts above common cures to the subject of prolonging and renewing the life of man, and he brings against them a charge, which has certainly not often been repeated, of prescribing in too simple a manner, and of not combining together a sufficient number and variety of drugs. In addition, however, to his criticisms, he has given an elaborate exposition of his own views as to the means by which life may best be prolonged and renewed. It may be interesting to touch upon some of his opinions on this

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subject, as an example of how a problem of this kind was dealt with at the beginning of the seventeenth century by one of the foremost intellects of modern times.

Life, according to Bacon, may be effectually prolonged by a combination of ten operations. Of these the first is,<sup>1</sup> “The operation upon the spirits to renew their freshness.” This is to be accomplished by various means, of which the principal is the daily use of from three to ten grains of nitre. This remedy refrigerates and condenses the spirits, and he conceives it to have been specially created for that object.

The second operation is the exclusion of the external air from the surface of the body. This is to be effected by closing as completely as possible the pores of the skin. For this purpose astringent baths are to be used, and the surface of the body smeared with oil. Passing over the intermediate operations, we come to the ninth, which is, perhaps, the most curious of the whole. It is entitled, “The operation upon the inteneration of the parts which have become dry, or the softening of the body.” It is intended to counteract the drying and hardening of the body, which occurs as age advances; and is to be effected by baths and by anointings.

“In the fable,” he informs us, “of the restoration of Peliás to youth, Medea, when she pretended to set to work, proposed to accomplish it by cutting the body of the old man to pieces, and boiling it up in a cauldron with certain drugs. Some boiling may perhaps be required for the purpose, but the cutting to pieces is unnecessary.”

The best bath, according to Bacon, is one composed of the warm, fresh blood either of man or of animals; but as this is somewhat loathsome, it may be replaced by other substances of a nutritive character. The Baconian prescription for this unique bath is that it should be composed of the fatter kinds of flesh, such as beef and pork, with oysters, milk, butter, yolks of eggs, wheatmeal, and wine sweetened with sugar or honey. To these should be added salt, saffron, mastic, myrrh, and myrtle-berries.

“The operation will become far more powerful if the proposed bath (which I hold to be the principal thing) be attended by a course and order of four operations. First, before bathing, rub the body and anoint it with oil mixed with some thickening

<sup>1</sup> “*Historia Vitae et Mortis*.” In this and in the following quotations I have used, with a few slight alterations, the version of Headlam, given in the edition of Bacon’s works by Spedding, Ellis, and Heath.

substance, that the power and moistening heat of the bath, rather than the watery part, may enter the body. Next, get into the bath, and remain there about two hours. After the bath cover the body with a plaster of mastic, myrrh, tragacanth, diapalma, and saffron, to keep in the perspiration as much as possible, till the soft matter has by degrees become solid, and keep it on for twenty-four hours or more. Lastly, after taking off the plaster, anoint the body with a mixture of oil, saffron, and salt. Renew the bath with the plaster and unction as before every fifth day, and let the process of softening the body continue for a month.”

I think it would be difficult to find anywhere a series of directions more likely to injure the health, or more directly antagonistic to sound notions about the animal economy, than those which we have quoted from the father of modern experimental philosophy.

About the same time that Bacon was announcing this discovery to the world—a discovery which was, in his eyes, so important, that he advanced the treatise containing it to an earlier place in the *Instauratio Magna*, so that no time should be lost in making it public—Harvey, then lecturer on anatomy and surgery at the College of Physicians, was announcing his immortal discovery of the circulation of the blood. Indeed, it is stated that Harvey was physician to Bacon himself, as well as to James I., and that he had formed a low estimate of Bacon’s powers, having probably judged of them from the character of his physiological speculations. “He writes philosophy like a Lord Chancellor,” Harvey is reported to have said in derision.

Physiological subjects were treated of at much length by another illustrious philosopher, Descartes, who may be regarded as standing in the same relation to modern psychology that Bacon does to modern experimental philosophy. Descartes, who was a man of spotless character, had, like Bacon, studied the means of ensuring longevity, and had arrived at the conclusion that the surest method of preserving life is not to fear death.<sup>1</sup> He was well acquainted with the circulation of the blood, and his advocacy of Harvey’s views contributed powerfully to bring about their acceptance throughout Europe.

