

**Graduation in medicine 25 July, 1895 : address to the graduates / by Joseph Coats, M.D., Professor of Pathology.**

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University of Glasgow

# Graduation in Medicine

25<sup>TH</sup> JULY, 1895

## ADDRESS TO THE GRADUATES

BY

JOSEPH COATS, M.D.

PROFESSOR OF PATHOLOGY



GLASGOW

JAMES MACLEHOSE AND SONS

Publishers to the University

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## Address to the Graduates in Medicine

*25th July, 1895*

GRADUATES IN MEDICINE OF GLASGOW UNIVERSITY,—

It has fallen to me to speak to you the last words which you are to hear, officially, within these familiar walls. It is a difficult task to say something fitting, in view of your position, and of the unwonted state of feeling which must possess you.

By the interesting ceremony which we have just witnessed, you have been transformed from students into practitioners of medicine, and this proud title you are henceforth to bear. It is a time when one naturally gives a glance backwards, but when an anxious scrutiny into the future is still more natural. You have finished your course as students, and the events of these busy years have woven themselves into the texture of your lives. They are there indelibly, and form, in great part, the fundamental pattern on which the rest of your lives will be woven. Your friendships, the manner of your work, the energy you have put into your work, the degree of conscientious endeavour which you have shown, the amount of time wasted, the habits of industry which you have acquired or only partially acquired—these and a thousand other influences, which are now past in time, are present in the very tissue of your minds and characters, and must remain there for good or for bad.

Most of you have been banded together during four eventful years, and now, seated together for the last time,



you look round on one another, and, identifying this one and that one because of some distinctive characteristics, you cast forward in your minds and wonder what the future will bring, and how the past will appear in the future. As you look round on those whom you know so well, and try to sum up their student lives, you think of a time, it may be many years hence, when you may meet one or other, and when you will scan their features for some traces of the familiar aspect. There will be great changes as time goes on, in figure, countenance, general appearance. There will be changes also in the inner man, but I think these will be much less considerable than in the outward appearance. There will, no doubt, be development, expansion of ideas, growth in directions which are only indicated at present; but the likelihood is that you, to-day, know the man as he will be almost as well as you know the man as he is.

It is a common saying that students who have a distinguished career at college often sink down into the position of very insignificant mortals in after life, and that those who have had a very inglorious career as students often come to the front as practitioners. I think the latter of these statements is more true than the former, and it is encouraging that it should be so. There are men of solid parts who, it may be, have not that alertness and nimbleness of brain which enables a student to become a prominent man in his year. But, on the other hand, you may depend upon it, that if a man has come out prominently in these four trying years, tested by all sorts of methods and by a variety of different men, it is evidence that he has special ability. A man who acquits himself well in this preliminary skirmish in the battle of life is not likely to be seriously worsted when he joins issue in the full campaign. As I scan, for example, the list of men who have taken honours with their medical degrees in this University, I find that there is scarcely one, of those who have had time to develop their careers, that does not occupy a prominent and responsible position at the present day.



But now, I turn from this retrospect, which to some of you is perhaps dismal enough, to look for a short time at the possibilities of the future. We who are fated to remain here and minister to successive generations of students, look with strong sympathy, and perhaps a degree of envy, on you as you go out into the world. The future is yours. Your story is yet to tell because it is yet to live. It is the story of a human life, always interesting to him who can read it, and interesting above all to the man himself. With the future before you, and with all the vigour of youth on your side, you remind me forcibly of the words of the poet Byron :

“Oh, talk not to me of a name great in story ;  
The days of our youth are the days of our glory,  
And the myrtle and ivy of sweet two-and-twenty  
Are worth all your laurels, though ever so plenty.”

We whom you leave behind in these halls have, as it were, attained to some kind of victory in the battle of life. We have secured our position, we can scarcely look for any new worlds to conquer. When former students, at too rare intervals, visit these precincts once so familiar, I think I sometimes see an expression of astonishment and perhaps of pity on their faces as they find the same old routine still current. They go into the wards, and look on the group of students, and think “I was once like that,” and they turn to the professor and observe the same attitude and method, and the same old expressions. Or they visit the post-mortem room and note the various circumstances thereof, the Pathologist slightly older, but with the same mode of operating, and the same voice dictating apparently the same report. Are not the shabby coat and apron the same? It has been in some cases ten, twelve, fifteen, or even twenty years, since these scenes were left, and how much has happened in the life of a man who has measured so many years since his student days. And yet here there is no apparent change. I may perhaps say for us, that,



