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PLEA FOR A REFORM
OF THE
UNIVERSITY TEACHING IN SCOTLAND.

Submitted to the Scottish Universities Commission

BY

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PLEA FOR A REFORM
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UNIVERSITY TEACHING IN SCOTLAND.



To the SCOTTISH UNIVERSITIES COMMISSION.

MY LORDS AND GENTLEMEN,

In the agitation for University Reform in Scotland I have not, hitherto, taken any share. The nature of my work makes me unwilling to take part in disputation and agitation, if I feel free to avoid them. The subject of University Reform, however, has now passed on to the stage of judicial and administrative action, and the Commission have announced their readiness to receive printed statements of a general or special nature.

I have felt impelled to submit to them views which I have long entertained. I fear my proposals may be as distasteful to many of those claiming to be advanced University Reformers as to the most conservative of the Professorial party; but I am glad to find that they are growing in favour in certain influential quarters. My views on our Scottish University system are based on experience, observation, and inquiry extending over some thirty years. Inquiry was not limited either to one Faculty or to one University.

It may be difficult for the Commission to get opinions on such subjects from those who are sufficiently well informed as to the *actual working* of the University system, and are,

at the same time, free from the bias arising from their own personal interests as teachers, within or outside the Universities. My opportunities of inquiry have been considerable, and my position as a clinical teacher in the Glasgow Western Infirmary can scarcely be supposed to have biassed my judgment; if it has, the bias is in the direction of the interest of the student rather than of the teacher.

I have tried, as far as possible, to discuss the various questions on their merits, apart from any personalities. If I refer to Glasgow University more frequently and pointedly, this obviously arises from local circumstances. I am well aware that those in the Universities, from whose views I differ, may honestly consider that their methods are the best.

The subject to which I have applied myself in this paper is a limited one, but it vitally affects our whole University system: I venture, therefore, to request for this proposed Reform the earnest consideration of the Commission.

I am,

MY LORDS AND GENTLEMEN,

Your obedient Servant,

JAMES FINLAYSON.

2 WOODSIDE PLACE,
GLASGOW, *March, 1890.*

I.

ABOLITION OF COMPULSORY ATTENDANCE ON SYSTEMATIC LECTURES.

THE most urgent reform in the teaching of our Scottish Universities resolves itself into an adequate recognition of the existence of the Printing Press. The *Ordinances* are still based on the old notion of students being required to listen to lectures, as if this were the only orthodox way of acquiring systematic knowledge. In the medical faculty the minimum number of these is prescribed by the *Ordinances*, 100 lectures for one subject and 50 for another, according to some obscure estimate of their relative importance. In the days of manuscript literature we can understand the paramount importance of lectures; the professors in the University had access to MSS.; they could decipher them and compare and select, presenting to their hearers the results. Even after books began to be printed, great importance attached to lectures; books were dear and scarce, they were in various languages which the professor might read; and from Latin, Greek, Arabic, or Hebrew texts he might, according to his diligence and ability, present to his pupils, in the form of lectures, a more or less valuable digest in their own language, as well as his own ideas on the subject. With the development of

cheap printing all this is changed, but our antiquated university system of teaching refuses to recognise this obvious fact. The lectures must still go on; the Scottish University student is supposed to be incapable of learning in any other way. Even the manuscript period lingers in certain classes as a curious survival, and MS. copies of the professor's lectures have been known to be bought and sold; relative prices of these are far from being regarded as an index of the comparative value of the matter in the lectures; the monetary value of the MS. copy turns not on this but on "fixity of tenure" or exact repetition by the professor, year after year, of the words noted. The student can, in such a case, realise the full price he paid for the MS. by selling it to his successor!

Occasionally a professor's lectures are found to be valuable enough to justify their being printed and published; but the Scottish University Ordinances are inexorable: the student has to pay so many guineas for the class, has to go bodily to the class-room so as to attend the regulation number of lectures, although these may be practically identical with those in a printed volume which can be bought for a fraction of the fee. Under these circumstances academical etiquette permits the student to listen without the farce of pretending to take notes. Etiquette can scarcely excuse (although it may understand) a student's sleeping through a lecture which he knows he can, and indeed must, subsequently read at home, whether he listens or not.

