

# Address

DELIVERED AT THE OPENING OF THE  
MEDICAL DEPARTMENT IN KING'S COLLEGE,  
LONDON,

*On the 1st of October, 1866.*

By SIR WILLIAM FERGUSSON, BART., F.R.S.,  
PROFESSOR OF SURGERY IN KING'S COLLEGE, AND SURGEON TO KING'S  
COLLEGE HOSPITAL.

MR. PRINCIPAL AND GENTLEMEN,—Another sessional year dawns upon the Medical Schools of London, and we in this College hail its advent with our customary congratulations. We are delighted to see familiar faces and friends; we welcome those who appear among us for the first time; and we rejoice that we have been spared once again to begin that work of love and labour in which most of us have spent so many years of our lives. On the part of our much-loved Principal, and for my colleagues, I bid you all a hearty welcome. It has been my duty on more occasions than one to hail your predecessors on similar auspicious days, and I never did so more sincerely than I now address you.

In early days, when thus engaged, whilst zealously advocating, to the best of my ability, the claims of Medicine as a profession, I felt that I was but a struggler in the great ocean on which I had embarked only a few years before those who were listening; yet, now that my battle in the fitful heaving struggle is drawing to an end, I can say, with all my heart and soul, that, with my experience of life and my profession, had I to begin the world again I should a second time select Medicine, and buckle to my task as cheerily as I did when a lad of eighteen, without special prospects, and without a hope but that engendered by a firm determination to do my duty, and a belief that straightforward industry would meet a fair reward. Now, after years of labour, with almost every ambitious hope of life fulfilled—and among these hopes I may mention one not the least, that of being a Professor in King's College, London,—I am here, with an experience which time and occasion can alone bring in some degree to maturity, to offer you such an address as may seem most appropriate when men meet to begin a new year of labour and study. To those who, like myself, have spent a lifetime in such matters, addresses of this sort must be monotonous; but it should be kept in mind that they are not intended for reverend seniors. They are for those to whom the profession is new, or all but new; they are intended for the beginning of a generation; and as each year has its own fledging, the oft-told theme has a novelty to the beginner which it lacks with those who have already been years at our work.

Gentlemen, it is hardly possible for the young mind to estimate or realise the magnitude or interest of the profession of Medicine. Its influence extends over the whole human race—over every animal subservient to man's use and pleasure; and from the lowest grade of man in savage life to the sovereign ruler over millions in the highest state of civilization, it is held in the greatest respect. There is, perhaps, no single occupation or profession amongst our social arrangements which has such influence on individual man; and whilst it in some degree sways the daily action of every one, it is equally felt by the masses. It influences alike the inmates of a cottage and those of a palace. Although pre-eminently of a peaceful character, even the sinews of war may be paralysed without its healthful assistance.

To what, it may be asked, is all this to be attributed? The answer is simple. Medicine has charge of the health of the living frame. There is no gift which the Almighty has bestowed on man equal to that of health. Without it the greatest intellects must be enfeebled, and it is in the mortal nature of man,

even with his superior mental endowments over other animals, to place health as the foremost blessing of life. When we reflect upon the meaning of health, we are more fully impressed with the magnitude and grandeur of the objects and aims of Medicine.