even though we are thus left behind, life retains some interest. Science is ever full of interesting revelations, and to any one who loves his work life never palls. But the interest is not that of young life which is making its own story, it is not that which accrues to you. To you, within, let us say, the next ten or fifteen years, will come the most interesting episodes of life. There will be the proverbial early struggles, the waiting for patients—may it not be too long—the gradually growing confidence in yourselves and in your work, the firm settling in your places as trusted and esteemed practitioners. But this will not be the whole drama of your lives. There lives, perhaps, in your imagination, beyond the merely professional circumstances, a picture, shadowy and ill-defined, but warm with lively colour, of a home and a loved one in it. You have before you the perennially interesting and sweet period when a fair face will fill your world, and you will regard the business of life as only important in relation to the influence it may have in that direction. I would advise you, however, not to be in haste to realize that picture.

And now I want to refer to one or two matters which are of special concern to you as practitioners of medicine. I beg of you never to forget that it is a profession which you have entered, and that you are called on to conduct yourselves as professional men. I am not here asserting any superiority in the professional man over the business man. Each man has his value apart from his profession or business. But what I do say is that, having entered the profession, you are called on to strive after its ideals, which are different from those of business.

Let me say, in the first place, that our profession has the great advantage that its subject matter is of special interest. You are now in the position of trained observers, of naturalists, and it is your business to closely scrutinize the workings of nature in every case that comes before you. What is a case? To the right-minded practitioner the answer to that question is a very wide one. It is, in the first place, a



sensitive human being with numerous personal and social circumstances, each of which may have some bearing on the problem. But, more directly, each case is a great experiment which nature is performing on a living sentient organism there before us. It is a pathological problem which is being set to us and which it is our supreme duty to try and understand. Every individual case ought therefore to be, and, if properly looked at, really is, a matter of deep scientific interest. There are, indeed, some who, when they can range the case in its particular niche and call it by the name given in the books, think they have finished their diagnosis, and may rest content. Meanwhile the experiment is going on, and new facts are emerging which may entirely nullify the conclusion come to. It is one of the lessons which I trust you have learnt by this time, that in entering on a case, even the most skilful observer is entering on an unknown land, that there may be surprises and unlooked-for incidents on the route, and that he cannot be said to know the case, or to have established a diagnosis, till he has carefully and thoroughly investigated the problem in all its aspects. I know well from experience that what at first appears the simplest and plainest case, often affords matter of surprising interest, and that a true inquisition into the most barren-looking one always gives new and interesting results. I say, therefore, that you are fortunate in respect that the daily routine of your lives affords, at every step, problems of the keenest scientific interest, to which is often added a strong element of human interest. I venture to hope that this attitude towards your work will be kept in your minds, and that you will not allow "custom which doth make dotards of us all" to befog you. It is, unfortunately, possible to treat medicine as merely a business, and to look on cases not as of intrinsic interest, but merely as the external means by which life, with its more or less expansive circumstances, is to be sustained.

Intimately connected with what I have been saying is the fact that much of the work of a medical man is



unremunerative, in the material sense of money payment. If you look abroad on human occupations you will see, I think, that, as a general rule, those which are most interesting in themselves are, at least in their earlier periods, least the subject of money payment. Scientific work of all kinds is done by devotees who think little about the pecuniary result, and it is often the so-called practical man, who appropriates the ideas of the real worker, that reaps the reward. In our own profession the best work is often the worst paid, and it is so because it is the most real and the most interesting. You will always get men to spend much time in hospitals and laboratories for the minimum of payment. I do not therefore regard the fact that a great deal of medical work is unremunerative as a misfortune. It is rather a testimony to the inherent interest of the work. It is self-remunerative. Of course there may be too much of a good thing. Gratuitous work should be voluntary work, and it is a mean spirit which takes advantage of the medical man's devotion, and neglects to pay his bill.

Let me say, further, that in our profession, perhaps more than in any other, the power of taking pains, of going into particulars, of attending to small things, is the great secret of success. You are to-day proud to bear the title of graduates of medicine. Never forget that our profession is in its very essence one of ministration, of service, and the injunction applies very specially to us, "Whosoever among you will be chiefest shall be servant of all." Pardon me if I hint that the young practitioner, conscious of his dignity, sometimes looks on his duty too much from that high and lofty pinnacle, and rather scorns the menial services which are expected of him. The ideal practitioner is he who does not count any single matter, be it pleasant or unpleasant, clean or dirty, easy or difficult, as unworthy of him. He must stoop to the most trivial and, it may be, disgusting duties with an indifference to his own feelings and his own self-love, and with a devotion to the high ideals of his



profession, which will consecrate the most squalid circumstances.