Such conditions of study imposed by the *Ordinances*, as if essential to learning, seem in these times almost incredible; the results are ruinous as regards the time of the student, and, in other respects, are apt to be equally disastrous and demoralising to the teacher and the taught.

Some maintain that a course of professorial lectures has a value apart from the mere information conveyed; that daily contact with academical teaching slowly evolves

in the student some of that philosophic method and culture which are presumed to exist in the teacher, and are of so much greater value than any mere stores of knowledge. This influence must be very subtle, for, during the translation of a classical author, it can operate simultaneously on hundreds of students; its potency also is such that daily contact with the professor himself may be unnecessary, and he may only "gleam upon the sight" of the enraptured students at intervals of a week or longer. All this is, indeed, possible, although rather difficult of verification. What *can* be proved is that during such academic prelections many students, in various classes, have employed their time in reading novels, poems, and other forms of literature. No doubt it may be argued that this may conduce to the culture of the student, and undoubtedly it may; but it scarcely seems desirable for the University Ordinances to secure this leisure for reading, by enforcing compulsory attendance on systematic lectures. When the noise in the class is too great, of course reading becomes impossible, and other forms of "culture" have to be devised; but I draw a veil over the pursuit of mathematics by the study of the geometrical arrangement of the squares of a draught board!

Some may exclaim—Would you abolish lectures? Is it not generally admitted, that the "personal instruction of a living man" * is more than the teaching of a dead book? May a lecturer not illustrate his teaching in a way impossible in a book? May not an accomplished lecturer gather from foreign and scarce books, or recent periodicals at home and abroad, matter for his lecture just as in the days of MSS., so as to anticipate the slower, although perhaps safer digests to be found in published books?

In reply, I do not in the least recommend the abolition of lectures as a means of teaching and learning. In many practical and experimental subjects they may be regarded

* See Note (A).

as essential in one form or another; no one can learn chemistry properly, for example, by merely reading a book. In almost every subject, indeed, lecturing may be regarded as permissible and perhaps as more or less desirable, according to the ability of the lecturer and the appropriateness of his methods. What I contend against is the principle of *compulsion* applied by the *Ordinances* to the student, in forcing him to attend *systematic* lectures which might as well be read by him. With regard to what may be called practical classes or practical subjects the case is different and will be dealt with subsequently. Why compel a student, with perhaps a single class, to consume probably an hour in walking to and from the University, and to consume another hour in the classroom listening to a systematic lecture, say on Conveyancing or Materia Medica, when exactly similar information may be obtained in a book at a much less cost than the class fee incurred? Nay, further, the conscientious student may feel bound to spoil his evening in writing out his notes, although these have been taken down, as he well knows, by an inexperienced listener, with all sorts of unknown names and references, which must almost inevitably, in many cases, be wrongly noted. The lectures on such subjects, which he listens to, are themselves almost necessarily compiled from printed books. If very successful, and if prepared by a man of reputation, these same lectures may be subsequently printed, but only after very thorough revision, not only of the professor's MS., but also of the proof sheets, with verifications of the dates, formulæ, references, &c. Why not give the inexperienced student the benefit of all this revision? Why expect him, following imperfectly, while wildly trying to take notes of the speaker's words, to write down details with any accuracy, when the professor well knows how much care in revising his own MS., and in revising the proof sheets, would be required from an expert like himself, before he could venture to publish

these same lectures? How much simpler to give the student a presumably correct text, instead of letting him take notes which must almost inevitably be full of errors—errors which would be still more glaring and numerous were it not that in transcription they can sometimes be corrected by comparison with printed books to which he may have access.

