

another pair, which was fortunately not far off, had to be sent for. I observe, in a case where the ulna was alone operated upon, Mr Fergusson had met with a similar difficulty.¹

There was a good deal of oozing of blood on the second day, which caused the wounds to separate and suppurate; in other respects the case went on favourably. On the third day the pulse rose to 92, but soon fell again. A long rectangular splint was applied to the inner tide of the arm, from the points of the fingers to the middle of the humerus, on the 12th of January. In a fortnight after the operation he was able to be up, when three other splints were applied to the outer side of the arm—a short rectangular one over the elbow—another reaching from the fingers to the neighbourhood of the wounds—and the third, which may be termed a bridge splint, resting over the extremities of the last two. In another week he got out daily. The limb was examined at the end of a month—consolidation going on. The patient said he felt no motion in the fragments, as he used to do when recovering from the original injury. Three or four very small fragments of bone came away from the wounds about eleven or twelve weeks after the operation, with little inconvenience. The splints were kept on till May as an additional precaution, although, at the end of February, the union seemed quite firm. On the 31st May he resumed work "in the shops," without any splint or bandage; and at the time I write (2d August) he says he is quite easy, and has been driving his engine (an occupation requiring very considerable power in the right arm) daily for three weeks. The arm seems much better nourished and developed, and bids fair to rival the left in appearance very soon. He complains of a little weakness in the wrist only, but says he is gaining strength in it daily.

Having been unable to find, in the records of surgery, any instance of ununited fracture of the radius and ulna treated in the above way, and terminating successfully; and as the subject is one of practical interest to the profession, I have ventured to place the present case somewhat fully before them, in the hope that its perusal may assist such practitioners as have similar cases under their care in determining whether they should withhold from their patients the chance of their regaining a serviceable limb, afforded by resection of *both bones*, and careful after-treatment.

UNIVERSITY OF EDINBURGH.

Graduation Address: August 1858. By JOHN HUTTON BALFOUR, M.D., Regius Professor of Botany in the University of Edinburgh.

GENTLEMEN,—DOCTORS OF MEDICINE,—The important and onerous duty devolves on me this season of addressing a few words to you on the occasion of your attaining the *summos honores medicinae*.

I have, in the first place, to congratulate you on the position which you have acquired. You have terminated your University

¹ *Lancet*, 1st May 1858, p. 438. Note.—The result of the case has not been given. It was hoped a cure would be effected by operating on one bone only.

curriculum, and you are now about to enter on the responsible duties of medical life. You have gained the present distinction after a lengthened period of study (of at least four years), and after undergoing strict and searching written and oral examinations, which have extended over not less than twenty hours. You have been tested as to your scientific studies, and you have been examined in practical medicine and surgery by men who occupy a distinguished place as physicians and surgeons in Edinburgh. The degree which you have thus obtained, implies not only a certain amount of preliminary and scientific study, but also a good practical knowledge of your profession. It confers, as stated in your diploma, "amplissimam potestatem medicinam, ubique gentium, legendi, docendi, faciendi." For many years this power has been, to a certain extent, limited in Britain by restrictive regulations, which have interfered with the due exercise of the rights of graduates. These exclusive privileges are now abolished, and free scope is given to all *duly qualified* men to practise *every department of the profession in all parts of her Majesty's dominions*, without let or hindrance.

All that is required, under the Medical Bill which has just passed into law, is, that the education and examinations shall be of a satisfactory nature, and that the party shall be duly registered with all his legally-acquired titles.

And here I may remark, that it is important to know that this bill has been supported by the British Medical Association,—that institution, which, having commenced under the auspices of Sir Charles Hastings (an Edinburgh graduate), and men of a like stamp, has now risen to eminence and renown, and which has at this time honoured our city by holding its meetings here,—presided over by our deeply respected and revered Alison, whose logical reasonings and sound medical instructions long cast a halo round our school, who is known wherever medicine is cultivated, and whose name carries with it a talismanic charm which rallies his affectionate pupils everywhere.