There is sometimes a kind of accusation made against medical men, that they regard their patients too much as cases, and that they are so concerned with the physical problems as to forget that there are any others. Now, for one thing, I do not fear that you will ever lose the feeling of humanity. It is a false and unworthy calumny that the experimenter who watches in animals the vital processes, even though he has inflicted pain in subjecting the animal to observation, is hardened in his human feeling. I know from abundant observation that it is not so. It is equally untrue that familiarity with human suffering makes the medical man hard and indifferent. The contrary is precisely the case, and there is no more tender-hearted man than the experienced and thoughtful physician.

There is, however, another direction in which the nature of the duties of medical men sometimes leads them into a line of feeling and action which has to be guarded against. Practitioners see so much of the merely animal and merely human, that they are apt to ignore and rather despise anything that touches on the spiritual and the unseen. If one thinks at all on the eternal and stupendous miracles of nature and of life, one must stand in awe at the gigantic and benevolent force that exists behind them, and one ought to respect all who reverently try to get a glimpse of the unseen and bring it into the actual human life. The medical man, mingling with all sorts and conditions of men, and finding in creeds and confessions of every sort that there are good men and bad, is apt to conclude that religion is altogether a human invention to which he can afford to be indifferent. Let it be acknowledged that the formulas and external embodiments of religion are but human and subject to the limitations of humanity, and let it be claimed that each individual has the right of private judgment to the fullest extent. When all this is done, it is but bigotry to refuse to see that under the great differences in mere



opinion and creed there is a great underlying reality, and that there is no religious form which has greatly influenced the lives of men that has not some essential portion of truth in it which demands the recognition of sincere men. Our position may well be that of sympathy and friendly co-operation with all who show that they have the essence of true religion by a life of service and devotion, even though they may be personally disagreeable and the creed which they profess to us incredible and even obnoxious. It becomes us to have a humble and reverent attitude towards the eternal mysteries, and to conduct ourselves generously and sympathetically towards those who strive after the higher ideals.

I venture now to refer to one or two matters of more directly professional interest. You are going out into the world, and your opinions and your attitude on the practical aspects of scientific medicine will have great influence on the community. There is one subject particularly on which, I think, the general community and those responsible for sanitary affairs stand in need of enlightenment and guidance. I refer to tuberculosis.

You have heard a great deal about tuberculosis during your student course, and you will experience still more of it as practitioners. There are some aspects of the subject which, in the light of our present knowledge, are of vast importance, but which have not sufficiently penetrated the professional or public mind as actual principles on which practical action may be based. We have the startling facts that nearly a fourth of the mortality of this country is due to one or other of the forms of tuberculosis, and further, that of all the human beings born into the world about one-half are fated to acquire the disease in one of its many forms at some period of their lives. These are startling enough facts, and they are the more important in view of the fundamental truth that this is a disease whose causation, mode of onset, and whole phenomena are perhaps better known



than those of any other. It is only thirteen years since Koch announced the definite discovery of the bacillus of tuberculosis, and in the interval since then the whole doctrine of tuberculosis as a disease due to a specific vegetable parasite has been elucidated with remarkable fulness.

But when we turn to the more practical sides of the question it must be said that the picture is very different. This is a definitely infective disease, due to a microbe whose mode of growth and other properties have been very fully elucidated. It is extraordinarily prevalent in the human subject. And yet its mode of access to the individual, the direct source of contamination in the particular case, the explanation of its remarkable prevalence in children,—these, and many other questions as to the causation of the disease, have obtained no sufficient answers, and have received, in my opinion, far too little attention. The Pathologists have, I think, done their part, the essential part, and it remains for the practitioners to apply the lesson in the regular routine of the profession. I should like it to become part of the habit of mind of each practitioner, and not only so, but of every member of the general community, to regard each case of tuberculosis as no mere awful visitation of providence, but as the result of a definite contamination, and in itself a possible source of further infection. It should be the practitioner's business to investigate, in each case, into the source and mode of access of the specific infection, and to take precautions that the case which he has to do with shall not be the source of further contamination. It is not as if the infection were some mysterious effluvium floating in the air and penetrating like the atmosphere into every nook and cranny on the earth's surface. The bacillus is a definite organism with special conditions of growth. It is difficult to cultivate in the laboratory, and, except in a laboratory experiment, has virtually no place of growth outside the bodies of living men and animals.