An interesting and curious confirmation of these ideas is afforded by the action of a professor in a Scottish University. Some five or six years ago, a group of students engaged one of their number, who was an expert shorthand writer, to take down the professor's lecture in the class-room, write it out at home, and reproduce it by one of the methods for multiplying MS. copies. These were distributed next day, or as soon as possible, to the subscribers only. They had thus a full report by which to check their own notes. The professor objected to these copies being made, on the ground that they might be represented as containing what he had said in his lecture, and that he could feel no confidence that they were correct, unless he revised them himself. Errors in students' notes, from want of the lecturer's revision, are, apparently, trifling matters when they affect the students only; but when they might possibly affect the professor's reputation the case is different! At his request, the reproductions of the shorthand notes were discontinued, and he promised to supply some such thing in a printed form, duly corrected, a project only carried to the first fasciculus.

The advocates of systematic lectures delight to recall their pleasure in listening to certain men of genius under whom they have studied. This, however, is no more an argument in favour of this method of teaching than recounting all the poor, incompetent, or antiquated lecturers, would be an argument against it. If the matter were to be decided on this plea, I fear the men of genius, who can give brilliant lectures, must always be in a small minority. But it is the *method*, not the men, we must consider. I would certainly be in favour of

universities allowing, and indeed encouraging, men of genius to lecture, if they are so disposed; and when they do lecture, no doubt they will obtain an audience, not necessarily large, but at least appreciative; and so the influence of the teacher and the taught will be mutually beneficial. What, it may be asked, is the result of *compelling* students to attend lectures by professors fairly to be classed as men of genius, or at least of eminent ability? Is it always mutually beneficial? Many of the students may not be in a state of preparedness for the teaching of such men; but let them be compelled, for university purposes, to listen to what they think they do not require, and to what, at least, they cannot appreciate, and we may have the mournful spectacle of such disturbance and riot that the whole class of students—the prepared and the unprepared—are made daily to waste an hour; and, on the other side, the teacher's spirit may be quite broken. If wise in his generation, the professor may learn, sooner or later, to degrade his teaching to a level suitable for a crowd of students forced into his classroom by the compulsory *Ordinances* of his University.

Abolish compulsion, and the gifted lecturer would be no longer hampered by groups of rowdy students driven like sheep into his fold; for these would scarcely pay three or four guineas for the privilege of making a disturbance. His audience might be smaller, at least it would be more select; but the highest benefits of the "personal instruction of a living man" would become possible. If, on the other hand, the professor is *not* gifted as a teacher, his occupation as such would be gone, and he would at least have the satisfaction of knowing that his inaptitude was not wasting the time of the students.

Some say that this idea of non-compulsion is all very well for the good students, but what of the others? Well, what of the others? What of those who fail to pass their professional examinations, say in Law or Medicine? In the first professional examination in Medicine (in Chemistry,

Botany, and Zoology), there is always a large percentage of rejections—30 to 40 or 50 per cent, or more, I believe.* Let us remember that these rejected students have all conformed to the *Ordinances*, and have attended their regulation number of lectures, so that our present system is confessedly far from securing the adequate teaching of the inferior grade of students. But of the 30, 40 or 50 per cent rejected, it is well known that many, probably most, subsequently succeed in passing; the University authorities themselves subsequently admit that they have learned their subjects. But how have they learned? Has it been by taking their 100 lectures, or their 50 lectures, again and again, till the knowledge has been forced, by regulation method, into their dull ears? By no means. That is not how such a student hopes to learn and to pass. The rejected student is not usually a genius, but neither is he a fool. He knows that it is by reading, and perhaps by tutorial classes, with practical demonstrations and personal examinations that he can surmount the difficulty. Might not the same means—reading, practical work, and tutorial classes—have *obviated* the difficulty, with the attendant humiliation, loss of time, and dislocation of the due order of his studies?

The good students can probably take care of themselves under almost any system; the inferior grade of students, who have been once or twice rejected, learn for themselves that the method of acquiring systematic knowledge, suitable for them, is *not* by listening to courses of lectures year after year; and the University, by subsequently passing a large proportion of them, practically endorses their view of the case.