We often admire, and not without good reason, the composition, the mechanism of a door-lock, of a Babbage's calculator, of a watch, of a sewing machine, of a steam-engine, of the numberless contrivances of man's ingenuity; yet how these fall short of the mechanism of man's body itself! A beautiful treatise on the human hand was written by one of England's greatest physiologists, Sir Charles Bell. Very recently a course of six lectures was delivered at the College of Surgeons by one of our most distinguished anatomists and surgeons, Mr. Hancock, on the human foot, in which he says: "In the whole range of mechanics, architecture, or engineering, where can we meet with such a structure as this?"\* Volumes have been written on the mechanism of the heart, of the eye, of the ear, of bones, muscles, and tendons; and when we think that all these surpassing perfections are united in one frame, our admiration is blended with awe that such things can be and actually are. In the watch and the steam-engine we can appreciate the design and mechanism developed by the head and hands of man; we can recognise and appreciate the physical power of a beam, of a lever, of a spring, of water, of steam; even the mysterious electric current can be controlled, guided, and brought to marvellous use; we know the agencies that can originate and cause this current to encircle the globe; we know that all these wondrous developments of man's ingenuity are the gift of the Divine Creator, and that of all His creatures man alone has been endowed with intellect sufficient to develop and appreciate such marvels; and when we consider that these marvels come from the intelligence of man; that that intelligence is associated with life, and particularly with the vigour of life; that "vigour of life," intellectual and physical, means health, we may well be awe-stricken at the marvellous mechanism of the human frame, and more particularly at the motor element which inhabits it—which prompts and sways its diversified movements, aye, even sways thought itself; and in our awe we may feel gratified that the profession of Medicine has chiefly to deal with the health of this marvel of God's creation!

The precious things in this world are usually guarded most carefully by the highest intelligence. The soul of man we deem imperishable, and most precious. Such a thought is the highest mark of civilization; it is the grand distinction between heathen and Christian, and we delight to cultivate that intelligence which, by fostering health, guards our soul and tells us how we can best during life provide for this immortal part of man.

Success in Medicine implies efficiency; efficiency is, perhaps, the surest guarantee of success. Let me explain what I mean by these terms. We delight to pay homage to men in our profession who distinguish themselves in special departments: the great chemist, the great anatomist, the great pathologist, the great histologist. But it is not specially needful that any professional man must be pre-eminently accomplished in one or all of these departments of science; and, to say the truth, there is no demand either among ourselves or on the part of the public for great numbers of such men. A reasonable and comparatively moderate amount of such knowledge is all that may be required for both efficiency and success. As a round yet rough statement, it may be said that there are 20,000 professional men in England to 20,000,000 of population. The people do not expect these 20,000 men to be high-class philosophers; but they expect them to be well-educated gentlemen, and that that education should be such as best suits them to their calling. If it is too refined the mind may be incapacitated for commonplace work; if it be not up to a certain standard, it will be unfit even for such work. This term "commonplace" may possibly surprise some of my younger listeners; but it is purposely selected. There is a vast amount of what I call by this name required in our profession and occupation, just as there is in all the occupations of life; and it is in the

\* THE LANCET, June 9th, 1866.

due fulfilment of that commonplace work that the daily wheel of business is conducted.

Now it is for the purpose of learning how to enact daily business that most, perhaps all, of you have been sent here; and assuredly it is much more the purpose of medical schools to educate to this work than to bring men out as philosophers. There is nothing in such education to prevent a man aspiring to the heights or depths of philosophy; but depend upon it that accomplishment in the ordinary business of life is the true philosophy for the masses, both as regards the masses in our profession and the masses in the public.

The conduct of the youth foreshadows that of the man, and it usually happens that teachers can foretell the probable course and success in life which shall befall most of their pupils. In a well-conducted school, there is always such notice taken of each pupil that all become more or less marked men; and if the indications be good, a youth can carry with him from the school in which he has been educated such marks of approbation and esteem as shall give him an onward impulse in his start in life, and act as a *vis a tergo* to the end of his career.

But, gentlemen, besides the incitement to duty and the prospect of worldly success, there are in the study of medicine attractions which are scarcely excelled, if at all equalled, in the study of any other profession. The subjects embraced in such a course of study are certainly more extensive than in any other profession or occupation whatever. Besides a preliminary education equivalent to that of other gentlemen, the student in medicine must be proficient in Human Anatomy, in Physiology, in Chemistry, in Materia Medica, in Botany; he must possess a good knowledge of Natural Philosophy, Natural History, and of Comparative Anatomy; and, without referring to certain subdivisions of these departments in which proficiency will also be expected, he has, over and above, to acquire a knowledge of Medicine and of Surgery, properly so called, as, also, of Midwifery and of various other specialties. Here is a volume on Human Anatomy, one on Physiology, one on Chemistry, one on Materia Medica, and one on Botany; every page of each the pupil is expected to have well-nigh by heart. Here are two modern and much esteemed volumes on the Practice of Physic, here is one on Surgery, and here one on Midwifery. I might show others on the Brain, the Eye, the Ear, the Throat, the Lungs, the Heart, the Stomach, the Liver, the Kidneys, the Bladder, the Prostate, the Rectum, the Bones, the Joints,—even more; and with these also the acquaintance must be, if not so precise, at least well-nigh as familiar. All such knowledge must be acquired before a youth can present himself for examination for a diploma; and, without professing to be familiar with the special requirements from candidates for the Church or for the Bar, I think I may safely affirm that no such tax is put upon the aspirants to these professions, particularly in the short space of between three and five years, when the pupil is at his studies.

