

*Presented by Sir H.W. Acland*

*67*

ISSUED BY THE  
*ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE  
BY RESEARCH.*

THE  
ADDRESS IN SURGERY

*Read at Chester, August 9, 1866, at the Twenty-fourth Annual Meeting  
of the British Medical Association,*

*A. 312*

BY

WILLIAM BOWMAN,

HON. M.D. DUBLIN, HON. LL.D. CANTAB., F.R.S.



LONDON:

J. W. KOLCKMANN, 2, LANGHAM PLACE, W.

1882.

PRICE SIXPENCE.



87

ISSUED BY THE  
*ASSOCIATION FOR THE ADVANCEMENT OF MEDICINE*  
BY RESEARCH.

THE  
ADDRESS IN SURGERY,

*Read at Chester, August 9, 1866, at the Twenty-fourth Annual Meeting  
of the British Medical Association,*

BY

WILLIAM BOWMAN,

HON. M.D. DUBLIN, HON. LL.D. CANTAB., F.R.S.

LONDON:

J. W. KOLCKMANN, 2, LANGHAM PLACE, W.

1882.

**Ballantyne Press**  
**BALLANTYNE, HANSON AND CO., EDINBURGH**  
**CHANDOS STREET, LONDON**

## CONTENTS.

---

	PAGE
Surgery ; its permanent dignity and usefulness . . . . .	1
Present need of recognizing the Unity of the whole Art of Healing in order to promote its progress by common efforts . . . . .	6
Simple conception of the Healing Art in Early Times, and by the common sense of modern communities in opposition to artificial distinctions . . . . .	7
The Art among the Greeks, Romans, Arabians . . . . .	7
In Britain and in the Dark Ages . . . . .	8
Gradual rise of the Specialities of Physic and Surgery . . . . .	8
The London Colleges, their narrow rivalries, but great services . . . . .	10
William Harvey . . . . .	11
Physic and Surgery in England since his day . . . . .	12
William and John Hunter . . . . .	13
Idea of the Unity of the Healing Art, developed by modern progress ; counteracted by the divergent tendencies of the old Corporations, which need adaptation to modern wants . . . . .	15
Notice of Brodie, Green, Todd, and Hastings . . . . .	17
Glance at some Results of Modern Science . . . . .	19
The Atlantic Telegraph . . . . .	20
Geology . . . . .	20
Development of Life on our Planet, and Origin of Man himself . . . . .	21
Temper in which Medical Men and the Clergy should meet such Questions . . . . .	22
Of recent advances in the Healing Art . . . . .	23
In Diagnosis . . . . .	23
In Knowledge of Health and Disease . . . . .	24
In Treatment . . . . .	25
Medicine is an Art, not a Science, but to be pursued in a scientific spirit . . . . .	26
Special glory of Recent Progress . . . . .	26
Anæsthetics a splendid example of the influence of General Science on the Healing Art . . . . .	27

	PAGE
Practice of the Healing Art in Special Departments . . . . .	29
Policy as regards these . . . . .	30
Union of all for common objects . . . . .	31
The Medical Council . . . . .	32
Employment of Medical Men in Governmental Departments . . . . .	32
A more complete Organization of the whole Profession desirable in reference to its relations to the State, and still more for Promotion of Medical Science . . . . .	32
Particularly for encouraging Original Research by younger men in the Sciences ministerial to Medicine . . . . .	34
The right and duty of Experiments on Living Animals vindicated . . . . .	35
Early and full Translations from Foreign Languages to be promoted . . . . .	37
Conclusion . . . . .	38

## ADDRESS IN SURGERY.

---

MR. PRESIDENT AND GENTLEMEN,—Surgery has always been that department of the Healing Art which most strikes the imagination of mankind, and secures their admiration, by prompt, dexterous interposition, in obvious and great perils, where life or limb is jeopardized, when the ignorant or timid are ready to despair, or the disease seems too terrible and deadly to be controlled. One now steps in, holding in his hand the talismanic charm of knowledge, with skill to find and courage to touch, for their correction, the hidden springs of life, and in a few moments how altered is the scene! The poor sufferer, a weeping family, or, it may be, a nation in deep anxiety, is relieved; and gratitude, the most precious human tribute for so great a benefit, so opportunely conferred, mingles with the respect and almost veneration that greet the successful operator.

Pardon me, if I avow, arrived at middle age, that my boyish ambition—not far from this *Cestria* of the old Romans, and under the inspiration partly of one still among us (my father's friend),\* partly of others to whom I am even more deeply beholden—was to be a great surgeon. And though I am able thankfully to acknowledge a gradual diversion of my lot in life away from this dream of earlier days, I yield to none in my regard for the eminent dignity of the Surgical Art, concerned, as it is, with some of the dearest earthly interests of mankind, and certain to rise more and more in their esteem as they become more

\* Thomas Taylor Griffith, Esq., F.R.C.S., of Wrexham, ob. 1876, æt. 80. At the age of twenty—viz., in 1816—he had obtained Sir Astley Cooper's first prize in Anatomy and Surgery at Guy's. He was the leading practitioner of his time in his own county, following a father equally eminent.

capable of weighing things and men by the true and real standard of *their usefulness*. For I see no reason to doubt that future ages will still accept the pious saying of one of old, that Surgery is the *Hands of God*: the Human Hands, apt images and reflex of Man's whole Being, from his morning hour of puling helplessness, when the

. . . . tender palm is prest  
Against the circle of the breast ;\*

through all his working day of time, until they shall be upraised once more at last in joy and adoration, to hail a brighter and an eternal dawning ; the Human Hands, permitted now, through insight into God's laws, to be His instruments of succour to that earthly life and organization, which His power, wisdom, and love, having first brought into being, still alone both sustain and cause to perish when their part is played ; to that material organization which dies every hour it lives, which indeed dies by living and lives by dying, and which wondrously transmits ever its own prerogatives and dark secrets to a succeeding life, destined apparently to remain a marvel and a mystery impenetrable to all generations.

A general survey of the present state of the Healing Art in those countries that most represent the recent progress of mankind, may well incline us, on an occasion such as this, to outstep the narrow limits of the Speciality of Surgery, to which, indeed, our precedents do not confine us, and to inquire whether we be not in some danger in England now, amid the multitudinous divergencies and details of modern practice, of losing sight, in some measure, of the essential Unity that pervades our whole work of Healing in the world ; and further, whether we do not need to hold more to this central idea of unity, in order by greater concentration of our powers and agencies for good, more effectually to promote the proper objects of our great profession, by better directed common efforts than in times past.

And can such a theme be more appropriately handled, than before an Association which is, up to the present moment, the only visible upholder and representative of the comprehensive

\* "In Memoriam," xliv.



unity of all ranks and degrees of Healers in this country, and which has been for many years working towards the realization of it?

Let us, then, spend a short time in tracing, if we can, the scope and meaning of this work of ours, which interests ourselves so very closely, and our fellow-men hardly less. And for this purpose, our past history shall first be adverted to, so that we may gain, as from a distance, a more general and a juster view of our whole position.

With the earlier developments of the Art in remote ages we are little concerned, except to observe, that the same simplicity of conception which we now find among our less instructed countrymen, implied in their respectful customary epithet of "Doctor" addressed to us all alike, regardless happily both of University-acquired titles of too motley import and of modern Acts of Parliament—this same simplicity of conception would probably apply still more to the Healers of a dawning civilization; who, though they then, as now, must have failed in any instance to embrace all knowledge and all the powers of treatment, yet could hardly have been other at first than general practitioners.

Probably the state of the Healing Art (if so it can be called) in various savage tribes, and among the antique and decrepit communities of the East, only now being awakened out of the torpor of tens, perhaps of hundreds, of centuries, by the rude shock of contact with modern European forces, may exhibit to us, not inaptly, what it once was among ourselves. Certainly the early growth and moulds of our profession must have been natural, not fostered by artificial means; except indeed where the policy of chiefs, or the craft of a pagan priesthood, may have warped them to their purposes. But generally, where individuals evinced or professed an aptitude, opportunities of experience would be rife enough; and according to the nature and variety of these, would be the developments of knowledge and the divisions of practice.