* See Note (B).

II.

PRACTICAL CLASSES AND PRACTICAL INSTRUCTION.

For the purpose of graduation compulsory attendance on certain *practical* classes may be insisted on, without involving any contradiction of the arguments which point to the abolition of compulsion in the systematic classes. Possibly in the future new developments may arise; but, at present, we know that certain subjects can only be learned in special laboratories or classes; and, therefore, evidence of attendance at places where it is known that there are means of learning these practical subjects may reasonably be insisted on.

Owing to the cost and variety of instruments employed, or the nature of the material required for the study, it may be obvious that it is virtually impossible for a young man to learn certain subjects without the aid of properly equipped laboratories and guides. Astronomy, various departments of Physics, Chemistry, Mineralogy, Zoology, Anatomy, Physiology, Pathology, Clinical Medicine and Surgery, and various other subjects may be grouped here. We know, for example, that the law forbids the study of human anatomy, except in certain licensed places, and that the study of patients labouring under disease can scarcely be legally pursued by an unqualified student, except in some infirmary or hospital: moreover, the morbid material for pathological work cannot be counted on elsewhere. The student *must* attend at these places so as to learn; and thus it may be fair to demand proof of such attendance before admitting him to examination. The presumption that he cannot train himself privately is so very great that there is no hardship in requiring from him evidence of such attendance. In other cases, it is the expense of the instruments and appliances which may at once convince us that reading

and private study are inadequate to supply the student with a real knowledge of such subjects as Astronomy, Physics, Physiology, and Chemistry. In some subjects both difficulties exist. It is, therefore, by no contradictory policy that practical instruction might be made compulsory, and systematic classes optional.

Practical classes ought, indeed, to be the main care of the University authorities. The buildings, the wealth, the resources, and the teaching power of the University should be freely appropriated for them; for it is here, precisely, that books fail to educate the students. No doubt students in practical classes frequently require a little systematic instruction or guidance in order to enable them to profit by the opportunities afforded them: the day is probably not far distant when systematic lecturing, in many subjects, will be almost abandoned, except in so far as required for practical instruction. The importance of this element in education is everywhere recognised and largely acted on. Indeed, it is the growth of this practical teaching which, in Medicine at least, has made the necessity for reform, in the way of restricting systematic lecturing, so clamant. At present it is almost universally admitted that the medical student is overburdened by classes,* and examinations. I am in the habit of saying, in my clinique, that our medical students are kept so busy attending classes, and preparing for examinations, that they have not time to learn their profession! The mere extension of the medical curriculum for another year, so much advocated of late, will scarcely lessen the pressure materially; for crowds of subjects are waiting for this extension, and will at once fill it up. The real contest for the student's time is between practical work and systematic lectures. The *Ordinances* make the systematic lectures compulsory, leaving, in many cases, the practical work optional. A due recognition of the development of teaching would seem to call for a reversal of this policy, so that, as in Paris,

* See Note (C).

the practical should be compulsory, and the systematic optional.* Or, if the *Ordinances* made attendance on *either* one *or* the other sufficient, the result would no doubt be to assimilate or combine the courses: the practical course would contain enough of systematic instruction to make it intelligible; the systematic course, in many subjects, would only survive, in competition with the practical, if it became itself essentially demonstrative and practical in character.

I am fortunate in being able to adduce the action taken by the Glasgow University five years ago in support of these views. Pathology has not yet a professor or lecturer within that University, an anomaly which the University Commission will no doubt correct. The subject, however, is very efficiently taught in Glasgow; I have no hesitation in saying that the teaching compares favourably with that of any subject within the University, or with the pathological teaching of any school in the kingdom. The *Ordinances* require 100 lectures for a systematic course; but the pathologist to the Glasgow Western Infirmary, who is a recognised "extra-academical lecturer" on the subject, soon perceived that a practical course was essential for the instruction of the students. In addition, therefore, to his winter course of 100 systematic lectures he long ago began a summer course of 50 demonstrations or lessons in practical pathological work. The fee for the winter course of qualifying lectures was £3, 3s., as approved, no doubt, by the University Court when they granted recognition. The fee for the summer class, as a purely optional one, was fixed by the lecturer himself at £3, 3s.; a sum exactly the same as the analogous course of practical physiology within the Glasgow University. In view of the large number of microscopes and other expensive instruments required, and in view of the necessity of remunerating skilled assistants or tutors for their aid in conducting such a class, the amount of the fee for this practical class could