Even these form but a portion of the field of study, for the student is expected to spend a large portion of time in the museum of materia medica, in the dissecting-room, in the post-mortem theatre in the hospital, in the museum of natural history, and in that of pathology; and, moreover, is presumed to be in daily attendance on the hospital from first to last, besides the various courses of lectures demanded by the licensing boards, for all of which certificates are positively required!

Here is enough, gentlemen, to exercise the mental powers of the cleverest men, and truly the task is great indeed. Well might a youth pause on beginning such an eventful way of life—a way to which the barriers appear so formidable that they might be held as altogether insurmountable. Yet do not fear! All, and more than all, that I have referred to has been accomplished by your predecessors in recent years, and the word “impossible” must have no place in your aspirations. You must hold yourselves as good as those who have gone before you. Men often refer to “the good old times,” as if the world were in decadence. The old song has it that “we shall never see the like again;” but my impression is that even better times than ever are in store for the future. At least such I think to be the case in the medical profession; for, as with certain other departments, Mr. Grove’s theory of “continuation” applies in a remarkable manner to our profession. It may be doubted if single heads or intellects will ever arise which shall surpass those of bygone times. Another Harvey, Jenner, or John Hunter may perhaps never be seen; but the accumulation of knowledge, always sure to be well tended whilst civilization lasts, will give in after-times a power and force of character to our profession which will admirably illustrate the cumulative influence of “continuation.” You, gen-

tlemen, will have your education under such gradually increasing advantages. You will have greater opportunities than ever your immediate predecessors enjoyed, and in reality you ought to excel in knowledge all who have gone before you.

I have alluded to the grandeur and dignity of our profession; but it is perhaps better in accordance with my present duties that I should draw attention to its commonplace, every-day aspect, and to your commonplace, every-day objects.

In civilized life—and the higher the civilization so much the more conspicuous does it become—men suit themselves to each other’s wants and to the wants of the community at large. Our professions, our trades, our occupations of all sorts, from the tiller of the soil to the cunning-handed mechanician, from the grammarian to the rhetorician, from the clerk to the statesman ruling the destinies of millions, are all the products of civilization. As we trace the social history of man from his savage condition upwards, variety of occupation seems a remarkable feature. From the simple trapper of fish and animals for the sake of food, from the savage warrior who may kill his opponent for the sake of his scalp, we can trace the gradual development of separate occupation and labour, that each may serve another—a reciprocity of work whereby each can best enact that for which his mind and frame seem to have been designed; whilst all are bound together by one great tie, each assisting in the way he best can—aiding in that great social compact to which men, the most intellectually endowed of God’s creatures, give the name of civilization.

It is needless here to attempt to trace the rise and progressive development of occupations and professions—of “arts and sciences;” it is sufficient to point out that you are about to take your parts in the great whole of which it is our privilege to be individual members, in this the much-favoured nineteenth century—favoured by God and man, by the development and diffusion of marvels of knowledge and power such as the mightiest intellects in former years neither anticipated nor dreamt of.

Of the usually recognised professions in this country, those of the divine, the lawyer, the soldier or sailor, the engineer or the medical man, you have chosen the latter; and now you must so do your work as best to reciprocate those good offices which others do to you.