At a later period, the elaborate civilization of the Greeks and Romans, and subsequently of the Arabians, was manifested scarcely less in their knowledge of Healing than of other useful arts, as their extant writings attest; it being reserved, however,

undeniably for Christianity to elicit first among mankind the true spirit, as well as the right exercise of the Art, in the institution of hospitals and asylums, and of nursing brotherhoods and sisterhoods, for the sick and maimed.

But, indeed, although the practice of Surgery in particular must have reflected, like other arts, the prevalent temper and ideas of those times, and may have been often rude, coarse, and indiscriminating, based on loose surmises, false analogies, or on prejudices or fancies altogether absurd, hence becoming what we might now be inclined to call unfeeling, even cruel; yet always, its aim being beneficent, its tendencies must have been so too; a humanizing art, intervening on the side of mercy and pity, even in the wildest hours of savagery or war.

Turning to Britain and the Dark Ages, haply our Chirurgeons were a sorry set, who carried out lamely the despised manual part of treatment, under the direction of an order of men, by priestly office, or by education and social rank, above themselves; to whose authority they bowed: an order of men misnamed learned, ready in every difficulty to quote Galen without understanding him, and generally more ignorant than the poor handicraftsmen they controlled; but men whose word could seldom be questioned, never gainsaid; though, from the falseness of their principles, they could never advance one step in true knowledge.

It was probably war, ever recurring war, that raised a few individuals from time to time into greater prominence and credit as surgeons; for the powerful leaders of armies must have often experienced the benefits of surgical treatment; and in extremities of danger the surgeon must needs have taken a position in the esteem of multitudes, which those would miss who could not or would not stanch a wound, or save a life by operation. And it is inconceivable that, even in those half-barbarous times, the greater sort of minds among the body-Chirurgeons of emperors and kings should not have emancipated themselves from the obviously absurd relationship implied in their being merely the manual executors of the dictates of other men, whose fantastic pedantry, and real ignorance of the practical part, they must necessarily have contemned.

And in civil life a counterpart was seen. Isolated students

in convents, cullers of simples, ignorant travelling quacks and mountebanks, bone-setters and leeches, flitting formless creatures in the twilight time. Then came the guild of Herbalists and Barber-Surgeons. Then, from our universities, especially on the revival of learning, Physicians, with a truer scholarship and more open minds, to whom all mankind must ever acknowledge themselves indebted; men competent to hold their place, even in that age of erudition, with the most exalted dignitaries in Church and State, and still maintaining, probably on that very account, their old superiority in station over their less learned chirurgical brethren.

But now, here and there, a real Surgeon rose; bold, clear-sighted, prudent also; successful in grand ventures; startling the popular imagination by some marvellous cures of deep painful disorders, or of portentous aspect, till then deemed incurable. Thus, Operative Surgery in great cities became the surgery of the greatest practitioners, and oftentimes overtopped and overshadowed the reputation of learned *medici*; causing, no doubt, jealousies, which we know to have been keen, but which we may now all the more afford to smile at, as we are certain none such exist amongst ourselves. Surgery thus became studied more and more by a class, as its prizes were great, and some men seemed by tastes and natural gifts more fitted to shine in it. It became an elaborated art, founded on observation of anatomical relations, both healthy and morbid; it began to have a distinct literature, and a body of rules and precepts, which were the subject of public debate and were traditionally transmitted. Its professors increased in numbers and breadth of aim; they even shared with the most skilful physicians in cultivating the knowledges (hardly sciences as yet) which pertain to the Healing Art; and to draw nearer to our own day, they have, within the last hundred years, in this as well as in all civilized countries, borne an equal, in some instances a transcendent, share in enriching and extending the whole field of medicine.

But I am not here, gentlemen, to say flattering things of one department of our art to the disparagement of another. Nothing could be more remote from my intention. On the contrary, I desire to speak the truth only; to show our common aims and

victories, and to vindicate the common bond that unites us all. And for this, I must still ask you to revert with me for a moment to Tudor times.

We are tolerably well acquainted with the state of practice in our own metropolis in that day, when some of the most eminent revivers of learning of whom England is rightly proud (though some of them were favourites of a Court, paid by Church sinecures), established an Institution, since become venerable, which in those days fought a hard and, it must be added, a successful battle with the surgeons before the Lord Mayor of London and other of the Queen's Delegates (the more enlightened Master of the Rolls and the Bishop of the Diocese bringing, we are told, many opposing arguments on the surgeons' part) for the right and privilege of alone prescribing in surgical cases inward medicines—and such medicines!—when the apothecaries' shops, no less than the chirurgeons' instruments, were still to a large extent under their control; and when, for example, one unhappy John Luke, *ocularis medicus*, receiving a faculty to treat diseases of the eye, was strictly limited to the use of external means, and forbidden all internal remedies, by whatever avenue they might be introduced, either in the city of London, or in the suburbs, or within a circuit of seven miles, except under the advice of some learned and experienced physician accredited by the College.

All these grave and learned men played their part well, however, according to their light. They upheld among the highest and most cultivated of the land, as we gladly acknowledge their successors do at this day, the dignity of the profession and pursuit of healing. And if they did not plant this dignity in its true seat, knowledge of the frame that is most noble on this earth, and knowledge for the sake of usefulness to suffering man; if they sometimes stifled thought, as when they caused one of their number to recant, who had had the temerity to maintain that Galen was capable of error; we may remember what they did to introduce Anatomy into England, and to advance Surgery itself. Receiving from Lord Lumley an endowment under the Great Seal for a Surgery Lecture in the College, they “most thankfully accepted so honourable and generous a donation, and built rooms more ample and spacious for the better celebra-

tion of this most Solemn Lecture." And from among them sprang one, whose well-known services to our common calling and to mankind can never be adequately honoured, particularly for the prescient, penetrating, comprehensive character of his intellect, and the clearness of his perceptions ; whose name will descend to the latest posterity among the greatest of English worthies.

William Harvey was Professor of Anatomy and of *Chirurgery* to the College of *Physicians*. His character was every way grand. The main feature of it was a supreme love of truth, and an intense longing to penetrate the secrets of organic nature ; and for this he asserts always the right and the duty of going straight to the fountain-head of Nature herself, acknowledging no master in things natural, but facts and the evidence of the senses. Modest, gentle, unselfish, courteous, not covetous of honours, he was fearless in asserting new truths, believing in their own native power to live and fructify ; slow to controvert errors, knowing that they would disperse of themselves, and that narrow and prejudiced minds would cease to cavil, when the clearer light should have time to blaze forth. Withal he had that deep reverence for the Author of Nature which springs unbidden in the heart from the contemplation of man's own littleness amid works so mighty and so minute. How profound a truth he beautifully proclaims, when he says :—"If you will enter with Heraclitus in Aristotle into a Workhouse (for so I will call it) for inspection of viler creatures, come hither, for the immortal gods are here likewise, and the Great and Almighty Father is sometimes most conspicuous in the least and most inconsiderable of His Creatures !"

The torch of Harvey was lighted in Italy, where, while the fine arts were already waning rapidly, Science was rearing erect her standard ; and at Padua where he listened to the teaching of the greatest masters of anatomy, medicine, and surgery, Fabricius ab Aquapendente, Minadous and Casserius, he must doubtless have discoursed with, and caught the spirit of one still greater, Galileo. At home he may probably have known personally, certainly by his works, the immortal author of the *Advancement of Learning*. Thus is Science exhibited as not of a country, but of the world.

But tracing onwards the progress of the Healing Art in England, we shall find the Institutions, founded at first on traditions and customs which represented the convenience of an imperfect and transitional stage of society, not less than individual tastes, growing rigid under the influence of forms and titles, and gathering around themselves clustering personal and corporate interests, not always in harmony with those higher objects by which alone their establishment could have been at first justified ; and thus tending to keep apart, though with decreasing force, the two great bands of a common profession.