* See Note (D).

scarcely be called excessive. The members of the Senate of Glasgow University, however, were sorry to see their students overtaxed in their time by attending two courses of pathology, winter and summer, systematic and practical; for the students, finding the value of the practical course, and realising its necessity, nearly all took both. The members of the Senate were also grieved to see the students overtaxed in their purse by paying two fees, or £6, 6s. in all, for their pathological instruction. They could not but admit the importance of the subject, nor could they deny the necessity of the practical instruction if the subject were really to be taught. They felt, however, very keenly for the overburdened student; for although the Glasgow University had absolutely nothing to do with the course of pathology at the Glasgow Western Infirmary, except to recognise the lecturer or to refuse to recognise him, the Senate felt constrained to request, and to bring such pressure as virtually to compel, the Lecturer to compress his two courses of 150 lectures into one of 100 lectures, of which 50 were to consist of practical instruction; he was further to space out the 100 lectures over the winter and summer, and to reduce the fee for this conjoined and compressed course to £4, 4s. in all. The Senate, through the Clerk, then expressed itself as satisfied.

To me this plan seems in many respects admirable, although some inconvenience was created by running the class through both winter and summer terms. The practical class, optional so far as the *Ordinances* are concerned, is thus made compulsory; the merely systematic lectures are curtailed in number; the period during which the student is kept *en rapport* with the pathological department and its material is extended; and the fee is reduced to two-thirds of its former amount.

It is somewhat curious that this reforming spirit in the Glasgow University was limited to the Pathology Class at the Western Infirmary. There are other medical classes *within* this University, with their compulsory systematic

lectures and their optional practical courses, having separate fees for each, exactly as in the case of Pathology. Surely Reform, like Charity, should begin at home. Is it possible that the fact of the teacher of Pathology having no seat in the Senate could account for this class only being selected for compression? It is to be hoped that the University Commission may mete out to the professors the same measure which they have themselves meted to an "extra-academical lecturer." If the reform is carried a little farther, so much the better. This action of the Glasgow Professors, unprejudiced by personal considerations, has shown the right direction for even more sweeping reforms.

I do not speak in detail of other practical classes; but it is obvious that practical instruction in various departments of Physics—Electricity for example—must be as important as in the case of the medical department already referred to, regarding which I can speak with confidence.

For securing practical instruction, it is not always essential that the student should join a formal class created for the purpose. I will keep here to medical matters, simply because I can speak confidently from familiarity with them, although, no doubt, similar conditions exist in other departments also. Thus, Certificates of Practical Midwifery are already recognised by the *Ordinances*, as proof of practical experience. In the same way, the candidate for graduation ought also to be made to produce evidence of a study of fever cases, seeing that sanitary legislation tends to remove such patients from general hospitals. The regulation of "King and Queen's College of Physicians in Ireland" might be followed in this respect, which requires three months' attendance at a fever hospital, and records from daily personal observation, of "at least five cases of fever, to the satisfaction of the attending clinical physician, as attested by his signature." It might be well to insist, in the same way, on evidence

that the student had actually reported medical cases in the medical wards, and had actually served as dresser in the surgical wards, to a *definite number of patients* duly certified. In crowded clinical hospitals or wards, University Professors have been known to certify clinical clerks as such, for reporting one or two cases, and dressers for attending to *one half of a bed!* The student would need to seek elsewhere than in such crowded wards or hospitals the necessary certificates, and so quantities of unused clinical material, in the same town or in other parts of the country, would be eagerly sought out; the necessity of obtaining such certificates (at present not required) would stimulate those fortunate enough to be appointed to a due discharge of their duties, which at present are often imperfectly performed, because there is no necessity for the student to satisfy the physician or surgeon under whom he acts, if, as is too likely, he finds the pressure of compulsory attendance at classes and examinations too great a strain on his time.