We have welcomed that body within our walls,—we have rejoiced to meet in friendly and social intercourse with the members of our enlightened profession from all parts of the empire, and to hail the visit of many who were educated at this University, and who continue to retain towards it sentiments of affectionate regard. Such meetings are peculiarly interesting and important. They tend to the advancement of medicine; they unite those who are labouring in one common cause; they cement friendships, and they encourage profitable and lasting intercourse. I congratulate you on entering the profession at a time when it has been emancipated from the thraldom of Apprenticeship and Apothecaries' Acts. Scotland, England, and Ireland are alike open to you for practice in all departments of your profession. We owe thanks to the Hon. Mr Cowper and to Lord Elcho for this boon; and we are not a little

indebted to the exertions of some of our own graduates. We have reason to know that those who are in the direction of the public services are anxious to receive our graduates; and now that the status of medical men in these services has been improved, there is greater inducement to enter them. The East India Company offer positions of eminence to medical men, and it is pleasing to know that in their competitions our graduates have occupied distinguished places.

The present is naturally a joyful epoch in your history. You feel, I doubt not, as if you had surmounted the great obstacles and difficulties which lay in your way, and that your progress and career now will be smoother, plainer, and less arduous. I can look back to what I felt on such an occasion as the present. All seemed to be encouraging, and there was a buoyancy of spirit associated with the event, which threw a brightness over the future. Much of the sunshine, however, which gilds your path now, will no doubt be overclouded ere long, when you come to take part in the warfare of life.

You will find that your studies are but commencing—that there is no period of relaxation in the struggle—that you must be up and doing, if you expect to succeed in the profession which you have embraced. Your whole medical life will be one of labour; and if you wish to acquire fame, the foundation must *now* be laid. It has been well remarked, that unless a man begins to gain distinction before he is thirty years of age, he is not likely to become famous afterwards. See, then, that in place of relaxing, you increase your efforts, and that you resolve to aim at high attainments. Ever be looking onward, and let not the advances you make from time to time obscure the difficulties you have still to surmount. The man who gains the highest eminence sees more of the country to be possessed, and more of the Alpine summits beyond him; he sees that mightier tasks are yet to be accomplished, and that all his knowledge is small compared with that which lies before him.

The warning given to the Christian is not less applicable to the man of science: "Never think you have attained or are already perfect, but press onward." Let not your honours and acquirements puff you up, and make you think of yourselves more highly than you ought to think; but ever think soberly, and cultivate that humbleness of mind which characterises true greatness. Let your aim be to advance medicine, and to build it up on a solid basis, on rational principles, and by an inductive method. Be not guided by a blind experience, which is nothing but empiricism, but endeavour to raise the superstructure of medicine on sound and correct principles—on carefully and patiently conducted experimental inquiry, in which you call into aid all the appliances of true science, which ought to be the handmaid of medicine. Be prepared to give at all times a reason for the practice you adopt, and for the medical treatment you pursue, and let your motto be—

" Nullius addictus jurare in verba magistri."

The degree you have now so well earned is alike a *University honour*, and a *license to practise*; and hence we may regard it in different points of view, in its bearing on your after life.

By a certain portion (probably a small one) of those now before me, the doctorate will be considered as the threshold across which they will enter upon a scientific career. Some of you have already attained eminence in this respect. The theses which have been presented this season in the departments of Natural History, Chemistry, and Botany, show that there are among you those who promise to have their names enrolled in the records of science.

Our school, I am proud to say, possesses facilities for the practical prosecution of science in all its departments, which are not possessed by any other city in the kingdom. Look at the anatomical and physiological departments, in all their details, with the valuable museum of human and comparative anatomy. See the opportunities for the study of natural history and botany in our museums and Botanic Garden, and in the rich field for the prosecution of science in the country around our northern metropolis. Consider the Industrial Museum (for which, I am happy to say, money has been voted by Parliament this season), which will contain stores of specimens in all departments of science, besides economical products and articles of manufacture—the nucleus of which has already been acquired. And to this enumeration I add, with confidence, the chemical department, about to be superintended by one of European fame, who will shed a lustre on our University,—whose zeal in science has placed him high in the ranks of chemists, and whose powers of teaching promise to attract students to our Halls, and to send forth many enthusiastic and earnest men. We welcome among us this day Dr Lyon Playfair; and while we lament the loss which we have sustained in the death of our late talented and amiable colleague, Dr William Gregory, we at the same time rejoice to find that his place has been filled by one who will support the reputation of the chair.

When you look to all these scientific advantages, you will not be surprised when I tell you that we have many applications made to us for men to occupy important and responsible positions in scientific expeditions. Our graduates are to be found filling positions of eminence in science in all quarters of the globe. In the colleges of India, Australia, and America, as well as in those of Britain, Edinburgh graduates occupy scientific chairs.

One of our recent graduates, Dr Hector, is now engaged, under Government, in exploring the geology of the Rocky Mountains, and other districts of North America.