He published a treatise on man, which was the fruit of fifteen years of anatomical study and observation, in which he explained his views as to the manner in which the circulation was maintained.

There is, according to Descartes,<sup>2</sup> a

<sup>1</sup> Au lieu de trouver le moyen de conserver la vie, j’en ai trouvé une autre plus sûr, c’est celui de ne pas craindre la mort. *Œuvres de Descartes par Cousin.*—Tome i., p. 112.

<sup>2</sup> L’Homme. *Œuvres.* Tome iv.

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non-luminous fire contained in the pores of the substance of the heart which renders it so extremely hot that the blood on entering it becomes at once dilated, and brought to the condition of vapour. In this gaseous state it is sent to the lungs, where it is cooled and restored to the liquid state, and in this condition returned to the left side of the heart. No sooner, however, does it again enter the heart than it is again rarified by the fire contained in that organ, and in this way is driven into the arteries.

Descartes made some considerable discoveries in physics, but it is evident that his fifteen years' study had not enabled him to much advance our knowledge of vital processes.

It is well known that the benevolent mind of Berkeley, one of the most acute of modern metaphysicians, was filled with the notion that in tar water, made by pouring a gallon of cold water upon a quart of tar, he had found a panacea for all the ills of humanity. So profoundly was he impressed with the importance of his favourite remedy, that we find him declaring:<sup>1</sup>—"As the old philosopher cried aloud from the housetop to his fellow-citizens, 'Educate your children.' so, I confess, if I had a situation high enough, and a voice loud enough, I would cry out to all the valetudinarians upon earth, 'Drink tar water.'" He even attributed to this wonderful fluid a subtle influence on the development of the intellect. "Nor is it only useful," he says, "to the bodies of infants, it hath also a good effect on their minds, as those who drink it are observed to be remarkably forward and sprightly. Even the most heavy, lumpish, and unpromising infants appear to be much improved by it. A child there is in my neighbourhood, of fine parts, who at first seemed stupid and an idiot, but by constant use of tar water grew lively and observing, and is now noted for understanding beyond others of the same age." When we remember that this passage was published in 1752, when Cullen and William Hunter were teaching medicine and anatomy, we shall have no reason to doubt that, on their own ground, the physicians of the day were more than a match for the metaphysicians.

Coming to more modern times, we may select, as a final instance, the greatest speculative philosopher of Germany, the celebrated Kant. Kant had the singular misfortune to be impartially and eminently wrong, both in what he believed about medicine and in what he disbelieved. He was an enthusiastic

<sup>1</sup> A Letter to T. P., Esq., containing some further remarks on the virtues of tar water, and "Farther Thoughts about Tar Water."

admirer of the absurd Brunonian system, which hardly survived its birth, and of the puerilities of Beddoes; and he was strongly opposed to what has proved an inestimable blessing to the human race—the practice of vaccination.

It would not be amiss, when we are lectured by some of our contemporaries on the defects of our art, to remind them of the errors into which men greater than they have fallen when they ventured into our domain, and to counsel them to learn humility from the example of Bacon, of Descartes, of Berkeley, and of Kant.

I have adduced these instances, to which it would be easy to add many others, not with the idle notion of depreciating the labours of the great philosophers to whom I have alluded, but to show the inherent difficulties of the study of medicine, the danger of regarding the facts or generalizations derived from other sciences as adequate to its elucidation, and the absolute necessity for a minute and accurate as well as comprehensive knowledge of the phenomena of disease before venturing to even speculate upon its theory, much less to meddle with its practice.

It was acutely remarked by Bichât that pathology, the science of disease, has no exact analogue among the physical sciences. Physiology bears the same relation to living bodies that astronomy, mechanics, and the other branches of natural philosophy do to inert matter. But there is no pathology of any of the physical sciences. We cannot suppose gravitation to be variable in its operations, or chemical affinity as liable to diseased action. Nor can we conceive these forces as susceptible of being influenced by medicaments. Accordingly the processes of disease must be studied by and for themselves, and they, as well as the modes of modifying them, and of restoring healthy action, must be made the subject of special investigation, which is to be conducted according to the general principles which govern all scientific research, but which must not be dominated by ideas derived from any other branch of inquiry.

