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March 21st 1868
G. D. McLean

REMARKS

ON

THE NECESSITY FOR A REVISION OF THE
MEDICAL CURRICULUM,

MADE AT

The Medical Teachers' Association,

ON MONDAY, MARCH 16, 1868.

BY


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RIVINGTONS,

London, Oxford, and Cambridge.

1868.



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REMARKS

AT

The Medical Teachers' Association

ON

THE NECESSITY FOR A REFORM OF THE MEDICAL CURRICULUM.

MR. PRESIDENT AND GENTLEMEN,

The time appears to be fast approaching when very considerable changes will have to be made in all that relates to Medical Education. For some years a conviction has been growing in the mind of the Profession, that our educational system exhibits defects which urgently require to be removed. These defects are due to several causes. To some extent these defects are due to an extension of the sciences allied to Medicine. To some extent they are due to the progress of Medicine itself, more especially in all that relates to the physical investigation of disease and the cultivation of long-neglected special fields of inquiry. To some extent these defects have become prominent on account of the dormant vitality of the Examining Boards having been stimulated into active life, so as to occasion beneficial alterations in the kind and degree of knowledge required at the hands of the medical student. To some extent, again, these defects are the direct offspring of authoritative regulations which are inherently faulty, and which bind the professor and the pupil to the detriment of both. And, lastly, the existence or the continuance of these defects may be attributed to an imperfect organization of the Medical Profession. Under the head of imperfect organization must be placed the multiplicity of Licensing Boards, each issuing regulations in accordance with its own ideas and from its own point of view. Under this head

naturally comes the number of medical schools in this metropolis, which occasions a waste and weakness of teaching power and an underpayment of medical Professors. Under this head of imperfect organization comes also the defective constitution of Examining Boards, at which we are wont to see sitting not the most juvenile of our distinguished seniors, who may have materially assisted to elect themselves to examine in subjects which they no longer cultivate. And, finally, under this head we must place the faulty constitution of the General Medical Council of Education and Registration, which, being elected solely by the Crown and the aristocratic sections of the corporations, is in reality an irresponsible oligarchy, which is not representative of the varied interests of the Profession, and cannot be made so without a very considerable infusion of more popular elements. So much as this, Sir, common candour compels me to state, with reference to the causes which have produced and are maintaining the defects in our educational system. But when I regard these causes as a member of the Medical Teachers' Association, to determine their relative importance, so far as regards the practicability of remedial action on the part of the Association, I am driven irresistibly to the conclusion that our primary efforts should be directed to adapt our Curriculum to the altered circumstances occasioned by the progress of Medicine and the collateral sciences, and to free it from regulations which those altered circumstances and the increased stringency of examinations render no longer useful. For all the remaining topics, which I have mentioned under the head of imperfections in medical organization, are topics of extreme delicacy, involving personal and vested interests with which it is of the first and last importance to the unity and cohesion of the Society that we should avoid coming into collision. And with regard to one and all of these topics, it may be broadly stated, that not only should we fail in achieving any practical good at the present time, but we should be liable to irritate and make enemies where—especially at the infancy of our existence—it is of the greatest moment to the cause of Educational Reform that we should conciliate and make friends. For this reason, and because this Association appears to me to be an assembly peculiarly

qualified to deal with all matters relating to the education of the medical student which stand on neutral ground, I invite the Association to enter upon a systematic consideration of the Medical Curriculum, for the specific end of effecting its improvement. If we do this—as I hope we shall—it will, I think, be found very convenient to take each of the two stages into which the Curriculum is divided into consideration separately, and to exhaust the consideration of the first stage before entering into a discussion on the second stage. The resolutions which I have to propose were drawn up chiefly for the purpose of lightening the burdens of the student during the first educational stage by the introduction of a better classification of the Curriculum, and the abolition of what a lengthened and anxious consideration has led me to believe are works of supererogation required to be performed by the student between the period of his entrance at a hospital and the primary examinations at the Central Boards. In the remarks, therefore, which, with the kind permission and forbearance of the Society, I wish to make in introducing the few resolutions on the Notice Paper, I will confine myself to the proof that too much is required of the student in the first eighteen months, and to a brief statement of the reasons for the changes which I venture to suggest.