A guarantee for the student's practical instruction may be attained in yet another way, when it is felt unwise to increase the number of compulsory practical classes; and that is by making the *examinations practical* in all departments where practical knowledge is desired. We may be sure that the students would not neglect practical instruction, by means of classes or otherwise, in specialties like those of the Ear, Eye, and Throat, if they knew that they were liable to be called on actually to examine with the mirror cases of this class, so as to arrive at a reasonable diagnosis. After considerable inquiry, I have never heard of students being examined in this way for degrees at Glasgow University: need we wonder that, in the pressure of compulsory systematic classes, these important subjects are so much neglected by our overtaxed students?

It is sometimes argued, even, that practical examinations might be carried out so thoroughly as to render it unnecessary to insist on attendance on practical classes any

more than on systematic. This is quite true; but the examinations on the subjects, in the Medical Faculty at least, would require to be conducted not only by men of experience and standing, but with a comprehensiveness and elaboration hitherto unpractised. This *complete testing* of the student would involve an enormous expenditure of time and money; for the range and duration of the examination must be very great, if the candidate is to be tested in such a thorough manner as to render proof of attendance on practical instruction superfluous. Even with such proof, the expense and trouble of a good examination for medical degrees are very great, and it seems a pity to incur all this for the testing of those who, if unprepared by practical instruction previously, are almost certain to fail. Although this practical and financial difficulty could be overcome, it would be very doubtful policy for the Scottish Universities Commission to introduce such a complete revolution in the granting of medical degrees; even the London University, which has gone farthest in this direction, still insists on evidence from its medical graduates of some attendance at the Medical Schools, although no doubt it is very liberal in the choice it allows. If reforms are to be stable, they should be introduced gradually, and only extended as experience warrants: hence no such complete changes are advocated here.

III.

TUTORIAL CLASSES.

Closely allied to practical instruction is the Tutorial Class.

Indeed, it is scarcely possible to carry on practical teaching unless the teacher himself or his assistants act as tutors, dealing with limited numbers, going round questioning and supervising the student in his work. In

this way we get the "personal instruction of a living man," but in a very different sense of the word "personal" from that in the quotation already made. It is the person of the lecturer which is emphasised in the systematic course; in the tutorial, it is the person of the student. Which is to be the more important in the future of our Universities?

Although allied to, and often combined or almost identified with, practical instruction, the tutorial method stands out in marked contrast to the systematic lecturing system; in subjects such as languages, mathematics, logic, and some others, where practical tuition, as understood in scientific subjects, scarcely comes into play, we may fairly regard the tutorial as the analogue of the practical class. If in science the practical instruction is the department of paramount importance, in languages, mathematics, &c., it is the tutorial which requires the earnest attention of the Commission. Enormous classes in such subjects, taught by one man, are simply scandalous, and constitute a disgrace to our native country. When I was in the Junior Latin Class in Glasgow University, in 1856-57, the late Prof. Ramsay stated, while giving his prizes, that this class was remarkable as being the *largest* he had ever had, but that he did not know that it was remarkable in any other respect! The caustic wit of the professor was well known, and we unfortunate students regarded the remark as a piece of sarcastic humour; but perhaps the professor's acute intellect and wider experience noted a close connection between the largeness of the class and the mediocrity of its scholarship. At that time the class, however large in his eyes, was a mere fraction of the size it has since attained. Even in 1876-77 the returns to the Universities Commission showed 504 students of Humanity for one professor; the subsequent figures will no doubt be submitted to the present Commission.