Even as regards the impression produced on the mind, there is a marked difference between the contemplation of vital phenomena and that of the operation of the physical forces. The study of life and of its manifestations conveys the idea of tumultuous action and energy, of effort sometimes bathed, sometimes victorious, of a strife and turbulence, so to speak, compared with which the majestic regularity and unvarying precision of the physical forces seem the type of serene and immutable power.

When chemistry and physics, and anatomy and psychology, have said their last word, we are still only

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on the threshold of medicine, and it is from a neglect of this important truth that so many mistakes have been committed. There is no doubt that many of the ablest physicians have proposed theories which have not borne the test of subsequent investigation, but there was this important peculiarity with regard to most of these theories, that the experience and sagacity which their authors had acquired by watching the working of diseases and of remedies saved them from falling into such disastrous errors of practice as those which we have noticed. It has been stated with regard to Sydenham that while his system was very often bad, his practice was generally good. Probably at the present day our practice is in advance of our theory. We all allow ourselves a certain latitude in speculation, but we hold fast by the practical facts which have been gained to us by centuries of observation, and which are none the less valuable because they are often purely empirical. I believe no man living can fully explain why and how opium acts, and yet every physician knows its effect, and how to get from it the maximum effect with the minimum of risk in cases where he considers it to be useful.

Now when we find that the leaders of thought and of progress in their generation fell into the egregious blunders to which we have adverted, we can form some faint, conception of the chaotic condition in which the notions of the uneducated mass of the people must have been with regard to medical subjects. Even now, with the vastly greater facilities for the acquisition of knowledge which the spread of education has afforded, we are all aware of the great number of popular errors which we have occasionally to combat, of the vigour and intensity of popular prejudices, and, at the same time, of how easily a large portion of the world can be dazzled by any specious or confident pretender. When we reflect on homeopathy and hydropathy; when we think of the hundred delusions not more baseless, although generally infinitely more mischievous, which have flourished and been forgotten, we see with what flimsy theories large numbers of the community can be satisfied. And when we think of the cancer-curers, and of the consumption-curers of the countless knaves who prey upon other forms of human infirmity, we can form some notion of the enormous value of our profession to the world, if it possessed merely the negative merit of protecting our fellow-creatures from these cruel, ignorant, and rapacious charlatans.

I should be sorry, however, to be supposed to throw any imputation on the motives of many of those who are incredulous regarding the value of the art of medicine. No doubt in numerous instances this

incredulity is the result of genuine conviction, in others the fruit of an imagination too active and soaring to be trammelled by mere facts. Many have "been driven, by strong benevolence of soul," far beyond the regions of common sense and of daily experience. Not very many years have elapsed since I entered upon the study of medicine, and yet during that period, hardly exceeding three lustres, I have witnessed the rise and fall of several all but infallible remedies for various diseases. I have read several publications, before which, in the opinion of their authors, the whole structure of medicine was destined to fall as speedily as the walls of Jericho did before the trumpets of Joshua. I have been solemnly advised, nay warned, to devote my attention to as many systems of cure as would have given me full occupation in their investigation, could I have looked forward to years as numerous as those of "the many-wintered crow," or, as might be hoped for from Bacon's bath, were it as efficacious in producing longevity as it is undeniably disgusting.

The fact is, that while with our present knowledge no great generalization is as yet possible, we have ample scope for the most far-reaching and penetrating intellect in the work which lies at our hand.

A distinguished writer has attributed to the study of medical science an important influence in the development and cultivation of one of the most remarkable intellects of modern times. "No science could have been chosen more happily," says Dugald Stewart, "to prepare such a mind as that of Locke for the prosecution of those speculations which have immortalized his name; the complicated and fugitive, and often equivocal phenomena of disease requiring in the observer a far greater portion of discriminating sagacity than those of physics, properly so called; resembling, in this respect, much more nearly, the phenomena about which metaphysics, ethics, and politics are conversant."<sup>1</sup>

Even to ascertain what the disease is under which his patient labours, a physician must have an exact knowledge of healthy structure and function, so as to recognize the character and extent of the deviations from them; he must be familiar with the vast range of diseases which have been known to occur, so as to be aware of what is possible; he must possess delicate and experienced tact to be able to ascertain and elicit the symptoms which are present; and as the facts

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<sup>1</sup> Dissertation of the Progress of Philosophy since the Revival of Letters.