During the first eighteen months, or, omitting the vacations, within the space of fifteen months, made up of two winter sessions of six months and one summer session of three months, the student is required to attend the following Courses of Lectures:—

Two six-month courses on Anatomy, the lectures being given four times a week.

Two six-month courses on Physiology, three lectures a week.

One six-month course on Chemistry, three lectures a week.

One six-month course on Surgery, three lectures a week.

One six-month course on Medicine, three lectures a week.

One three-month course on Practical Chemistry, occupying one hour or one hour and a half, three times a week.

One three-month course on Botany, three lectures a week.

One three-month course on *Materia Medica*, three lectures a week.

One three-month course on Midwifery, three lectures a week.

The whole number of systematic Lectures is about 700 in the fifteen months.

Besides attending lectures, the student should be dissecting diligently during the winter sessions. If he dissected as he ought to dissect, he would go through each part of the body twice at least. On an average, for proper dissection, each part occupies three, or four, or five hours daily for a month; and as there are eight parts to be dissected, the student should be dissecting eight months out of the fifteen. At the same time he should be present at Anatomical Demonstrations three or four times a week, and very likely voluntary class examinations, intended as a preparation for his examinations at the Colleges, Halls, or Universities. But this is not all. Lectures and demonstrations, and dissection and examinations, are not enough for him. In the wards of the hospital to which he belongs, he must attend the practice of Medicine for six months, and the practice of Surgery for twelve months out of the fifteen. Attendance on practice means accompanying the physicians and surgeons round the wards, and satisfying them as to his presence in the flesh. As there are generally three physicians and three surgeons to satisfy, and, theoretically, he should attend two-thirds of the Medical and two-thirds of the Surgical practice, he must be in the Medical wards four days a week, and four days a week in the Surgical. But this attendance on practice must be supplemented by a further attendance on lectures called Clinical Lectures—lectures delivered away from the bedside, on cases with which the student is supposed to have made himself familiar, but about which he very seldom, at that period of his education, knows any thing at all.

Now, according to a calculation, which I base on the physiological axiom that eight hours' work in the twenty-four is as much as can be expected from ordinary human beings, this compulsory attendance would take up eight hours every day for 468 days. In fifteen months there are 456

days, 65 Sundays, and 391 working days. Deducting twelve days for the Christmas vacation, we have left 379 working days. Well, it might have been thought sufficient to provide for these 379 days only, but such is the pious and fostering care of the licensing bodies, that between them provision is made also for 89 days which do not exist. And so the work of these 89 non-existent days must be crammed into the midst of the 379 days which are already fully provided for, and provided for, be it observed, without any allowance for reading or sustaining life during the eight working hours. The consequence of this is, that the burden of the student's work falls so heavily on him—more especially in the winter—that he cannot by any management or good-will attend all the classes properly. He may have been advised in the Introductory Lecture, every word of which he believed, to follow the course marked out for him by wiser heads than his own; and he may have determined to attend all the lectures punctually and regularly, and to plunge into the wards without delay. Experience, however, soon teaches him that, not only does he gain no benefit from following at the heels of a surgeon or physician, before he knows any thing of anatomy and physiology, but that the exercise must be performed at the expense of dissection, which is much more important, or of attendance in the out-patients' department, where he can pick up a few crumbs of elementary knowledge. Experience also shows him that arrangements are not made with any single eye to the convenience of students.

The surgeon and physician are going round at the same time, and he ought to be with both. A clinical lecture is being delivered at the same time as a systematic—say an anatomical—lecture, and he ought to be present at both. The physician or the surgeon comes late and prolongs his visit into lecture hours. The student is obliged to be dressing out-patients when he ought to be in the Lecture Theatre. An examination from which he derives benefit, clashes with a journey through the wards from which he derives none. One class clashes with another, and dissection clashes with all. Under these circumstances, being driven to extremities by the Licensing Boards, he lightens the ship. He parts with his

daily journey round the wards, he cuts down some of the lectures, and pitches others clean overboard. This process brings in the Dean or Vice-Dean, to remind him of his responsibility, and then he neglects his dissection to make up his attendance to the regulation two-thirds.