In Africa, too, at this moment, we perceive Dr Balfour Baikie, an Edinburgh M.D., conducting a most important expedition, for the exploration of Western and Central Africa; and Dr John Kirk,

another graduate, aiding Dr Livingstone in his efforts to enlarge the boundaries of science and of civilisation in the eastern and southern part of the same vast continent.

To you, then, gentlemen, we look, as the parties who shall advance the cause of science, and who, while you raise yourselves to eminence, will at the same time reflect credit on your Alma Mater.

The greater number of you, however, will in all probability be engaged during your future life in the active duties of practice as medical men. Your opportunities of acquiring information in this department have been not less than those presented for the cultivation of science.

You have had ample opportunities for observing hospital practice, and you have been instructed in medicine and surgery by professors, some of whom occupy the highest position in our city, and whose names stand unrivalled in the annals of the profession. We send you forth with confidence to the world—as graduates qualified for the important duties of practitioners in medicine and surgery, and we wish you all success in your future career. We do not dismiss you from our books, and think no more of you. We do not now sever our connection with you. We feel bound to you by the strongest ties of friendship and regard, and we shall be glad to promote your future welfare. In former times it might have been said, that our graduates lost their connection with our University proceedings when they attained their honours; and that when we shook hands with them on the graduation day, we seemed to bid them farewell. But the Universities Scotland Bill, so well prepared and ably carried through by the late Lord Advocate, will insure that the links which bind you to your Alma Mater shall not be broken. The Medical Faculty of this University have taken a deep interest in this bill, and have used all the steps in their power for securing that the privileges given to graduates in arts shall also be extended to graduates in medicine—and their efforts have been successful. The bill is calculated to improve the condition of Scotch universities. It will encourage students to go through a regular university curriculum, in place of prosecuting their studies in a desultory manner at various schools and colleges; and it will thus, it is hoped, insure that training which is so essential for the successful prosecution of medicine. It will also encourage in our graduates a preliminary university education in literature and philosophy, and will thus tend to raise their status in society. On the value of literary acquirements to the medical man the following are the remarks by the Commissioners for visiting the Universities of Scotland.

"It is a matter about which all are agreed, that it is desirable that medical practitioners should be men of enlightened minds, accustomed to exert their intellectual powers, and familiar with habits of accurate observation and cautious reflection. It is also desirable that they should have that degree of literary attainment which will prevent them, when mingling, as they must do, with mankind in

the exercise of their profession, from being looked upon with contempt, or from committing errors in conversation and in writing, for which others would be despised; because, even upon the supposition that, notwithstanding this, they have high professional acquisitions, the law of association will operate, and the conclusion will be drawn, that much confidence cannot be placed in them. This tendency not to confide in him, is one of the most formidable difficulties with which a physician has to struggle; much, unquestionably, of the success of ordinary practice depending upon the feelings of trust or security with which he is regarded. It is also of importance, that a class of men so widely diffused, and mingling so much with society, as the members of the medical profession, should be so instructed as to be able to give a tone to conversation, and to promote among those with whom they associate the love and the pursuit of literary and scientific accomplishments." And here let me remark, that I do not look upon a university as merely a board of examiners, whose duty is simply to test the qualifications of candidates, without reference to collegiate training. Every university ought to have within itself the means of training the pupils during their curriculum, of observing their annual progress in their studies, and of exercising a certain degree of surveillance over them, both as regards their attendance at lectures and their general deportment; so that, when candidates appear for honours, there may be a surer criterion for their acquirements than that afforded by examination alone, and that there may be evidence that the information acquired has a solid basis—that the instruction given has been *well digested*, and carefully stored.

It is of importance also, that the university should have within its reach the means of testing the pupils *practically* in all departments.

The value of collegiate training was strongly insisted on by the late Professor Edward Forbes, when speaking of the relation which scientific studies bear to medicine; and I feel a melancholy pleasure in quoting the words of one who for a brief space shone as a meteor among us, who knew well what were the bearings of science, and whose prelections stirred up the enthusiasm of many who are now doing good service to science. He knew the value of mental training, and he saw the importance of a university curriculum. The following are his remarks:—"It is the training of the mind in correct methods of observation that gives the natural history sciences so much value as instruments of preparation for professional education. Not unfrequently do we hear the short-sighted and narrow-minded ask—What is the use of zoology or botany or geology to the physician and surgeon? What have they to do with beasts or plants or stones? Is not their work among men—healing the sick? Of what use, save as remedies, can the creeping things, or the grass that grows upon the earth, or the minerals in the rock, be to the practitioner of medicine? Vain and stupid questions all—yet they are sometimes put by persons who profess to promote the spread of

education. They want something, but the best of them mistake the end for the means. The best want knowledge, but have not learnt that the mind must be trained ere it is prepared to gather and digest knowledge. They want science, but science turns mouldy and unwholesome in an unprepared mind. They forget, or they do not know, that education consists chiefly in *training*, not in *informing*."