It is usual on these occasions to refer specially to the scientific character of your chosen occupation, and right, too, that such should be; but I must remind you that unless or until science be rendered in some way subservient to the use of man, it may be likened to a sort of plaything of little value to anyone. Some say that even here it is probably our ignorance which prevents us applying the so-called science to man’s use. But not to detain you with such abstract views, let me state plainly that your friends have sent you here, not so much to make men of science of you, as that you shall acquire that kind of knowledge which is to enable you to take a useful place in our social system; to use still plainer terms, to enable you to earn your daily bread. This may seem a humble, even sordid, view to take of your ensuing occupation. Assuredly, I say, acquire all the science that you can grasp at; and, happily, you cannot learn our profession without intuitively, as it were, imbibing science, although nine-tenths of you or more, to be of material service to yourselves or others, must become hard-working citizens, dealing out your professional stores as if science had no place in your thoughts. But I repeat that happily you cannot learn or exercise your profession without science, for its grandest features are in reality associated with science in some of the most pleasing and palpable aspects. My main object in thus alluding to the science of our profession is to say that the art of Medicine requires your attention fully as much as the science; for without the art the science would be well-nigh useless. I am aware that I am now touching delicate ground; for, if I mistake not, few men have the courage thus, as it were, to hold the scales equally balanced between the science and art of Medicine. The fear that he may be held a commonplace fellow, with neither knowledge nor love of science, that he takes “a low view” of his profession—of his occupation, and the gibe of being a mere art man, may induce him to say nothing of art, and to refer to Medicine as if wholly made up of science. But, at the risk of incurring such suspicions or accusations, I venture to say that the art of Medicine is less cultivated than it ought to be. I will now go further, and say that, in my opinion, even our great licensing bodies have to all appearance put more stress upon the one than on the other. They demand from the schools, if not too much of science, certainly more of it than of art. But a change is appearing in this respect; for, without abating the requisite amount of science, there is a call among many

of the examining boards for a display of art which necessitates a much more practical kind of education than has previously been insisted on. I will yield to no man in zeal to uphold the scientific aspect of Medicine; I believe in it most firmly, although many shortcomings must be admitted. Yet, however difficult its acquirement may be, I am inclined to think that it is equally difficult to become familiar with the art. It is curious to observe how men's minds differ in regard to these two aspects of our profession. Some seem to appreciate science only; others art only. It is, perhaps, by the due combination, holding, and application of both to the every-day purposes of our profession that we owe the most perfect of our ordinary practitioners. I must for the present keep our philosophers out of view. We may be proud of them when they appear among us; but I must speak of the body—the masses—of our profession who are to do the daily, I may say the routine, work required by the public at large. It is to such men and to the public that the art of Medicine is so peculiarly valuable.

And what, it may be asked, is this art? The question is difficult to answer. It may be defined as the most perfect application of knowledge to useful purposes. Many men with excellent knowledge of science or art are yet unsuccessful in its application; their course of life is consequently not so fortunate as that of others, who are even less accomplished, and it often puzzles those of experience of the world to give reasons why certain men are less or more successful than their contemporaries. Perhaps the word "tact," which is in such frequent use in modern times, gives the best explanation, as it is well known that most of the successful combinations and issues in our social arrangements are brought about by this quality. The tactics of the warrior, when judicious, have been long recognised as of the utmost value; but, curiously, little comparatively has been said of those of the civilian. Yet successful arrangements in civil life are as essential to our common welfare as those for the conduct of war. Possibly to the mind of some people tact is allied with the mean quality, cunning; but the difference in my estimation is just as great as between fair weather and foul. A man of tact may be as open as the light of day, a cunning one is essentially a sneak and a deceiver.

But let us look more carefully, or in another way, at what best exemplifies this art. What may be called the practice of physic forms but a portion, many would say a small portion, of the healing art. The temperament of a patient, his age, his circumstances, his surroundings, all require special consideration, otherwise neither skill, art, nor tact can be said to have been displayed; and it often happens that as much judgment is required to decide when physic should not be given as when it should. Possibly such judgment may be decided on scientific data, but it involves the art of applying science effectively.