Now, seeing that the student is compelled to lighten the ship for himself, would it not be better for his teachers, who have greater judgment and experience, to endeavour to lighten it for him? If so, how should this be done? In order to reply, I look down the Medical Curriculum and ask two other questions. The first is, Are there any subjects here which it would be desirable for a student to know before the commencement of his professional studies? and the second is, Are there any subjects taught in the first stage which might profitably be postponed till a later period?

Not long ago, during a celebrated process of education which went on in another place, we were taught the extreme value, in all matters relating to Reform, of the possession of a principle. Now, I think it will be found a sound principle, that those subjects only should be taught at a medical school, which cannot be taught so well elsewhere; or to put it in another form, which is a limitation of a well-known line, at a hospital the proper study of mankind is man. The application of these principles leads to the conclusion that Botany and Elementary Chemistry should be acquired before the commencement of strictly professional studies. There is nothing in these studies which requires a man to be brought to the hospital to learn them. Both can be learnt as well away from the hospital, and botany much better in the country. Both can be taught to boys, if necessary, certainly to youths of sixteen or seventeen. Both are subjects on which it is advisable to create an interest early in life. Both are admirable means of training not only the reason and memory, but the powers of observation; and either of them would prove an excellent substitute for the yards of repetition from the Eclogues, Georgics, and *Æneid* of Virgil, or from corrupted Greek choruses which no one understands, or for the manufacture of villainous verses in a dead tongue. A man will be considered ere long imperfectly educated, if he is unacquainted

with the parts of a flower and the general outlines of its life, development, and growth, with the number, names and properties of the chemical elements, with the composition of air and water, with the chief facts concerning heat, light, sound, and electricity, and with the structure of such common instruments as the air pump, thermometer, barometer, and microscope. Surely such things as these the student should know before he comes to a hospital, in order that when he comes he may be ready to direct all his energies to the study of man, instead of having the acquirement of professional knowledge thwarted and curtailed by the necessity of learning general elementary facts or sciences so indirectly connected with his profession, that they cannot be shown to have any obviously useful bearing on the future occupation of his life. If these reasons for the transference of Botany and Elementary Chemistry be sound, they would partly hold good for the discontinuance of the separate courses of lectures on Comparative Anatomy delivered at the medical schools. At present Comparative Anatomy is not required at the examination for the diplomas. It is in the exceptional position, that instruction in it is needed only by a small minority of medical students going up to the Army or India Boards, or the University of London. The consequence is, that there is a distinct Professor at each school, discoursing to a very select audience, which often becomes more select as the course proceeds. At the smaller schools there may be only one or two students who require instruction in Comparative Anatomy, and it would strike an impartial observer as a near approach to a *reductio ad absurdum*, for a single student to have a Professor all to himself. In some cases the Professor receives nothing, and receiving nothing, generously creates a deficit by the purchase of a lobster, to illustrate the articulata, and sometimes a serious deficit by providing really expensive specimens and diagrams. In other cases his remuneration is a very insignificant sum. These circumstances certainly do not tend to make the instruction supplied of a very high order. The Professor is sometimes a young man, not deeply versed in his subject, who has accepted the office to fill a gap at his school, or as a stepping-stone to a higher office, and can feel little

ambition to excel in teaching that which it profits him nothing to teach. Now, if all the students requiring instruction in Comparative Anatomy could be brought together, they would form a very respectable class. A small fee from each member of the class would produce a sum for which, irrespectively of an endowed Professorship, it would be quite worth the while of an eminent Comparative Anatomist like Professor Huxley, to deliver annually a most valuable and instructive series of elementary lectures, which would gradually lead the mind from the vegetable kingdom up to the crowning point of the animal kingdom—the study of man. These lectures might be given at some central Institution, such as the College of Surgeons, where the Hunterian Museum affords an unrivalled collection of specimens for illustration. This treatment of Comparative Anatomy I would extend to Botany and Elementary Chemistry, after they had been removed from the Medical Curriculum, and made part of a preliminary scientific examination, to be passed by students before the commencement of their professional studies. Not long hence, perhaps, endowed Professorships may be founded in connexion with the University of London, or some other Institution; but until that time arrived the fees of students attending the lectures would doubtless afford an adequate recompense. By the adoption of such a plan as that which I have sketched, many advantages would be gained. The Medical Curriculum would be lightened; the character of the instruction would be raised by the enlistment of men like Huxley and Tyndall, men pre-eminent as teachers in their respective sciences; scientific teaching would be adequately remunerated; a stimulus would be imparted, throughout the country, to the process of engrafting the natural sciences on the educational stock; Medicine would be placed on a basis of science; and lastly, though not least in importance, a great boon would be conferred on the medical student, by bringing the Curricula of the Colleges and Halls into harmony with the Curricula of the Universities of Oxford, Cambridge, and London. The uniformity thus produced would act as an encouragement to students to take the higher qualifications which the Universities confer, and especially the degrees conferred by the