We must counteract the natural tendency of *purely professional* studies—the tendency to limit the range of mental vision. We can do this most beneficially through the collateral sciences, which are sufficiently different to give them a wider sphere of action. It is from this point of view that we should regard the natural history sciences as branches of medical education.

"For my own part," continues Forbes, "after much intercourse with medical men who had studied at many seats of professional education, some collegiate, some exclusively professional, I have no hesitation in saying, that as a rule the former had the intellectual advantage. There are noble and notable exceptions, old and young, but the rule is true in the main. The man who has studied in a seat of learning—a college, or university—has a wider range of sympathies, a more philosophical tone of mind, and a higher estimate of the objects of intellectual ambition than his fellow-practitioner who, from his youth upwards, has concentrated his thoughts upon the contractedly professional subjects of an hospital school. I will not believe that the practitioner of medicine, any more than the clergyman, or the lawyer, or the soldier, or merchant, is wiser, or better able to treat the offices of his calling, because his mind takes no note of subjects beyond the range of his professional pursuit. It is a great pleasure, both to patient and neighbour, to find in our doctor an enlightened friend—one who, whilst he does his duty ably and kindly, has a sympathy and an acquaintance with science, literature, and art."

Most of you, gentlemen, have been regularly trained at our school. We can trace you through all the stages of your study; and it is encouraging to think that many of you have, during your whole career, evinced an earnestness in the prosecution of your studies which bids fair for future eminence.

We look to you for aid and support. You have this day pledged yourselves to remember your Alma Mater gratefully, and to perform towards her all the good offices within your power.

The best universities may change in the course of time. Those in Italy, which were celebrated for medicine in early times, have lost much of their fame. We must look, not only to the professors, but to graduates, for the future reputation of our institution.

Now that our graduates are to form an integral part of our University, and to be associated with the Senatus in the important duties of the University, we may confidently hope for great things. There is a prospect of much good being done when all strive to-

gether harmoniously for one great object—the advancement of literature and science, and the promotion of good university education.

The privileges which graduates are to enjoy will, I doubt not, be well exercised by them, and their co-operation will insure greater efficiency in all departments. There will, moreover, it is hoped, be openings for tutorships and scholarships which have never before existed among us, and thus a stimulus to exertion will be presented to our graduates.

You are entering on a noble profession—one which commands respect everywhere—one which calls forth the highest powers of the mind, and the most generous feelings of the heart—one which brings you into contact with men of all grades and all conditions, and which gives you a power and an influence of no ordinary kind.

See, then, that you duly regard the responsibilities of your position, and that your object shall ever be to support the dignity and the honour of your profession. Let your course through life be upright and straightforward. Avoid petty quarrels and animosities, which tend to degrade your calling; and let your aim be to advance medical science and to relieve the ills of humanity, alike by your skill as physicians, and by your high moral bearing as philanthropists. Never let the sordid love of gain draw you from the honourable and dignified walk in which physicians should alone be found.

No profession calls for more sacrifices of time and comfort, none brings its followers into contact with more varied and chequered scenes in life, and none has such opportunities of doing good.

Your position introduces you into the family circle; it renders you the confidant of your patients; it enables you to know much of their private history; and it places you in a peculiar relation of friendship.

See that the confidence placed in you is never abused. Let the strictest sense of propriety guard your words and actions, and recollect the words of the oath you have this day taken: *Quæ denique inter medendem vera vel audite sileri conveniat, non sine gravi causa vulgatum.*

Your attention must be directed not merely to bodily ailments, but also to mental disease. Psychology must constitute a part of your study through life. You must understand mental phenomena. You must be able to trace the first symptoms of mental alienation, to direct judiciously in the early stages of insanity, and to combat the prejudices of relatives and friends, who too often, from ill-judged kindness, are unwilling to see the dawning of aberration, and therefore object to the measures which the physician indicates as necessary. In such cases delicacy and caution are required, so that the physician may be enabled to overcome these obstacles to treatment.