It appears to me strange that I should stand here to defend the art of Medicine! These words seem as old as Medicine itself. I feel, however, as it were impelled to do so from a conviction that there is an affectation in many quarters to decry art, and make it appear that science is all in all in Medicine. I remember well when during the Crimean war there was an urgent demand for medical men to alleviate the sufferings of our wounded and half-starved soldiers, and those highly educated were naturally most in requisition. But art was absolutely needed; and of a considerable number of candidates, some of whom had unusually high characters, many were rejected because they were defective, ignorant, or incapable of applying some of the simplest art. Art and mechanical work are frequently confounded; they are often inseparably associated, yet there is a wonderful distinction between the two. Who would for an instant apply the term mechanic to the painter or sculptor?—men who deal with art so artfully that we at once apply to their occupation the terms "fine art," "high art." I am not aware that the great masters of the brush and chisel pride themselves specially on science in their occupation; but all of us agree that behind the hand that wields the one or other there is a mind, a soul, to arrange, to dictate, and to develop those effects which fascinate and fill us with admiration, which raise those who bring them out among the foremost ranks of men, and command for them immortal fame. The good and great deeds of these masters in art remain as pleasing indications and proofs of the high qualities of the artist. With us unfortunately there is no such advantage. Although we seem to be, under Providence, the visible means of raising to health and strength from the bed of sickness and pain—although we deal essentially with health and life, however happy the application of science and art may be, our proofs of triumph are but rarely appreciated by more than a

few relatives and friends, and at best survive only through the remaining brief period of man's existence. But the art of Medicine, dealing as it does with life—that which most men hold so dear,—is, in my estimation, as worthy of admiration as any in which mortals deal. For the physician I believe it to be of the utmost importance for the due and proper application of his professional knowledge; and for the surgeon who wishes to excel, I believe it to be as essential as that quality which constitutes the difference between a Titian and a common house-painter.

In modern times our profession is proud of the conjunction of science with art. As knowledge in anatomy, physiology, animal mechanics, chemistry, and other collateral subjects has increased, so, with that increase, the scientific aspect of Medicine has become developed. I fear, however, that we must even yet be sparing in our assumption of scientific accuracy in our work; and it seems to me a good indication of sound sense when there is but moderate affectation in this respect. It often appears as if, when men get older in our profession, they have less reliance on what may be called its scientific aspect.

As years roll on you will think more on these matters, when you have data of your own acquiring to judge by; meanwhile it is part of my duty on this occasion to enforce upon you the propriety of making the most of your opportunities of acquiring as much scientific and practical knowledge of the profession as time and opportunity permit. You cannot make a selection of one over the other; both must in a manner be studied simultaneously; for it appears difficult to state which is of the greatest importance. It is a remarkable fact that the wisest in our profession are at variance in opinion on this subject. For example, it is understood that the Medical Council—the parliament of our profession—is about equally divided on the question whether a youth should begin his medical studies at the schools or in a general practitioner's surgery; that is, as I take it, whether he should begin in science or in art first. At present, if I am not mistaken, art is placed foremost. One year may be spent at first in a workhouse or infirmary, in dealing with the art of Medicine, and then the science of the schools is to be acquired. This view is, however, maintained by only a bare majority; and many of our highest authorities maintain that the proper study of Medicine should begin at the schools. My own impression is strongly to that effect; and I feel tempted to say to those who sit on these benches for the first time, who may already have been dealing darkly with the profession, that it would be well to consider that they are now beginning their enlightened studies. I say this with every respect for the position and opportunities they may have already enjoyed; but it must be kept in mind that the required education from all our licensing bodies without exception, saving this partial permission, must positively be acquired at schools, and schools too of a well recognised stamp and character. During the period allotted to your studies you have to acquire as much knowledge of both as circumstances will permit; and, with all I have stated regarding art, I am thoroughly convinced that the best training for perfection in that department is a foundation in science. Happily, the science of our profession, in its most useful and common-sense aspect, may be fairly acquired within the time allotted for your studies. There is a fair portion, too, for acquiring a knowledge of art and practice, although in these a life-long study can hardly give perfection.