University of London, whose medical examinations are universally regarded as occupying the foremost rank. As it is, the want of correspondence of the Curricula obliges men who wish to go up to the University, to be attending practice and working at Anatomy and Physiology, and even Surgery and Medicine, at the same time with Elementary Chemistry, Botany, and Zoology. Owing to this, so many students have been rejected at the preliminary Scientific Examination of the University of London, that the subject is under the serious consideration of the annual committee appointed by Convocation. For my own part, I am convinced that the main idea of the University is correct and logical, and I look for the remedy of the misfortune alluded to, not in the degradation of the University Curriculum, but in some little alteration of detail and in the elevation of the Curricula of the Colleges and Halls.

With this brief and unexhausted exposition of my views on the subject-matter of the Second, Third, and Fourth Resolutions, I must content myself now, and pass to a still more brief consideration of my second question, which will be found to be connected with the Fifth and Sixth Resolutions on the Notice Paper. That second question was, Are there any subjects taught in the first stage which might more profitably be deferred till the second stage of the student's education? I find the answer in the application of the broad principle which I advocate, that the medical student should learn all that appertains to man in health, before being obliged to learn what concerns man in disease. If the Medical Curriculum extended over four years,—and I do not think four years are more than enough for a man to become a well-furnished and skilful practitioner,—eighteen months would not be too long for him to be learning about man in health. For during that period he would have to be acquiring the following subjects. First, there would be Anatomy by Lectures, Demonstrations, Dissections, and Class Examinations. On Dissection special stress should be laid, and the student might be required to produce evidence of having dissected each part twice at least. Accompanying Anatomy would be Physiology, given both practically and theoretically in a more exhaustive manner than at present,

so that a higher standard of attainment might be demanded by the Examining Boards. Thirdly, there would be Practical Chemistry united with the greater part of Organic Chemistry. In this course, which may be termed a course of Medical Chemistry, the chemistry of the human body in health would be completely taught, both theoretically and practically. The inevitable blow-pipe would find its proper level, and both blow-pipes and glass-blowing would yield up some portion of the time spent over them to the mode of testing for poisons, and examining air, water, food, and the secretions of the human body. Fourthly, there would be *Materia Medica* deprived of its dryness by the removal of the method of manufacturing drugs, and the wearisome decompositions which take place in the process, but still affording information about their nature, composition, doses, adulterations, and mode of prescription; but above all, describing in a full and interesting manner their physiological actions. And lastly, I would advocate the introduction of a large part of Practical Hygiene now so sadly neglected, which would include all the conditions of health, all the philosophy of physical exercise, physical training, clothing and food, the principles of ventilation, and the structure of dwellings.

If eighteen months would not be too long for the acquisition of these subjects, it follows that the medical student should not be required to attend other things at the same time; and if he should not be obliged to learn other things, it follows that the present compulsory attendance on Medicine, Surgery, and Midwifery in the first eighteen months, and the present compulsory exercise in the wards during the first eighteen months,—an exercise of the legs at the expense of the brain,—would cease and determine. With the exception of the postponement of Midwifery, the ends alluded to would be effected by the Fifth and Sixth Resolutions. But these Resolutions have a wider scope, which a few words will explain. The Fifth Resolution would have the effect of abolishing compulsory attendance during the first eighteen months, not only on courses of Medicine and Surgery, but on second courses of Anatomy and Physiology. Whatever may be the value of compulsory attendance on lectures (a subject on which I reserve my