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upon which his conclusions must be based are often incomplete, sometimes apparently contradictory, occasionally even wilfully withheld from him, he must possess a power of nice discrimination, and a thoroughly trained logical faculty, to be able to arrive at a correct conclusion as to what the disease is most likely to be, and how far he is warranted in acting on the probability so arrived at. It is essential, also, that his knowledge should be so thorough as to be always and in every emergency at once available for use, a requirement which necessitates such a familiarity with both principles and details as is only to be gained by long and earnest study.

All of us have had experience of the immense amount of time and patience necessary to gain a proper knowledge of human anatomy. We know the wide field embraced by physiology and pathology, by medicine and surgery, and what labour it requires to traverse it with anything approaching completeness. We know the amount of time and attention which it is necessary to devote to the acquisition in the wards of an hospital of some practical familiarity with the daily duties of the life of a medical practitioner; and, reflecting on this, we see how scanty, in reality, is the period allotted to professional studies, and how impossible it is to curtail it by giving up any considerable portion of it to other than professional subjects. We see, too, how essential it is that every one who attempts to master this vast department of human knowledge should come to its study with his reasoning powers, as far as possible, already disciplined, with his faculties of attention, of abstraction, of comparison, and the like, already exercised and sharpened by a sound and well-directed preliminary education. To such students the acquisition of knowledge is easy and delightful, and from such students we may fairly expect additions hereafter to our knowledge of sterling and solid value.

Within the last few years, and in a great degree, it must be owned, in consequence of the action of the General Council of Medical Education, a considerable advance has been made towards the establishment of a better and more comprehensive standard of general and professional education. Few questions are of greater public importance than this; for everything which tends to increase the efficiency of the members of the medical profession has a direct and obvious bearing on the well-being of the community in which they are to exercise their art. Even, however, among some of the ablest and most enlightened advocates of improvements in our present system, there are signs of a tendency to attach undue importance to those branches of learning which are

high in public estimation, and of which the cultivation may be regarded as favourable to the maintenance and advancement of the prestige and the social position of the profession. I cannot, for example, attribute the vigorous efforts which have been made to establish the Greek language as an essential part of the preliminary education of medical students altogether to a conviction of its importance in promoting the ultimate ends of medical education. A superficial acquaintance with Greek is, it would seem to me, comparatively worthless; and any large or thorough knowledge of the masterpieces of its poetry, philosophy, or history, is, as regards the medical student, practically unattainable—indeed, is practically unattained by the immense majority of those who have received what is ordinarily understood to be a liberal education. The arguments which are employed by the advocates of Greek seem to take for granted that the ordinary student will be enabled to at least read the great works of its literature with ease, and that he will derive a high kind of gratification, as well as of aesthetic culture, from the exercise of this power. In addition to this, he is expected to become better acquainted with the principles of universal grammar and with philology and to obtain a more complete mastery over the resources of his own language; and these advantages, it is said, will be cheaply purchased by the admittedly irksome and protracted exertions necessary to master the elements of the language.

I am quite willing to acknowledge that a large and thorough knowledge of classical languages and literature is an indispensable element in the highest culture; and if the circumstances of the country or the position of the profession warranted us in demanding this knowledge from every aspirant to the rank of a medical student, I should welcome any effort in the direction of a result so desirable. But I do not think that the preparation for an ordinary matriculation examination has any considerable effect in this direction. The beauty and perfection of form of the ancient masterpieces can only be felt when the language in which they are contained has become so familiar to us that no effort on our part is necessary to enable us to understand the meaning of the words, and when we have attained to some comprehension of ancient modes of thought and feeling. That this is the result of a partial study of Greek is not likely to be asserted by any one who is familiar with the facts. I think that a more thorough knowledge of Latin, if, in addition the student were required to be acquainted with a modern language, would suffice amply for the grammatical training, and for the aesthetic culture,

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which are, no doubt, indispensable parts of high education.