Let me remind you again, gentlemen, that you are here to acquire the knowledge which is to fit you to earn your daily bread; to enable you to take your position gracefully and usefully amongst your fellow-men. In my opinion you will best fulfil your duties by faithfully submitting to those regulations and observances which have been proved by experience best fitted for your guidance. Men, in youth, often fancy they know better than their seniors; but age generally gives experience, and you can scarcely imagine how much time, attention, ability, and knowledge of the world are given by corporate bodies for the guidance of those who aspire to enter the profession of Medicine. There is a general resemblance of rules and requirements in most of our public bodies, some affecting a kind of superiority over others; but whatever these may be, it is your duty to accord with them, and generally it may be said that those who do so get on the best in life. They pass the requisite examinations more readily, and afterwards they usually get more rapidly into successful practice. They thus best fulfil the obligations they owe to those who have incurred expense and anxiety about their education, and they thus render their initiatory steps into life most likely to secure that success to which men naturally aspire. The duties to which I

now refer extend over a period of from three to five years; and it is fortunate that the time is thus long, for what man, let his intellectual capacity be ever so great, could expect to master in less time the subjects of study to which I have referred? Happily this extended period enables you to engage each separately, so that knowledge is gradually accumulated, and stored in such a way that it can be assorted and used to the best advantage afterwards. Were it not for this arrangement he would be a bold man who would encounter such an array as these books and other things mentioned. The student's path is not only made comparatively easy by this extension of time, but it is further facilitated by the recent custom with some of the examining boards of periodical examinations instead of one, whereby material relief may be given to the mind when the anxieties and uncertainties on several topics are got over, and thus, too, is the path of study made more easy. Yet truly, gentlemen, it must be admitted that your selected way of life is one of great difficulty, and it is my duty to urge you to diligence. Not only have you to think of the value of your work as regards your future prospects, and those examinations which by law you are obliged to undergo, but you have characters to win in this establishment as well. Here you will be constantly under the scrutiny of the authorities of the College, as also of your professional teachers, and much of your after-success will depend upon the character you earn at our College and hospital. "Alma mater" is one of the fondest expressions we in this country can use, and it is applied even more frequently to the institution where education has been chiefly gained than to her to whom, or to whose memory, most men look with the tender associations of the domestic circle.

And now, gentlemen, let us see for what further end all this work is intended. Your livelihood, the character of your profession, the promotion of knowledge and science, are such objects as to rouse the energies and incite the ambition of every well-regulated mind; but, in addition, your special mission is to soothe the bed of sickness, to mitigate the anguish resulting from accident or disease, to relieve the aching brow, to calm the throbbing pulse; and in accomplishing all this you are dealing with a machine which, though of earthly mould, is of divine creation—a form not made of man's hands, and which is moreover endowed with that mysterious agency with which we are so familiar, and yet so ignorant, known to us as life. Whatever the comforts of religion as to our hereafter, few men willingly part with life and soul. Yet without health life is little else than a burden. On great emergencies, moral, social, and political, life is freely risked and given; and it is often our lot to be, as it were, under Providence, the arbiters of life and death. When health is affected, when some fatal malady has set upon the mortal frame, or when some severe injury has been sustained, and when the tide of life is fast ebbing, then comes the eager call upon our skill. It is not permitted to man to have sway on all occasions; yet when his powers are of avail, they often seem to be well-nigh miraculous. It frequently happens in practice that one man sees his way to a beneficial result when others cannot. This is, in reality, the development of higher skill. Gloomy anticipations can be suddenly changed into pleasing realities, and then the value of our services may be appreciated; then it may be understood how in heathen times our profession was held as god-like, and how statues were erected in honour of its most distinguished members.

Gentlemen, in our social arrangements certain men devote themselves to the service of God. The devout student of theology is justly esteemed by us all. His communings with the Almighty we naturally consider the closest that are permitted to man. He intercedes, as it were, between the Divine Being and the immortal soul; he looks from present time to the future; he takes charge of our ethereal being; and in all such aspects we gladly give him that social standing which his profession deserves. Your occupation, gentlemen, is only second to his, and in dealing with God's works you come more closely in contact with evidence of His wondrous power. Our idea of the soul rests upon the imagination. The substance of the frame, your special elementary study, lies palpably before you, and it may be a question whether the divine or the physician comes nearest in proximity to the Maker of all.