opinion for the present), I do not think that its advocates can make it hold good for more than one course on any one subject, unless the lectures differ in the two courses. But in Anatomy and Physiology they are generally precisely the same lectures in each session, and if a student has attended a course on Anatomy and a course on Physiology well in his first session, is it not superfluous to compel him to attend the same courses again in his second session? For having then had experience of the lectures, he is able to judge how far he derived benefit from them; and having his anatomical and physiological examination at the end of the session before him to keep him steady, he may legitimately ask for some discretionary power as to a second attendance. And more especially so, because he needs more time for dissection, and is glad, I may say, in many cases, eager, to attend the class examinations, which have considerable popularity as a means of training for the first examinations at the Central Boards.

The Sixth Resolution, while effecting the removal of compulsory attendance in the wards during the first educational stage, would alter the kind of certificates in reference to Practice, which the student would have to produce. I have thrown the resolution into this form for the purpose of killing two birds with one stone. As far as I can judge, there seems to exist a very general feeling that the present mode of attendance on practice is eminently unsatisfactory, and that when the wards are crowded with students it not unfrequently amounts to a solemn farce. This result may be partly due to the licensing bodies exercising compulsion at the wrong end.

To compel a student to attend in the wards, is not to ensure his examining cases; but to compel him to examine cases, or to bring proof of having examined them to some purpose, would be to ensure his going into the wards to examine them. However this may be, it is not necessary for me now to speak in advocacy of the particular form which I have given to the Sixth Resolution. All that it is necessary for me here to maintain, is the inutility of compelling the student to attend in the wards during the first educational stage. If he were obliged to be hard at work on the five subjects I have mentioned he might surely be left at liberty to dispose of any little

leisure hour. With this liberty allowed to him, I believe you would find him taking up practice as a recreation, and attending wherever any thing of interest was going on.

From what I have now said, Sir, it will be inferred that I consider the present Medical Curriculum to have several defects. In the first place, there is an absence of classification in the Curriculum, which is detrimental equally to the student and to the thorough cultivation of the subjects which he is required to know. Natural science is mixed up with professional science, and the study of man in health is mixed up with the study of man in disease. In the second place, if we grant for a moment the expediency of compulsion, compulsory attendance is overdone. And in the third place, granting again the expediency of compulsion, the compulsion exerted is not of the best kind. I say, granting the expediency of compulsion; but to some I know that this will appear too much to grant. These are the able advocates of extreme opinions, who would sweep away all regulations, all compulsory performances, and proclaim the reign of free trade and perfect freedom for the medical student. They say in effect, regulations are not merely useless, but mischievous. They compel students to do what they do not wish to do when they wish to do something else which is much better for them. Give us good examinations—every thing will be right, and the profession will be safe. Well, I am anxious as much as any man can be for examinations which shall be above reproach, and through which no incompetent men could filter. Irreproachable examinations are a necessary part of the programme of every true medical reformer. But for all that, and though I bring forward six Resolutions at one time, I am not revolutionary. In spite of its fascinating simplicity, I am not prepared for the plan of making a *tabula rasa* of all existing regulations and all existing Curricula. To that plan I entertain three distinct objections, which I will mention before sitting down, because they are essential to the position which I have adopted. Two of these objections are theoretical and one practical. My first theoretical objection is, that to sweep away all regulations issued by the central authorities would be

tantamount to depriving the several medical colleges of a beneficial control over medical students. A very stringent examination alone would raise the intellectual status of practitioners, but standing alone would certainly not raise—if it did not lower, as I believe it would lower—the moral standard of the medical student. If the Licensing Board said to the student, Do what you like, attend what you like, come up when you like, the Colleges might issue regulations, but those regulations they could only enforce at the expense of losing the students who declined to conform.

Could the Schools afford this loss, and if not, would they have the virtue to submit to it? If they did not display this virtue, then all the exhortations, admonitions, entreaties, and letters of Deans and Vice-Deans would be waste-paper or wasted breath, and these officers would have the mortification of witnessing the discreditable courses of a number of idle dogs over whom they had lost all effectual check. Hence I affirm, that for the preservation of the bonds of a tempered moral control, the Colleges must be supported by the Licensing Boards, and that both must act in harmony.