It would not be difficult to show to any one, whose mind is not biased by the traditional reverence for classical learning which has imbued so profoundly most of our theories of education, that the study either of the French or of the German language is, as a means of educating the critical faculties, not very much inferior to that of Greek; while as an end—as conferring the power of completely and readily understanding the works written in either of these two modern languages—compared with a similar mastery of the ancient tongue, the balance of advantage is so vastly against the Greek as to preclude the possibility of any serious comparison. In fact, with the exception of its value in enabling the student to more readily understand scientific terminology, Greek may be regarded as an intellectual luxury; and it may be worth observing that in medicine we have really no scientific terminology, in the proper sense of the words. Our names of diseases do not express their systematic relations, as the nomenclature of chemistry does with respect to the substances with which that science is concerned, and, indeed, in the present state of our knowledge, it is highly desirable that we should not attempt the formation of a systematic terminology, so that on this ground also Greek cannot be regarded as necessary.

Again, a more extended and more fruitful use might be made of the valuable means of training which the natural and experimental sciences afford. The study of these sciences tends to develop and strengthen precisely those powers and faculties which are constantly called into requisition during the exigencies of professional life. Exact observation of facts, careful reasoning, and rigorous scientific method are derived almost of necessity from a sound and judicious training in these sciences. It is essential, however, to bear constantly in mind, in the consideration of this important question, that whatever be the means employed for the purpose, the education of the faculties, in the true and limited sense of the word education, is the important thing. Without this even considerable erudition or extensive knowledge of the facts of natural science will be of little use to the student; nay, may even overburden his undeveloped intellect—

“Like Saul’s plate armour on the shepherd boy,  
Encumbering and not arming him.”

With regard to the question of the granting of medical degrees, the Council has done good service. It is probable, as has been observed by Adam Smith, that no examination ever has been, or ever can be,

devised, which will give an absolute security to the public that he who has passed it is thoroughly competent to practise medicine. That degrees and diplomas have sometimes been conferred on men who were neither wise nor judicious is probably no secret either in the profession or out of it. But every effort should be made in the interest of justice and of humanity, that as far as is possible a degree should be a *bonâ fide* evidence at least of the acquirements of its possessor. It is quite clear, accordingly, that no competition should be permitted between the corporations who possess the privilege of granting them. No body should be allowed to attract candidates for its qualification by a less extended curriculum, or a less strict and searching examination than those of its rivals. This would at once and finally extinguish the artificial distinction between medical and surgical qualification, which has been a fertile source of evil to the profession.

And now, gentlemen, laying aside the consideration of questions which are specially interesting to ourselves, and regarding the wider one of the position of medicine throughout the world, I think we have ample grounds for congratulation and hope. Never have inquiries and investigations been prosecuted before with such wealth of scientific appliances, or over so many countries, or by men of such different culture, or under circumstances of so great diversity. Never were intellects of a higher kind engaged in the study of our art. And, what is still more hopeful, we find that with much observation there is little theorizing. Men are now content to proceed upon the solid ground of experience and fact, anxious rather to

“Lay great bases for eternity,  
than to erect unsubstantial and unenduring fabrics of speculation.

Looking forward to the future of our art, I think of it as going onward in sedulous, intelligent, honest investigation of the myriad varieties of the action and suffering of the human body; in the unceasing search after the means by which disease may be lightened or removed, proceeding slowly, it may be, but always on the solid basis of patient, unwearied observation, unhasting, but also unresting.

I think of it, not as quickened by higher motives or directed towards nobler aims than now, for humanity and benevolence are of the essence of the profession of medicine; but as ever gaining truer conceptions of the processes of health and of disease, and deeper insight into their nature; as laying broad and deep the foundations of a structure of knowledge from which, in “an ampler ether, a diviner air,” wider

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views of life and of its manifestations may be obtained.

I think of the conditions of health becoming defined; of the seminal principles of disease becoming recognized; of some medical Newton of the future unveiling for us the mystery of vitality; and, finally, of the noblest and crowning triumph of our art, in the discovery of better, surer, and wider means of preventing, mitigating, or curing disease.

“So from the root

Springs lighter the green stalk, from thence the leaves  
More aery; last, the bright consummate flower.”