The Physicians, it must, I think, be said on the whole, though with some remarkable exceptions, receded during the last century from the spirit and the traditions of Harvey, while they maintained orations to his memory. It is not surprising that Anatomy and Surgery should have ceased to be actively promoted by a College, which was gradually losing its hold on the surgical domain of practice, in proportion as surgeons were becoming independent of the old restraint.

The Physicians were now, by their continued abstinence from all manipulative treatment, in a position of increasing isolation as regards a great domain of the field of experience ; they were specialists by a great defect, by a self-imposed negation ; and the consequence was that many of the higher intellects among them betook themselves to a too exclusive clinical observation of certain classes of disease, analogous to that of some of the ancients, and not sufficiently seconded by deep and personal study of the organic structure, and the laws of life ; while others distinguished themselves by learned or philosophical labours, more or less important, and more or less connected with the immediate work of their calling.

The result has been, that the medical world has seen several systems or schemes of treatment promulgated on insufficient bases, but with much pretension to a simplicity, for which Nature supplies no warrant ; and which have yielded one after another at the first summons of reason and common sense ; not without grave discrediting of the whole profession in the public eye ; and not without giving a sort of countenance to that easiness of belief with which, within our own century, have been received by the

public the flimsy follies of the shallowest and barrenest, the most credulous and the most boastful of medical phantom-sects, that of the self-styled *homœopaths*. In the more recent times, however, of John Richard Farre, of Matthew Baillie, and of Richard Bright, the physicians have laboured afresh in the patient study of disease, not only during life ; but have themselves, with their own hands and scalpels, sought real knowledge by the personal examination of the organs after death. They have also taken a large and important share in advancing the physical, chemical, and physiological sciences ; in these and other ways setting a splendid example, and redeeming a position which might otherwise have been jeopardized.

For the Surgeons had approved themselves the truer followers of Harvey. Holding always to Anatomy, as by the very nature of their function they found themselves more and more constrained to do, and also finding apter materials for study in the more exposed, and less recondite diseases falling to their care, as well as in the open results of wounds, including those of their own making, they have joined Anatomy, Pathology, and Surgery in a natural alliance, most favourable to progress and always abounding in new fruits ; and have gradually risen in influence, establishing in our great hospitals, and in our fleets and armies an equality of rank with their more erudite, but (must we say it in all kindness ?) unhandy brethren ; and unostentatiously but surely asserting more and more the claim of the Surgeon's Hand to be guided by the Surgeon's Mind and Conscience, from which, henceforth, it can never again be unholily divorced.

In the last century, in our own country, two men stand out from the rest : two Scotchmen, who gave a great impulse to the Healing Art. Brothers by blood, the Hunters were also of like tastes and industry, and nearly of equal genius, though John excelled by the acuteness of his penetration and the universality of his views. Both when young were Surgeons and Anatomists, toiling in Harvey's "workhouse," and William acquired his fame in practice as an Accoucheur. Both were illustrious by the Museums they created ; one of which has since become, by State-purchase and the subsequent labours of Richard Owen,—indeed of more than one kindred mind,—supported by the liberal subsidies of the

College of Surgeons, the most glorious appanage of a great Profession that the world has yet seen; and the other is in the City of Glasgow, to which the munificence of its Founder bequeathed it, with an endowment for its maintenance.

John Hunter was so largely employed during many years in applying his knowledge to the relief of human ills, that it is indeed marvellous how he could have at the same time laboured so hard in the general field of the Sciences of Life. But (given his mental capacity, zeal for his subject, and the pauseless industry that sprang from that zeal, and overbore the instincts which must have often yearned for repose in a life of great anxiety and suffering) this double labour, doubly prolific, which since the time of Harvey had hardly been seen united in any one man, is to be explained by the mode in which his mind ever carried physiological principles into the details of daily practice, and sought in return, by the study of those details, to illustrate and advance his general views of the processes of life. Had the two fields of thought been in his estimation distinct and separate, he could not have achieved in each so great a victory: in each, it will be found on examination, his success depended largely on the real union which he, more than any of his contemporaries, or even of his predecessors, recognized to exist between them. English surgery and English medicine, in all their departments, have been since strongly coloured by this principle. This indeed is the abiding lesson which his life and labours have imparted to those who succeed him in the noble function of ministering to the wounded and sick, in his own country and throughout the world.

The Hunters may both be regarded as types of what the great masters and leaders of the Healing Art should be. They were anatomists; they were physiologists; they were pathologists; not by second-hand learning from the tongues or pens of other men, though this they did not despise, but by truth-loving observation and interrogation of Nature herself, in all her haunts of health and of disease; admitting no veils of limitation to be drawn by fashion, or caprice, or selfish interest between provinces and things essentially akin, but taking in *the whole scope of the Art as one great and ample field of noble study and beneficent activity*,—one



by the unity of man's body, to which it yields a voluntary and loving service; one by the identity of the methods of research by which the secrets of that body (whatever secrets, and of whatever part) are to be disclosed; one by the common aim and intention of all treatment, internal or external, remedial or preventive; one, lastly, by the simplicity of the moral attitude which should stamp us all as members of one body, in our relations towards one another, to individual patients, and to the community among which we labour.

Gentlemen, I look upon the present meeting, comprising native members of every branch of our profession (and would that we could welcome, in future years, many more brother members from other lands!), as one representing the idea most needing to be insisted on amongst "doctors" at this time and in our own country, and which, I am persuaded, men like Harvey and the Hunters would have been foremost to assert and act upon—the idea of *the oneness of our common calling*. And can we aver that there is no need to advance this idea? For, could we imagine these great ones of the past to be still with us, what special encouragement or opportunities for his cherished pursuits, we may ask, would Harvey now find in his own favoured College of Physicians, whose welfare and improvement, we are told, "was the chief object that occupied his mind for several years before his death," but where "solemn lectures on surgery" are no longer given; where there is no anatomical or chirurgical work performed; and where no "repository for simples and rarities" exists, such as he fondly hoped by his benefactions and his example to have founded; even no museum of morbid anatomy, such as Baillie and Bright would have longed for. On the other hand, should we be likely to find Harvey, a Fellow of the College of Physicians, admitted to demonstrate the motion of the heart and blood in the Hunterian Theatre? Could William Hunter, having become, as he did at the age of thirty-eight, a Licentiate of the College of Physicians, and not being longer "in actual *bonâ fide* practice as a Surgeon," share in the councils of the Hunterian College, or in the love-labour of its Museum? or could he adorn its chair by his eloquence? Finally, could his greater brother, immortal by his *Treatise on the Blood*, but being

"only a surgeon," find entrance, consistently with existing usage, to discourse on that great theme within the walls which derive their chief glory from the Discoverer of the Circulation of the Blood?

It would ill become me, humble as I am, and feeble in grasp of thought to utter or imply anything in the way of censure of these venerable corporations, which, with all their human imperfections, have done, are doing, so very much to adorn and advance, each its own side of our common profession. And, if neither of them has yet found itself at liberty to esteem of subordinate importance those class and college interests, those "right and privileges," which a former age fenced in by forms of oath now generally disapproved of (whatever useful purposes they may once have served), it must be freely acknowledged that much has been effected by both in many ways, in recent years, to approximate to a policy more liberal and large, and certainly one more likely to secure the class interests themselves by engaging for them, so far as they are good and useful, the support of the whole profession.