My second theoretical objection amounts to a denial of the premises on which the plan of abolition seems to be based. I deny that students know always what is best for them, in order to learn the subjects which they are required to learn; and I deny that all compulsory regulations are mischievous. In opposition to these statements, I maintain that, as a rule, it is only after experience—when it is too late to be useful—that students recognize what is the best course to pursue in order to learn a particular subject; and that a body of men like ourselves, who have had a double experience as students and teachers, can form the best judgment. And I further maintain that regulations are not injurious, but beneficial, if they go no further than to insist upon the performance of certain things, without which it is impossible for a student to learn properly the subjects which he has to learn. I will give one illustration. Every one will admit that a man cannot learn Anatomy as he ought to learn it without dissecting. Then compel him to dissect, or, what is the same

thing, to bring proof of having dissected, and you not only ensure the object in view, but strengthen the student himself against neglecting a necessary study.

My third objection is a practical objection, which will hold its ground if the others fail. Our object, I presume, is to effect beneficial changes in our educational system, and to effect them speedily, pleasantly, and safely. We have no power of ourselves. We can do nothing without the goodwill and co-operation of the Licensing Boards. Now, will any advocate of the abolition of all regulations and Curricula tell us how the strong conservative tendency of these bodies is to be overcome, if we delicately commence by advising them to reform their examinations, and to cart away all their Curricula and regulations as useless rubbish? This would be to diminish, perhaps to destroy, all our influence for good. The Licensing Boards cannot but lend a willing ear to any representation of practical grievances under which medical students groan, or under which they *would* groan if all the regulations could be enforced; they would listen to suggestions which would have the effect of increasing the respect of students for their own regulations, classifying the subjects of the Curriculum, and securing a better attention to the practical parts of the profession. For this reason the Resolutions on the Notice Paper are not abstract Resolutions, condemning all compulsory attendance, but concrete Resolutions, accepting the present system, but endeavouring to mould it into a more convenient form. Their object is to remove from the backs of students burdens which they are unable to bear, and every trace of grievance from that compulsion which even the great Liberal Party are prepared to concede as necessary for the education of the people. Their object is to remove superfluities from the existing system, which obscure a fair view of that system, and prevent its being calmly estimated on its merits. Their object is not destruction, but classification, re-arrangement, and re-organization. In leaving these Resolutions now to the better judgment of the Association, I cannot but express a hope and a regret—a hope that, whatever may be the imperfections of the Resolutions themselves, they may be found

capable of being made a basis for the action of the Association—a regret that the two larger Medical Schools are not represented in the Association, and do not yet see their way to co-operation with us for the common good. Time may remove their objections to union and their doubts of its success. If unfortunately it should not do so, I am not one of those who think that nine Schools out of eleven can do nothing of themselves. If we discuss unirritating topics calmly and candidly, if we adopt well-considered propositions, if we take judicious action to advance the ends which deliberate counsel has led us to desire, we shall be supported by the medical press, our views and aims will find an echo throughout the Profession; and thus backed and reinforced by the strength of an enlightened public opinion, the Medical Teachers' Association will acquire an honoured name, and be able to achieve the largest measure of practical good. I beg to move the First Resolution:

That the present Medical Curriculum urgently requires revision.

The remaining Resolutions are—

2. That Botany and Elementary Chemistry should be removed from the lists of subjects taught at the Medical Schools, and made part of a Preliminary Scientific Examination to be passed by students before the commencement of their professional studies.

3. That separate courses of lectures on Comparative Anatomy at the individual Medical Schools should be discontinued.

4. That courses of lectures on Botany, Elementary Chemistry, and Comparative Anatomy should be delivered annually by Professors eminent in those sciences at some Central Institution, and be expressly adapted for the purpose of teaching the sciences to those who are destined for the Medical Profession.

5. That compulsory attendance on more than one course of lectures on any of the subjects required by the Examining Boards should *at once* be abolished.

6. That instead of the present Certificates required from

students, of having attended the practice of a recognized Hospital for a certain number of years, evidence should be adduced of proficiency in dressing, in the physical methods of examining cases, making *post mortem* examinations, and the performance of operations.

THE END.