Mental disease has of late assumed a high position in relation to the duties of a medical man; and the recent meeting here of the Association of men engaged in its treatment, presided over by the

honoured and distinguished Dr Conolly (another Edinburgh graduate), must have convinced you of the important place which psychological medicine occupies in the estimation of the profession.

Not the least important part of a physician's duty, as already hinted, is to gain the confidence of his patient, and thus to be able to advise and comfort in trial, to soothe the troubled spirit in its hours of suffering, and to relieve, if possible, by judicious counsel, the agonised sufferer in his moments of anguish. What a noble field is before you ! May you enter upon it imbued with the right spirit, and animated by the highest principles.

Your avocation will lead you into scenes which call for no ordinary sympathy. You will be summoned to visit patients in the trying moments of life, surrounded by their families and friends, whose sorrow and anguish prevent them from acting with prudence and discretion. In such circumstances, great calmness and judgment, with affectionate sympathy, are required. Your natural emotion must not interfere with your medical duty ; and, amidst the harrowing scene, you must show that confidence and decision which a thorough knowledge of your profession can alone impart. Patient and friends alike, in such a case, stand in need of your advice. It is a responsible situation, which demands the exercise of the utmost firmness and coolness, combined with kindness.

I must warn you that the constant familiarity with sickness and death, and the necessity for active effort on the part of medical men, have a tendency to steel the heart against suffering, and to harden it against the ills of life. The physician is apt to look to the medical and scientific part of the duty, and to neglect the cultivation of those kindly feelings which, when they gain ascendancy, may unfit for active exertion. Such familiarity with disease has, in some cases, had a most injurious effect upon the moral nature, and has led to a callous and sceptical indifference, which was at one time an opprobrium of our profession.

While you regard disease as the result of sin, and the primeval curse passed on man's disobedience—death having passed upon all men, for that all have sinned—endeavour to view sickness as a dealing of God with His creatures for their good,—as a means of calling their attention to the fleeting and evanescent nature of all earthly things—to the frail tenure by which life is held, which, as a vapour, appeareth for a little while, and then vanisheth away ; and at the same time of directing their attention to an eternity beyond—to an untried scene for which all must prepare. Viewed in this light, the bed of sickness presents to you important duties. It makes you regard your patient, not merely in reference to his body, but in reference to his soul ; and it calls on you in all faithfulness and sincerity to deal with those placed under your charge. Much may be done by the judicious physician in the time when the heart is softened by trial, when the active duties of life are suspended, and when the realities of an after state are presented to the mind.

Such is not a period for trifling, for cold indifference, for foolish deception, or for proclaiming peace when there is none. A word in season, fitly spoken, is, as the wise man has said, like apples of gold in pictures of silver.

The healing art has been ennobled by the example of the Man Christ Jesus, who, while He ministered on earth to the souls of men, acted also as Jehovah-Rophi, or the Lord the Healer, in curing their bodily ailments,—who, when He declared, Thy sins are forgiven, at the same time said, Arise and walk,—whose sympathising heart felt for the woes of humanity, and who, as the Great Physician, went about ever doing good,—who joined in the mourner's tears and in the afflicted's groans,—who comforted the sisters of Bethany by raising their brother from the grave, and cheered the heart of the widow of Nain by the restoration of her only son.

It is your privilege to employ all the resources of medicine for the alleviation of disease, and not less to pour the balm of consolation into the wounded spirit. You are sent forth with a message of mercy to your fellow-men, and your great aim should ever be to do your duty conscientiously as unto the Lord.

Happy are they, whether physicians or patients, who can see in all the trials of life the hand of a gracious heavenly Father, who is chastening for their profit, and in whom this chastening, though for the present not joyous but grievous, is working out nevertheless the peaceable fruits of righteousness.

And now, gentlemen, we take our leave of you for the present, but we hope to see many of you again within the College walls to exercise important duties. We feel that we are one with you, and that we are bound by ties of no ordinary kind. Go on and prosper. May your path through life, however chequered, be rendered pleasant by the consciousness of duty well and faithfully performed. May you live in harmony with your professional brethren, and follow peace with all men. May you advance the cause of medicine, and promote the well-being of your fellow-men.

And with all your getting, may you get that wisdom which is from above, which is *first pure*, then peaceable, gentle, and easy to be entreated, full of mercy and of good fruits, without partiality and without hypocrisy; so that, having fulfilled your duties on earth, you may have an abundant entrance at length ministered unto you into that glorious kingdom, where the inhabitant shall not say, I am sick,—where there shall be no more death, neither sorrow nor crying; neither shall there be any more pain; for the former things are passed away.