I do not object here, any more than in the scientific subjects, to lectures being permitted; or indeed to any

mode of conducting his class which the professor chooses to adopt. As before, what is objected to is the principle of *compulsion* applied so as to waste the students' time; for this is the inevitable result when a teacher attempts the impossible task of instructing a crowd of students, who present various degrees of knowledge or ignorance of the subjects referred to.

In the scientific subjects there are, as we have seen, reasons for making attendance at practical classes compulsory; these reasons do not apply to the departments under consideration. It seems a fair compromise to give the student a *choice* between hearing lectures delivered to a class, of any size it may happen to be, and taking a tutorial class where the "personal instruction of a living man" might operate on the individual pupil, and where the state of proficiency, and the degree of progress, of the students might, to some extent, be kept in view.

In the scientific subjects also there is great room for the tutorial method, even apart from its combination with more directly practical work, or with museum demonstrations. Many students would no doubt feel that tutorial instruction, conjoined with the use of recognised textbooks, could carry them on more quickly and surely than any mere listening to lectures. Speaking without special knowledge, although not without inquiry, it seems to me probable that certain legal subjects could be best dealt with by such a combination; for by questioning the student it could be seen how far he grasped the principles and the details laid before him; and this method would tend to cultivate in him that accuracy of thought and lucidity of expression which are so much required in legal practice. In philosophy and political economy much might also be done in this same way.

IV.

EXAMINATIONS FOR DEGREES IN THEIR RELATION TO
UNIVERSITY TEACHING.

It is vain to protect the student from compulsory attendance on professorial classes if, while aspiring to a degree, he is left to the tender mercies of an examining board consisting mainly of the professors whose prelections he may have chosen to pass by. Students are driven not only to take, but to repeat, classes, both practical and systematic, by regard to other things than University Ordinances. It is idle to deny the existence of a widespread terror of neglecting certain professorial classes, or to explain it away as based on pure imagination; in some quarters there is unquestionably room for grave complaint. If the matter is doubted, the Commission have only—with closed doors, and in such a way as to prevent the chance of recognition—to examine a group of University students. A few recent graduates, delivered from the fear of their University, could, perhaps, be got to give evidence more openly if desired. Let the Commission publicly announce their desire for evidence on this point, with the above precautions, and no doubt it can be obtained; if, indeed, the Commissioners profess to require any formal evidence of what is matter of public notoriety, and can be easily verified.

How is this evil, or in any case this *chance* of evil, to be averted? By the nature of the Examining Board and the nature of the Examination. A reliable and impartial Examining Board is an absolute necessity. It must be clearly understood, moreover, that the examination is to be on the SUBJECT, and not necessarily, or even presumably, on the "Professor's lectures." It is generally felt by the students that the latter form the real subjects of examination for their degrees, and so (quite apart from

the notion of undue influence) they naturally feel the danger of any neglect of the one thing needful. It is not always easy to get authoritative proof of the correctness of such a notion, for in any utterances intended for the public, it is often repudiated, disguised, explained away, or minimised. Fortunately, however, the *Glasgow University Calendar* for 1889-90, p. 155, gives what is wanted. In its statements of the "books and subjects" for the "Law Examination for degrees of LL.B. and B.L.," we find—"In the Law of Scotland—Bell's Principles of the Law of Scotland AND THE PROFESSOR'S LECTURES." Truly a remarkable statement as to the subject of an examination for academical degrees, especially with "two additional examiners" ostentatiously announced to examine the students,—on a "professor's lectures" which they can scarcely be imagined to have heard or read themselves! *Ex uno disce omnes*. But we are not limited to one. In Logic, Moral Philosophy, and English Literature, the "Professor's Lectures" figure again as the subjects of examination for a degree in Arts. (See same *Calendar*, pp. 118, 119). In the case of Moral Philosophy we have, further, the triviality of the examination being on the Professor's Lectures during the session when the student attended the class! One need have no scruple in speaking freely in this case, where the ability of the Professor and the value of his prelections are universally admitted; but how the non-professorial examiner is to examine remains obscure. Is he to base his examination, and his judgment of the results, on what he *imagines* the Professor *ought* to have taught on the subjects taken up? Or, is the announcement an academical way of intimating that such examiners are mere ornamental figureheads? Need we wonder that students take for granted, throughout, that the examinations for their degrees are to be on "the Professor's lectures"?