Some minds abler than my own may indeed doubt whether the time be yet fully come for any large attempt at consolidation or union of these and other kindred bodies. We may be deemed to be still in a transition period, in which we must be content to work a little here and there, as we may, towards a better organization and truer views. I know not. But I must express my own conviction that the old rivalries of "physicians" and "chirurgeons" are now laid asleep in the breasts of all men of sense; or that, if they survive at all in our ampler day, it is only in some remnants of the traditional policy of the council-chambers of corporations, the vast majority of whose members are now too enlightened to harbour them much longer, against the broad and well understood interests of a whole profession. I am persuaded that the leading minds of both the more powerful corporations are in accord with the great bulk of thoughtful medical men throughout the three kingdoms, that these great and noble foundations, so far as they retain, in their constitution or in their forms, traces of the antiquated prejudices and narrow notions of an age long since past, should mould themselves afresh to suit the wants of a more in-

structed time, when the medical world, being older and much larger in numbers, is also more highly educated and wiser than before. The whole professional body has a perfect right, most of all in our progressive England, to see the Institutions which are its own made conformable to the wants of a period of unexampled social activity and advancement, when all the old impediments to intercourse are vanishing day by day as by the touches of an enchanter's wand ; and when there are spread everywhere over the land able and intelligent members of our profession, whose co-operation should be invited and carefully organized, not only for the satisfaction of their own just wishes, but still more for the sake of the immense impulse that would thus be given to the prosecution of those common objects, which it so much imports us, as a scientific and professional community, to pursue.

And here I trust it may not be out of place to call before us for a few moments the memory of four men, from whom, had they been spared to us, a comprehensive view of all interests, judicious counsels, and a liberal course of action, might have been expected. It cannot, indeed, be truthfully said that their loss is irreparable ; for in England, no man, however valuable, can long be missed. Their room will doubtless be supplied ; but to allude to the living might be invidious.

*Benjamin Collins Brodie\** was eminently a man belonging to us all. A great Surgeon, he was also a great Physician, though probably he could not have been placed on the *Register* under that title. But he was a great Medical Surgeon, able to take in all the aspects of every complex case, to prescribe or to withhold physic, to operate, or to advise against operation. This capability arose primarily from what has been already suggested as its natural and legitimate source : he had zealously, as a young man, pursued the paths trodden by Hunter. He knew the body and its functions by the evidence of his own senses ; he had meditated deeply on the inner phenomena of life ; he had experimented on animals ; he had enlarged the knowledge of his day. When the cares of an almost overwhelming practice pressed heavily upon him, he still did not desert Science, but became President of the Royal Society ;

\* Ob. Oct. 21, 1862.

and we owe to him, in addition to his many practical works, some most thoughtful contributions to physiological psychology. His scientific fame, reaching everywhere, is an honour to the medical profession, not alone to the Surgeons, but to us all.

*Joseph Henry Green\** was of too much capacity to be a Surgeon only. Early devoted to metaphysical speculations, for which his grand and subtle intellect peculiarly fitted him, he was also a wise, prudent man of action. His views of our Art were always extended and liberal. He embraced within his range all the world of life: he saw that *pure surgery*, so called, was a narrow and impossible speciality; he looked on disease as he found it in Nature, not capable of classification by any such test as that of the applicability to it or otherwise of one special kind of treatment, the chiralurgical or manual. This last was to him a noble portion, but a portion only, of the whole Art. He was always anxious, like Brodie, to enlarge the basis of our profession, to elevate the standard of acquirement in its members, and to promote the sciences which belong to it.

I recall with gratitude the converse—in later years, the intimate and friendly intercourse—I enjoyed with both these considerable men. The third to whom allusion shall be made was in a nearer sense my loved and honoured friend and workfellow. Bred a Surgeon as well as a Physician, and always fond of surgical pursuits, a teacher of anatomy, a professor of physiology and of general and morbid anatomy, an ardent worker in the physiological laboratory, mastering in a real and practical manner all the details of his subject, *Robert Bentley Todd†* was both a voluminous writer himself, and a zealous promoter of literary and scientific work in other men. Then he became a clinical teacher and practical physician, indefatigable in the hospital wards, excelling some of his English contemporaries by the constant reference he was able to make in his teachings to anatomical and physiological facts and principles. Overburdened with engagements of various kinds, he yet always strove earnestly to promote in his own College, as well as elsewhere, the study of his favourite sciences; and he delighted to speak of those distinguished men, the associates

\* Ob. Dec. 13, 1863.

† Ob. Jan. 30, 1860.

or early successors of Harvey, who had shed lustre on the College by their anatomical researches; particularly Francis Glisson, *omnium anatomicorum exactissimus*; Thomas Willis, the author of the still classical work, *Cerebri Anatome*; and Clopton Havers, known chiefly by his *Observations on the Bones*.

One who followed thus closely in the footsteps of Harvey and the later British anatomists, whose mind, too, was remarkably sagacious and practical, and whose character was of force to leave a considerable impress on his generation, could not have failed to take an active and useful part in promoting union among us. I venture to think that, as his brethren come to look from a little greater distance on his career, he will rise yet more in their estimation; and his friends will add their testimony to the excellence of his heart and life, as his name and fine countenance are revived in their memory by the marble statue erected to his honour in the hospital which he laboured so successfully to found.\*

You will anticipate me as to the fourth name I would mention—that of *Charles Hastings*,† so lately lost, so justly dear to the members of this Association. His great merit has been, that he first conceived a union of all the classes of our profession for common objects, and bore a principal part in advancing that union, under many discouragements, to the point we have already reached. I trust that his spirit of wisdom and conciliation, his large heartedness, his breadth of view, will prevail in the counsels of our whole profession, and guide us all to a more complete concord of thought and action in whatever concerns the advancement of the objects he deemed so precious.

Let us now inquire, by glancing for a moment at one or two characteristics of the age in which we live, whether the time itself does not ask us to take a wide view of our calling, and to break through the trammels of a period of comparative immaturity. We see mankind everywhere becoming more and more *one family*, chiefly by the increase of man's dominion over Nature, through augmenting knowledge of her laws.

It is but a little while ago that Galvani and Volta, experi-

\* King's College Hospital. Instituted 1839.

† Ob. July 30, 1866.

menting on harmless frogs, in the highest spirit of Science, opened up new provinces of research, in which Davy, and Oersted, and Ampère, and Faraday, were soon to astonish the world by the rapidity and brilliance of their discoveries. And it seems to me but yesterday, for I was there,\* that our Wheatstone, under the approving eyes of Daniell,† passing the wire of his battery beneath the Thames, in presence of the lamented Prince whom we had then just welcomed to our shores as the Consort of our Queen, proved the possibility of the subaqueous transmission of those subtle vibrations, whose rate of travel we now know to exceed in a very high degree that of the mandates of the will along the nerves. Yet already, by a combination of enterprise and skill unparalleled, the magic twine unites two continents,‡ and man's thoughts, cyphered with unerring truth by silent-speaking symbols, in the last degree refined, and borne onwards by tender tremors of the metal, fainter yet far fleeter than Æolian whisperings, are traversing momentarily—even as I speak—the awful solitudes of Atlantic depths, under vertical miles of incumbent water; where no sound, hardly light itself can penetrate; all heedless of the fogs and icebergs and mimic storms of the surface, 15,000 feet above. And soon the very globe itself will be woven over with an almost time-annihilating network;—a blessed harbinger, as well as sure eventual promoter, of goodwill and peace, of peace and goodwill to all mankind; and certainly a fulfilment, of which we can none of us as yet appreciate the full meaning, of the loving purposes towards our race of the eternal and infinite God.

From the bed of those watery deeps, too, abysses no longer unfathomable, the finger of man has picked up evidences of teeming life *there also*, such, probably, as he now knows to have built up, by slow and gradual accumulation, in geological ages of

\* Viz., on June 22, 1843. (See *Times*, June 22 and 23.)

† Prof. Daniell died March 13, 1844, at a Council of the Royal Society, at which the author was present.