It is an organised living structure, and in order to the establishment of the disease it must be carried into the body by some vehicle. No doubt, in some cases, the source of contamination has been traced, as in the case of persons living in the same house. But even in that case how we are apt to be satisfied with the mere fact of communication, and forget to investigate the particular path and method of contamination. And in cases where no such immediate contact with an infected person exists, how rarely is any attempt made to trace the source. Surely it must sometimes be possible, by narrowing down the sources of possible contamination, to focus the inquiry and bring out some approximation to the truth. I ask you to bear this matter in mind, and, in your actual investigation of cases, let the source of the infection be an essential part of the inquiry. This is a line which can be followed only by the private practitioner, and is inaccessible to the hospital physician. A single well-observed and demonstrated case will do much to enlighten the community, and to advance the great end of the reduction of this, the most important of all forms of disease.

There is another subject which, to some extent, connects itself with this one, and which has important bearings. I refer to the subject of Inheritance. You who have attended my courses of Pathology will not blame me for minimizing the importance of inheritance. It determines for us all our physical frame, and condescends on the most minute particulars in the anatomical and physiological constitution of the body. It is curious, however, when we come to the practical concerns of disease, that of late years two of the diseases which used to be regarded as pre-eminently subject to inheritance, have been, in the case of one of them, demonstrated, and in the case of the other strongly suspected, to be due to parasitic influence, or, in other words, to infection. I need scarcely say that tuberculosis is the one disease and cancer is the other. It will be necessary to re-adjust our ideas in regard to both of

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these. In regard to tuberculosis it must be said that, in view of the definiteness of the contagion and the prevailing uncertainty as to the sources of contamination in many cases, the question of inheritance is a very difficult one. So much is certain that the disease itself is not inherited. All that is subject to inheritance is the susceptibility. There can be no doubt of the existence of such an inherited susceptibility, but to what extent it influences the incidence of the disease is by no means apparent. In regard to cancer we are only at the outset of the inquiry. I confess to the personal opinion that, if there is any reality in the assertion of an infective agent, then probably inheritance has little or nothing to do with the matter.

There is a wider view of inheritance on which I should like to say just a few words. There is the inheritance of racial, family, and other characteristics in their more general relations. Now, so far as physical characters are concerned, there is nothing more certain than the reality of the inheritance of these characters; but when we come to moral and spiritual considerations the matter is much more difficult. We have here to deal with the subtle influences of education, surroundings, climate, etc. I believe in the influence of heredity on bodily and mental vigour, on special aptitudes for particular lines of energy or thought, but when we come to such considerations as those which constitute character I am much more doubtful. I confess that the words which fell from the lips of a recent distinguished Lord Rector in his address in this hall, commended themselves to my mind, when he said: "We note, and note correctly, the varying shades of national character; and proceed to put them down, often most incorrectly, to variations in national descent. . . . Are we not often attributing to heredity what is properly due to education, and crediting Nature with what really is the work of Man." I will refer here to two experiments which seem to me to enforce this view. In the first place do we not see a new national type emerging in the great



American republic? It is said that in the second generation the man of purest descent has already conformed to the new type. Another interesting experiment is that which is being performed in an institution in our immediate neighbourhood. In the Orphan Homes of Scotland are gathered together some 1200 children whose moral heredity should be of the worst. They are largely the children of the lowest class of our city life; but there seems the most conclusive evidence that, if these children can be got at a sufficiently early age, and if, in setting them out in life they can be separated from their friends, who would otherwise drag them down, an almost incredible percentage do well in after life. The percentage is stated, on the ground of definitely ascertained fact, at 98 or 99, an amazing result if it be even approximately true. Well, these are all matters of interest on which I have not time to dwell. I mention them because there is need for caution in the direction which I have indicated, and also because what I have said in regard to disease and its relation to heredity is largely applicable to moral characteristics. In both it is possible to ascribe too much to inheritance and too little to contamination from without—a mistake which, I take it, has been not infrequently made in the past. In our own circle and in our own families, if we have them, we may notice the action and interaction of the two influences. We may also learn the lesson of responsibility, not for the physical and mental constitution, which are inherited by natural laws on which the individual can have no influence, but for the education and character of those within the range of our influence.

In conclusion I have, on behalf of myself and my colleagues, to wish you all success in the profession which you have embraced, and to ask you to be true to the trust which this University has imposed upon you. Your career is of interest to us here, and we trust that you will be able to preserve throughout life a warm feeling of love and kindly appreciation for your *alma mater*.