Is such study as yours, then, not worthy of the highest appreciation? Have you not cause of congratulation that you are now entering on a field of inquiry which prepares you for a life of usefulness; which leads to so close an acquaintance with the master-works of God; which leads your thoughts instinctively from time to eternity?

Let us start then, gentlemen, on our great and good mission, and let us pray that God's blessing may rest upon our labours.

# Abstracts OF THE INTRODUCTORY LECTURES DELIVERED AT THE VARIOUS MEDICAL SCHOOLS OF LONDON AT THE Opening of the Session 1866-67.

## CHARING-CROSS HOSPITAL.

### MR. BARWELL'S INTRODUCTORY ADDRESS.

GENTLEMEN,—We, your teachers, come together each year in these first few days of October to meet old and new faces of our pupils—to see many for the first time on whom we are to impress the best results of our experience, to influence for their good, and to lay in them the foundation, we will hope, of a happy and prosperous career. This, the inner meaning of such meetings, is not new to you; but interest should not attach merely to what is new. The preacher who said, "All is vanity; there is no new thing under the sun," appears to me to have been speaking less as the wise king than as the worn-out old debauchee, whose many wives and concubines had been rather too much for him. The life of man, honestly regarded, cannot be considered as mere vanity, partly because in this present he has his sole grasp of eternity, partly because—and on this I would chiefly dwell—each man's life and labour is not solely his own property, but a portion of the great commonwealth. He has inherited the result of other men's labour; let others inherit something worthy from him. This idea may be further developed. Whether or no man is originally descended from several monkeys, as Dr. Hunt recently asserted at Nottingham, he was doubtless a very different creature to what he is now: probably a skulking, thin-shanked, dusky being, living in woods with cave-bears and hyenas, whom he sometimes ate, and who sometimes ate him. This latter event occurred so inconveniently often, that he found it necessary to fashion sticks and stones into more handy weapons of offence and defence. From this little germ springs all our mighty civilization. Everything, from the wheelbarrow to the railway—from the boy's popgun to the breech-loader, originates in the first rude efforts at convenient weapons. The step from one to the other was not rapid. Ages have gone, and myriads of lives have passed away in aiding such progress. All the oceans of the earth contain not so many drops of water as lives have passed in preparing our present high state of civilization. Of all the earlier history of mankind we have no records, and can only form conjectures about it from the few bits of fashioned flint we find in old caves and river-beds, or from the remains of diminutive peoples who built their strange dwellings on the shallow ooze of lakes and rivers. Even the inner condition of mankind in the earlier historic periods is barely known, but we see that it must have been very rude. I do not pretend to give a history of mankind, but would call your attention to certain singular facts. Nearly four thousand years ago there were gathered round the eastern part of the Mediterranean sea several nations remarkable for the high perfection to which they, in the lapse of time, brought sundry arts, as logic, poetry, lawgiving, sculpture, architecture, &c. One only amongst these, the least gifted in arts, the least civilized otherwise, was not idolatrous. In that nation arose the Man and the event which has since ruled a vaster part of the globe than was then known. Soon after that great event all those learned and artistic races had, as nations, passed away. The places remained, but they knew their peoples and their arts no more; thoroughly corrupt, they were overwhelmed in a deluge, not of water, but of men. Then fell on Europe a long darkness, which lasted till the study of the old writings of Greece and Rome brought forth the period of Renaissance, when art and literature once more revived.

So far, then, we have found that civilization depends on and is measured by the state of the arts. Science—that is, a knowledge of nature and its working—did not exist even in a rudimentary form; its place was supplied by wild guesswork, astrology, demonology, &c. We claim for England—aye, for this very town of London—the birth of Verulam, who only three hundred years ago laid the groundwork and founda-