‡ The first sub-Atlantic message passed on Aug. 5, 1858, between the Queen and the President of the United States; the first message by the Atlantic Cable of 1866 on July 27; the present Address was read on August 9 of that year.

unassignable remoteness, strata of the earth's now solid crust; tens of thousands of feet in thickness: and these in their turn contain the fragmentary but faithful records of series of organisms that have preceded the existing forms; and which seem to intimate, with other collateral proofs (though I prejudge nothing), that life has been *continuous* on our planet from the first origin of organic being, through successive *generative* links of evolution, even down to, and into, the very times in which we live.\*

Again, while we consider all this, and descry through Harvey's "optick glass" of higher power, in the tiny elements of the gland of the insect or the gigantic quadruped, an identity of essential structure with the corresponding parts of our own frame; and while we call to mind that, when our yet uncharactered members were seen already by the All-Seeing,† every one of us consisted wholly and merely of such tiny elements of structure; who shall say that the touch, the very touch of a mysterious organic kinship is not there, though it be as yet untraceable with certainty, as yet unproveable? The pedigree of man himself seems to be on trial before the Court of Science, and a true verdict may be given at no distant period. Let whoever loves Truth, and the God of Truth, await it with perfect calmness, though it should possibly fail to coincide with some prejudices of the timid. I venture to express an earnest hope, that our profession, which beyond others is brought to the threshold of such questions by the nature of its studies and by its habits of thought, and which I aver to be signally remarkable for its love of truth and regard for religion, notwithstanding some vulgar echoes of old charges against us, will play a useful and moderating part, by reassuring less informed persons and quelling groundless alarms. Let us cast aside the foolish thought so flattering to a shallow pride, that man's dignity depends in any the least degree on the mode of origin of his material organization, whether in the individual or the race, any more than on the structure of his mature material organs; and not rather on that

\* Charles Darwin's "Origin of Species" appeared Nov. 24, 1859; his "Descent of Man," March, 1871.

† Thine eyes did see my substance, yet being imperfect: and in thy book were all my members written; which day by day were fashioned: when as yet there was none of them.—Ps. cxxxix. 15.

capacity for the reception of the Divine Spirit and for elevated commune with God and His Works, which comes with growth, but with which, at the earlier moments of his origin, he has not yet been endowed. His origin is what God has ordained it, and that is dignity enough. It may come to be worth considering, that man's nature may derive comfort, from an inversion of the dictum of the witty orator of the Sheldonian Theatre,\* and that it may be a nobler, even a more Christian and a less Pagan view of our destiny, to find ourselves belonging from the first, in the Divine counsels, to an Ascending rather than to a Descending series of the scale of being. We may come to acknowledge by Science, as we now accept by Revelation, that our bodily organization has sprung in the past from the dust of the ground, though only through Ascending forms; and as to our hereafter, although we know not yet what we shall be, we have the assurance that we shall one day share the Angelic Nature, in seeing God as He is.

Would that the Divines of England, and their Venerated Leaders, under the difficulties of their position, could be always mindful, *not in words only*, of the noble principle, so congenial to the spirit of our Church, that such questions, so far as they belong to the domain of man's intellect and sense, must and will be followed up according to the laws of his being and the onward current of human thought, in the interests of Truth only, regardless of fancied consequences! That they would all have faith in Science, that they would meet her, embrace her, and *not mistrust* her; being firmly convinced that her true results, when well proven and finally accepted by all competent minds, after full inquiry, become, so to say, *vox Dei!* That they would remember that such a Voice may be so potent as to rise to the height of that which once summoned an Apostle to cast off his most rooted prejudices, and to exclaim, "What was I that I could withstand God?"† While questions of such breadth and importance are pending, it must surely

\* "What is the question? It is now placed before society with, I might say, a glib assurance which to me is astonishing—the question is, is man an ape or an angel? Now, I am on the side of the angels."—Right Hon. B. Disraeli, at a meeting convened by the Lord Bishop of Oxford (Wilberforce) in the Sheldonian Theatre, Nov. 25, 1864. See *Times*, Nov. 26, 1864.

† Acts xi. 17.



be prudent for them, in the interests of both truth and religion, to hold an even mind. Far from yielding to unworthy fears of the divine faculty of reason, and abusing those who are honestly employing it within the sphere of its proper activity, let them rather call down a blessing on so good a work; having a Faith, above fear, in the certain victory that awaits both Reason and Religion:—both God's precious gifts to man in his darkness, and both certain to harmonize at length in Him! Oh!

“ Let knowledge grow from more to more,  
But more of reverence in us dwell,  
That mind and soul, according well,  
May make one music. . . . . ”\*

Turning now to touch lightly on some of the advances of medicine in recent days, let us remark how inseparably they blend with, and mutually illustrate, the general progress outside our own immediate province. They may be conveniently comprised in two words, *scientific insight* in our Work of Healing: the actual conditions of the body, in health or unsoundness, having become more easily distinguishable; their mutual play and connections better understood; and our means of profitable interference at once more numerous, more definite, and more manageable.

Before a Society so completely informed as you are, Gentlemen, I feel it unnecessary to attempt to make good this part of my programme by laboured argument or lengthy illustrations; examples are only too abounding. Harvey had heard the healthy sounds of the heart, but its morbid sounds inform us now of the nature of its structural defects. The sounds of breathing must countless times ere this have met the ear, but it was reserved for an illustrious Frenchman in our own days to study them, so as to enable every tyro often now to say what is the state of those great organs, hidden from our view, but so indispensable to life. And so with percussion. Nay, with our eyes we can now behold for the first time in its living acts, that marvellous mechanism in its most exquisite and joy-inspiring movements, as well as when it is oppressed by disease, which stands as a sentinel at the orifice of the air passages, and on which the voice and speech primarily depend. And need I advert to other applications of optical mechanism, or recount how one

\* “ In Memoriam.” Introduction.

has called forth another, until the various internal surfaces and structures, particularly those of the organ of sight itself, are now open to hourly survey, to scrutiny most exact and delicate, so that often even the pulsation of the smallest arteries or veins and the physical conditions of the capillary bloodvessels, with almost the earliest and slightest signs of morbid change may be detected and made available as guides to treatment? Much might be said under this head. Diseased states thus submitted to the faithful eyesight are seized on by the mind with a vividness that is of inestimable value to the practitioner, in framing his conclusions as to treatment; and he can judge, too, by the direct evidence of sense, how far to continue to follow up these. In a word, all the advantage the Surgeon has hitherto had over him who deals with concealed diseases, in that he has had ocular demonstration of his facts, the Physician now enjoys in regard to many internal organs. The Surgeon also participates largely in this expansion of our field of view, while a collateral result is that the Physician in many instances finds himself under the dilemma, either of undertaking operations strictly surgical, or of abandoning some departments of treatment and some important organs that custom has hitherto assigned to his care. Many have had the good sense to consider simply their patients' advantage, and not the punctilios of a class; and thus there has been a considerable, and, as I regard it, a very satisfactory demolition of old and artificial barriers between different grades of practitioners, which the future progress of Physical Diagnosis must still further tend to promote.\*

Take another example. By means of that modern optical triumph, the Compound Microscope, which takes us, as it were, among the very elements of form and the rudiments of organic structure,—a world we are apt to lightly regard, though it has infinite uses for us, as it has infinite beauties,—by this an instructed

\* Those who have to treat the various classes of disease here referred to, and which will be at once recognized without a particular enumeration, must be forcibly and directly convinced how shallow, superficial, and merely conventional, are those distinctions between different classes of practitioners, which custom and convenience indeed largely sanctions, but which should on no account be allowed to exert any influence whatever in separating from one another within the lines of their common profession, the honourable followers of the same noble calling.

practitioner, even one not highly gifted, but only conscientiously alert and observant, can say with confidence of an organ deep in the wasting frame before him, beyond his touch, out of his sight, which emits no sound, and is the seat of no pain, "This gland has been certainly passing insidiously through this or that important destructive change; it is now so and so. I can accomplish this, or probably only this, for its relief, and this, or this, will be the end?"

And, not to weary you, Gentlemen, with more examples from the field of diagnosis, the results of Chemical Examination, frequently seconded by the microscope, need only to be alluded to in order to take their eminently important place in this imperfect sketch, by the side of the other aids to physical investigation of the signs and footsteps of disease, conferred upon us by modern science.

As to the intimate nature of disease and of health, *modern Physiology* is a platform, on which all Practitioners have an almost equal footing; where they meet and cross each other at every turn, and find everywhere the opportunity of a community of thought and action. All admit that disease is such a departure from a state of health as oversteps those undefinable limits which the organization will bear, without strain, or curtailment of its perfection. But these are not now such vague words as they might once have been; for vivid light has been thrown upon many of the abstruser problems that formerly perplexed us; the details of the interwoven structures and of the complex functions of our composite frame have been zealously and perseveringly traced by some of the acutest observers and of the keenest intellects that have ever lived; with a harvest of results so plentiful, so reliable, so mutually illustrative and on the whole so marvellous, as to make very much of the knowledge of even the last generation seem antiquated and obsolete. And we may accept it as a truth, that every step forwards in our knowledge of the healthy body, so it be real, must lead us right onwards, too, towards a better understanding of disease; and if of disease, then also of our power of counteracting it, whether in the way of prevention, alleviation, or cure.

As to *modern treatment* I shall only remark, that the direct and

obvious tendency of all recent progress has been to make it more rational and more simple—that is, more appropriate, first, to the precise conditions more correctly recognized in each case; and next, to the degree in which interference on our part is found likely to prove advantageous or otherwise to the sufferer.

No conceit of our great advances in the *Medical Sciences*, however, must beguile us into assuming that *Medicine itself is a Science*, or can ever become one, in the sense of our being ever likely to be able to practise it on principles unerring and exact. It is not in any true sense a Science, but *the application of many sciences, and indeed of all appropriate and available knowledge, of whatever kind, to the relief of suffering*. It is really an *Art*, as the Father of Medicine long since styled it; and woe be to those patients who fall into the hands of men, aiming at treating all who come to them and all diseases on some single, so-called simple, principle, which can really be no other than the negation of all good sense and of all the well-understood conditions of our Art. It is an Art, however, which, while it must always be pursued with the very closest regard to the individual facts of the case, must in the interest of each patient be pursued in a *scientific spirit*, for thus only can the facts be duly interpreted and our treatment suitably applied.

And it seems the special glory of the advances in Healing knowledge in our own day, that they are of a kind to supersede those vague, general observations by which a few rarely-gifted men could formerly, as now, make sagacious, pertinent, sometimes true guesses as to the nature and more latent relations of diseases (though these gifted men oftentimes fell into lamentable mistakes), while the generality steered without accurate chart or compass,—or worse, under the deceptive guidance of some false, delusive, though vaunted, theory. While, in the uncertain and ever-varying phases of practice, we may none of us afford to disregard the aid of our own unwritten experience, or those general impressions left on our minds by a long series of empirical observations, in which as yet no clue to a satisfactory explanation has been descried, we may rejoice that these late advances are at the command of all, who, being honest enough to desire to detect the nature of a disease committed to their care by a suffering fellow-creature,

will, with ordinary intelligence, instruct themselves in the requisite, and usually simple, physical tests. So far as these extend, they are to be most highly prized. They bear the stamp of all true knowledge in being useful, available, and not apt to deceive ; and having been once acquired, they become henceforward the inalienable inheritance of all mankind, and doubtless the starting-point for future similar conquests.

The subject of Anæsthetics is too apposite for the general drift of the present Address to be altogether passed over in this place, though it is hard to mention it and not to pursue it to the exclusion of all else.

Dim notices of the use of medicinal agents to prevent pain in surgical operations are not altogether wanting in very early times ; and the desire and hope of finding some means for effecting this was certainly felt by more than one person during the last century. Even a method by compression of the nerves was actually tried in one of the London hospitals. But our present universal use of this eminent blessing to suffering human nature is the result, first, of the progress of pure science, not medical ; then, of the applications of pure science by men devoted to particular specialities of practice : and both hemispheres share the glory of it.

Let us look at Cavendish, Priestley, and Lavoisier, at work in their pneumatic laboratories ; at Beddoes, with young Davy, in Bristol, trying to make inhalation of gases useful in medicine, inhaling laughing-gas, and noting its effects ; at a public lecture at Boston, in America, nearly fifty years afterwards, exhibiting its well-known effects to an audience, among whom was a Surgeon-Dentist ; at the sudden idea of this one to apply it as a remedy in his own case, for he was tormented with a toothache. It succeeded ; but afterwards, when he had urged its adoption on a great operating surgeon, and it had been actually several times tried, the uncertainty of its effects caused it to be completely abandoned. But the idea had been too intensely impressed on some lookers-on to be ever again lost sight of. Faraday had already long before shown the great similarity of the effects of the vapour of ether to those of laughing-gas, and this was familiarly taught to students in chemistry. But nearly two years still elapsed ere another Surgeon-Dentist, who had been present on the former

occasion, tried the ether, and found it to succeed so perfectly, and to be so manageable, that he at once proclaimed his discovery, and it was soon adopted by the surgeons of all countries.

But now a Pharmaceutical Chemist of Liverpool, at the instance of a more gifted mind, suggested another substance, a product of modern Chemistry, discovered simultaneously in Europe and America sixteen years before, which had been medicinally used, and even its name philosophically settled according to the analogy of its exact constitution, by one of the first Chemists of France. The gifted man was an Obstetric Practitioner of Edinburgh, whose fame, already world-wide, will not rest hereafter solely even on so great a fact. After applying it in his own department of practice, the adoption of chloroform by surgeons, to the gradual exclusion of ether, rapidly followed ; and all mankind will profit by it until, in the sure progress of the Art, some other anæsthetic shall be found, without even the slight inconveniences of this one.\*

In reviewing the subject of anæsthetics, we cannot fail to be struck by two pregnant facts. The first is, that while Surgery has chiefly felt their influence, and its practice has been modified by them in a remarkable degree, Surgeons have been but passive recipients of the boon, which has been brought to them from other quarters, and even from a side branch of their own specialty, which some great ones among us have sometimes thought scorn of. The other is, that the noble sister Art of Physic (considered also as a specialty) has had no part or lot in this greatest of the applications of modern science to the alleviation of man's bodily pangs. I must, however, except Dr. Beddoes, and cannot omit to mention with grateful appreciation the important share borne by the late able and amiable Dr. Snow, both in the theoretical and practical parts of this great subject, as well as the recent labours of Dr. Richardson.

In this instance, as in almost, if not quite, all that most distinguish the modern Art of Healing, we see it fostered and ad-

\* Guided by a more exact knowledge of the special advantages and disadvantages of each, we use at present (1882) laughing-gas, ether, chloroform, and some other compounds, either singly or in combination, according to the effects wished for in each particular case. The search for a more perfect anæsthetic should still, however, be ardently pursued.

vanced, not to say transformed, by the influences of General Science in departments apart from, and beyond ourselves, combined with those of the Special Sciences, which may with some propriety be called medical and practical, because they are prosecuted mainly by men engaged in practice, and with the object of applying them in the treatment of disease. Let not, however, individual promoters glory, or indeed a great number leagued as a Profession, for that would be even less reasonable. It would almost seem that as "the Earth bringeth forth fruit of herself, first the blade, then the ear, then the full corn in the ear," so the world in our time is reaping results all valuable for the good of mankind, which have been long, and in various modes and places, a preparing, and in contemplating which our feeling should be rather one of thankfulness than of exultation; and this feeling may induce us sometimes to ask ourselves, "Can we do anything now, and in the future to help on, by united action, the harvests of a still brighter hereafter?"

This leads me to refer to the actual distribution, at the present day, in this and other civilized countries, of our professional power or force.

The immensity of the field of Medical Science and Art is such, that no one mind has ever been able to embrace it all, and the daily enlargement of it in all directions must render it more and more difficult to do so. Hence the great specialties of Medicine and Surgery, however impossible it may be to draw a precise line between them, or to assign to either of them in an exclusive manner many large departments of practice, have long existed and must continue to prevail. The grounds for them lie: 1. In the necessity for a division of labour in large communities (large by concentration of numbers or by ready means of intercourse). 2. In the somewhat equal proportions of grave and serious medical and surgical diseases, so called, under the circumstances of human life. 3. In the varying tastes of individuals, causing men to confine themselves, more or less, to one or other of these main divisions of practice. But the great majority of medical men, including those grand services of the army and the navy, must be ready to undertake all treatment, since the exigencies of society require it of them.

Now the very same causes which have developed the Healing Art for ages under two principal divisions, have within a century, and especially of late, led necessarily, and by the very extension of the fields of knowledge, to the multiplication of subordinate branches, often just as impossible to define by strict limits. On these a very few remarks are all that the time admits of.

Specialties, then, are natural products of a period of progress, and of certain favourable external conditions of society, and as such should be allowed free course to develop themselves according to their tendencies. The policy of the profession towards them should be always to retain them within its bosom, to hold them to their connection with the whole, of which they form a part, and only to seek to restrain their growth and action, when it disposes them to an isolation, pernicious as regards their own usefulness, alien to the comprehensive spirit of our Art, and a violation of our unity as one body.

Medical men, acting under some common impulse, are apt, like any others, to take a one-sided, or what is sometimes called a professional, view of whatever new proposal seems to affect them as a class, or in a large number. Let us, however, consider that our ends coincide with the good of mankind, and that in estimating the good or the evil likely to be done by new specialties, we should appeal to no other standard than the public benefit—is this or that suggestion for the advantage of the community in which we minister? Our own credit as a body, and generally our individual prosperity, will be found in the general good; and, if otherwise, we should gladly yield it up to this.

Hence there are strong grounds for allowing specialties, whether promoted by smaller or larger numbers, to make progress according to their natural divergencies and powers of maintaining themselves. Some may originate on an insufficient and unreal basis, started, perhaps, by some supposed individual interest, and sustained by some strong personal bias, talent, or local circumstance. These will fail of themselves if they be left alone; and whatever harm they may do in diverting benevolence from more healthy channels, or in wasting time and opportunities, these are probably smaller evils than the creation of a feeling in the public



mind, with any degree of reason, that we are narrow, or opposed to the progress of our Art.

What may be styled the Natural Specialties, are those devoted to mental maladies, the obstetric, ophthalmic, and some others. These generally have reference to the natural distribution of organs in the frame, or are such as men readily accept, and see the propriety of, in their being manifestly for the convenience of patients as well as practitioners, and conducive to the advancement of knowledge. These are likely to increase in number, and to strengthen their footing. They should be held bound to the professional body by every available tie. Two things have given me pleasure in this point of view; the one that the College of Surgeons saw the wisdom some years ago of allying the surgeon-dentists of England to themselves by suitable links of connection; the other that the great library of the College of Physicians was lately the scene, under the auspices of its beloved and honoured President,\* of one of the most astonishing historical displays of the mechanical appliances of the obstetrical branch of the Art ever collected in one room. A happy augury, I thought it, of a larger and grander union, in time to come, of all branches and all departments, under some single ample noble Portico!

Were the whole profession thus at one with itself, there are many weighty objects which it might labour for with tenfold vigour and effect. I am content, for my part, to regard as of very secondary importance all attempts to obtain political influence or the recognition of merit by titles, whether personal or corporate. For I am well convinced that, whatever may be worthy of our ambition in this respect (and it does not seem much), will follow of itself, and without our efforts, if we are true to ourselves in a higher, and indeed our proper, sphere; *by striving to become more useful as practitioners, wherever we may be*, either in our private rounds, where most must toil, or in some more public station.

With regard to our own better organization, it must of course be worked out by ourselves. We alone understand our needs;

\* Sir Thomas Watson, Bart, now, 1882, most venerable, most honoured.

and the State cares little or nothing for what does not directly concern the public health ; although we must acknowledge that it has shown itself, on many occasions, ready to forward our wishes, when these have been suitably advanced. The institution of the Medical Council is a transitional step of immense import for our future unification, no less than the work performed by that body in the preparation of a common register of all qualified practitioners, and in the publication of a *Pharmacopœia* for the whole kingdom. Its beneficial influence will likewise be gradually felt in better arrangements for admission into the profession on a uniform basis.

But there are many functions, in connection with the Government, which so great a profession as ours might rightly ask to perform through its own well-appointed organs ; in which, as a body, it now takes no share whatever ; which are at present accomplished irregularly, almost as chance or caprice may determine, by a reference, either to one or other of the corporations, or to some individual selected by the Minister, whose very name, perhaps, is not known, and who, therefore, practically, is not responsible to his own profession for the advice he may tender. By degrees, indeed, of late years, as the care of the public health has more and more engaged the attention of Parliament, this want has been in part supplied by the appointment of medical officers for special duties in governmental departments ; and most ably have these performed their duties, as the documents from time to time issued by the Board of Health, under the Privy Council, among others, amply testify. And the labours of the Army Diseases Prevention and Cattle-plague Commissions illustrate in another way how the services of medical men may be most usefully elicited on special occasions or emergencies. More might be added to the same purport. A complete and recognized organization of the entire profession, however, would apparently be a measure of great importance to be aimed at, in reference to our relations to the State.

But leaving these more public questions, and looking at the whole nature of our position, we may fairly ask ourselves whether in our corporate capacity, as a body of men concerned with such great human interests, we may not hope to do more than we have

hitherto done to help forward those interests, for the advantage of our own day and of those who are to follow us. We have a grand inheritance from the past : we should hand it down much amplified to our successors.

Individuals have done, are doing, will continue to do much. But I speak of the direction of a common endeavour, devised by forethought, tending to well-considered objects, and sustained by the united will of an enlightened, numerous, and, on the whole, powerful professional body, to promote and advance those branches of knowledge which lie at the foundation of a rational Art of Healing.\*

I am not here to flatter any man, least of all to commit the little less than crime of the huge flattery of my own class, to the lowering of what should be our higher aims ; and I say, with all love and respect for my fellows, and with a deep sense of my own shortcomings, that we are not doing, as a body, what we might do in Britain to extend and deepen the scientific foundations of our Art.

\* The establishment (1882) of the " Association for the Advancement of Medicine by Research " must be hailed as the first serious attempt in this country to bring the powerful influence of the Medical Profession to bear, as a whole, on the systematic and continuous cultivation of this most important domain of knowledge. It is satisfactory that so many persons eminent by intellectual gifts and in science, and of the most enlightened humanity, are co-operating in the work. The author must record his thankfulness at having been permitted to share, however humbly, in a design so much in accordance with the sentiments to which he had ventured to give imperfect expression sixteen years before.

The illustrious Charles Darwin, shortly before his death, thus wrote :—

" Down, Beckenham, Kent, March 20th, 1882.

" SIR,—I am much obliged for the honour of your invitation to attend the meeting at the College of Physicians on the 28th. I feel a deep interest in the success of the proposed Association, for I am convinced that the benefits to mankind to be derived from basing the practice of medicine on a solid scientific foundation cannot be over-estimated.

" I therefore regret much that it is impossible for me to attend the meeting on account of the present state of my health.

" I beg to remain, Sir,

" Your obedient servant,

(Signed)

" CHARLES DARWIN.

" To Sir WILLIAM JENNER, Bart., M.D., F.R.S., &c.

" President Royal College of Physicians." —

In our corporate capacity, we ought to foster especially those departments of research which are least likely to be undertaken by individuals without such encouragement; which, indeed, can hardly be prosecuted at all without means and appliances beyond the ordinary reach of individuals. We need in England the public open establishment of means and apparatus for original research and observation, *especially for our younger men*, in the sciences ministerial to medicine, particularly physiological and pathological laboratories and for organic chemistry. These should be in part connected with Museums, Medical Schools, and Hospitals. The lay governors of great hospitals should be moved to consider it as one of their most urgent functions, to see that no unnecessary waste of the precious means of improving knowledge, placed under their keeping, occurs.

The progress which recent years have witnessed, points with sufficient clearness to the direction in which the next steps may be most profitably taken. It is in the field of exact scientific investigation into questions and problems which the latest advances have opened to view. Here each new fact and principle, patiently grounded on previous knowledge and established beyond dispute, though it may for a while appear an idle and unimportant addition to the common store, may fructify hereafter into some solid and useful generalization, applicable, in the most unexpected and startling manner, of human happiness and the success of our cures.

In any step taken by the whole professional body for the encouragement and promotion of the medical sciences, we should not, of course, look for immediate results of that kind termed in common language *useful*—that is, having an immediate and obvious application to some present use. We remember that great uses may long lie dormant, and at length dazzle us by their splendour. *Witness chloroform*. Individuals are naturally prone to pursue studies which appear to them most likely to be crowned by an early result. Few have time or opportunity to labour perseveringly for any far-off or uncertain result, and out of mere love of knowledge; but those who desire to do so should be most of all helped on and sustained. As a body, we might have a settled policy, and look further and deeper. Such is the nature of our

studies, that at present real advances are to be sought in depth rather than in extent of work. It is only by going deep that we can hope to reach central relations, and such principles as may be at the same time simple and reliable ; not simple by the fallacy of an incomplete view. We should encourage, among the less immediately useful matters of scientific research, such kinds as experience reasonably shows to give promise of great and wide though more remote benefits. The Royal Society was founded simply "for the promotion of natural knowledge," and what results for mankind has it not aided in achieving !

In a word, we have the certainty, from all history and from the nature of the thing, that out of knowledge will flow useful application ; and well instructed men now-a-days will not cavil or sneer at even the least advance, so it be real, into the realms of the unknown in natural phenomena, because it bears no immediate fruit, or gives no present earnest of profit. The radiance which illumines will ever be found also to warm and to cheer man's life upon the earth ; and this is especially true in the medical sciences, prosecuted as they are by men whose whole habit and tendency is *to apply knowledge*.

The time is too short for me to attempt even to enumerate the lines or provinces of research that might be thus encouraged ; but there is one subject on which a few words may not be inopportune at the present time.

There is a sentimentalism, which I shall venture to characterize as in some of its developments not robust or manly, not morally sound or grounded on right reason, which is inclined to bring popular indignation, excited by speeches at public meetings and by essays produced under an artificial stimulation, to bear on men of science desiring to investigate great principles in the doctrine of life, by experiments on living animals. Having formerly, when circumstances led me into this region of inquiry, and in the performance of my duty as a Professor of Physiology, taken part in such experiments, and knowing well how vast an accession of knowledge useful to man has accrued, and will certainly hereafter accrue, from such experiments, I should be ashamed of myself, and deem myself to be neglecting a moral duty, if I omitted to

take this opportunity of protesting with all my force against the imputation of "cruelty to animals" sometimes raised against medical men on this ground.

As inheritors of the labours, and, let us hope, of the scientific spirit, of Harvey, whose works abound with evidences that the discovery of the circulation itself was largely due to such experiments, we should be untrue to our ancestry and to our convictions, if we hesitated to uphold, publicly if need be, the lawfulness, the expediency, nay, the desirableness, of such experiments; and, as it seems also to me, if we failed in our corporate character to take more active steps than at present to promote these in their proper place and degree, among other kindred pursuits.

A society, respectable and praiseworthy when directing its shafts against the meaningless and selfish acts of vulgar and brutal natures, or when striving in various ways to diminish the pain inflicted on animals put to those human uses which general consent, no less than the widest view of all nature, sanctions, is no longer to be commended when it ventures to raise a prejudice against the refined and honourable inquiries of educated men, seeking to advance legitimately a branch of knowledge most nearly touching human interests of a lastingly high order. For every really forward step taken in the science of man's life, is a part of that progress which is indisputably adding to the sum of human happiness, not only in the present time, but in the future. It is only those well-meaning persons who are little acquainted with the necessary elements, and the excessive difficulty, of such researches, and apparently still less with the motives of the higher class of scientific inquirers, who can presume to endeavour to thrust themselves into a province where no present abuse calls for interference. I think it would be wiser for the excellent persons in question to confine themselves to those spheres of exertion in which all good men and scientific men must heartily bid them God speed, rather than wear the appearance of attempting to add to their *éclat*, as a popular society, by a foolish crusade against what can certainly be justified, and must even be applauded, by all well-wishers of their own kind, if we admit, as society seems inclined to do at present, that to apply animals to purposes useful to man, is one of the manifest ends of their mutual relationship on the earth.

In the country of Harvey, and in the bosom of the profession which derives so much glory from his name, in the country of John Hunter, of Astley Cooper, and of Brodie, there should be no doubt as to the free allowance of dissections of living creatures for the advancement, and also for the communication, of a knowledge so indispensable for our race and for every generation of it. It seems to me ill-advised and unwise to attempt to define too closely the limits within which such experiments may be performed or repeated; since those only can properly judge of them who have undertaken the honourable responsibility of prosecuting original researches in this field, or of handing on to others the methods and results of such inquiries. To the conscience and human feelings of these may safely be committed the discretion as to how far this exercise of man's prerogative over all the lower organizations may be carried, without the abuse of inflicting unnecessary pain.

Now that anæsthetics are in common use, physiologists, we may be sure, will be the first to employ them whenever the nature of their inquiry allows; and the public may be satisfied that—in Britain, at least—those who know most of the interior structure of the animal frame, and of the movements, of whatever kind, that are the manifestations of its wondrous life, would be the first to denounce the causeless infliction of one pang on the lowest of God's creatures. Let the indecorum, then, not be again committed of dragging such questions before miscellaneous public audiences, for which they are quite unsuitable. Let the opponents of legitimate experiments on the lower animals (and I believe they are few, even in the Society to which I have alluded) desist from a course which, however well intended, cannot be required for their chief objects; and which may expose themselves to the charge once brought against persons of an altogether different stamp, of stopping the gates of knowledge: neither going in themselves, *nor suffering those that are entering to go in.*

I intended, Gentlemen, had my limits permitted, to have adverted to several additional ways in which, as it appears to me, a united profession could find opportunities of promoting scientific culture; of which a principal one might be the employing more speedy and extensive means of making us acquainted with the productions of foreign medical literature than have hitherto been

attempted. Men of science throughout the world have a common field and common objects of pursuit, but not now as once, a common language; for most of us, translations only can supply the defect; and translations, unless tolerably full and promptly brought to us, are of comparatively little value. Nor can our weekly and quarterly journals, conducted as they are with constantly increasing ability, and all of them, I think, comprising a foreign section, do much to satisfy this particular want.

Our New Sydenham Society is worthy of all praise, but its sphere is too limited and its publications are restricted to its own subscribers; and these only 2,500, too small a number out of so great a profession. The original memoirs and works in medicine and the allied sciences bear a considerable proportion to the whole of the scientific productions of the world; and some idea may be formed of the number of these, from the fact that the separate scientific memoirs and works of all countries, of which the distinct titles could be ascertained as having appeared between the years 1800 and 1863 inclusive, brought together under the authority of the President and Council of the Royal Society, reach the astonishing total of 220,000, while every year's produce is becoming greater than the last.\*

The medical literature of Germany, France, Holland, and other continental countries, abounds in materials of great value to us, both as scientific men and as practitioners (as ours, no doubt, does to them). But unless we are kept fully aware, in each department, of the additions as they accrue, we are in danger of lagging in the race of improvements, and can hardly hope to do justice to our patients or to ourselves.

But, Gentlemen, I must conclude. I would willingly have resigned into abler hands the task unexpectedly imposed upon me by your Council. Circumstances and my tastes have caused me for some time past to desire to play my humble part noiselessly in the world; and I have been less able than I could have sometimes wished to share even in the pleasure and the profit of professional gatherings. I have, therefore (more perhaps than some men), looked somewhat as a spectator, from the outside, on many of the more public doings of our profession, whose

\* Up to 1873 inclusive, 327,000.