If the first thing, therefore, is to secure that the Examining Board shall be impartially constituted, the

second is to see that the student shall be examined upon the subjects, or the portions of the subjects, duly announced, and not upon the unpublished lectures of any professor, however distinguished. There is surely some distinction between the testing for an academical degree and a class examination.

The next thing is to secure that the examinations, whenever possible, shall be of a practical character—that things shall be done and instruments used, as in the work of life. Not that a student is to describe from a book, or from the notes of his professor's lectures, how things are to be done, but that he should do the things himself: analyse samples of water and air, for example, if this is the matter on hand, and not merely give an account, however lucid, of the most approved methods of doing so. By this plan of examination the practical education of the candidate would almost certainly be secured without any very elaborate regulations, as already explained in speaking of practical classes. A student would seldom venture to go up for an examination in Chemistry, Physics, or Medicine, if he knew that he would be called on to do quantitative analyses, to determine the resistance of a battery, or to examine a patient with the ophthalmoscope, the laryngoscope, or the otoscope, unless he had previously taken pains to learn how to do these things by practising the processes again and again.

V.

INCREASE OF TEACHING POWER.

Extension of the teaching power necessitated by the addition of new subjects, the subdivision of others, or by changes made in the curriculum for degrees in Arts and in Science, need not be alluded to here, as it is not within the scope of this communication to discuss these important subjects; the Commission will no doubt deal fully with them.

If, however, the teaching is to be developed in the direction of practical and tutorial classes, a great addition to the teaching staff must be made in one way or other. If the organisation is to be really efficient, and capable of correcting, automatically as it were, any abuses from inefficient, careless, or antiquated teachers, those in charge of the practical and tutorial classes must be placed on an independent footing, and not be mere assistants of the professors. The professors, indeed, in managing their classes in their own way, may be allowed to have as many assistants working under them and according to their direction, as they choose to pay for, always, of course, subject to some general approval of the University Court. Whether the additional independent teachers are to be Lecturers within the University or "Extra-academical Lecturers," recognised as such (as already developed, although inadequately, in the Faculty of Medicine*), or whether they are to be teachers in affiliated Colleges, must be decided by the Commission according to some general policy modified by local circumstances and varying, it may be, in different faculties.

Many young graduates, whether holding scholarships from the University or not, might be found willing and anxious to try to make a position and reputation for themselves as teachers, with such scant encouragement as might be afforded by some small endowment, or even by the free use of class-rooms, with, of course, the fees accruing from their students, at least in certain departments or under certain circumstances. The UNIVERSITY, by retaining or attracting such men to aid its teaching, would be keeping up the old meaning of its name.

Under no circumstances, however, should this new class of teachers be kept under the domination of the professors to do the revising of class exercises and work of that kind; for the essence of the reforms proposed consists in their being allowed to strike out new methods

* See Note (E).

of tuition, as occasion arises, suited to the subjects taught and to the size of their classes. If in important scientific subjects we had, for example, a Professor, as at present, to manage his class as he pleases, with a second recognised teacher of some kind, in the practical department, and another conducting a tutorial class, there would be a choice of teachers, and a certain stimulus to do the best for the student's education. Many students might take a course under two of these teachers, instead of two courses under one as at present.

In Languages, Mathematics, &c., there would be room for several recognised teachers of tutorial classes, according to the objects aimed at by the students, or their degree of proficiency. One tutorial class might succeed because it aimed at carrying forward the good students, and another because it aimed at bringing up those who were deficient. Of course some check must be found to keep tutorial classes limited in their size, or we might find such teachers repeating, under the false name of a tutorial class, the error which it is wished to correct.

It may be objected that no good men would apply for recognition as tutorial teachers, or teachers of practical classes, unless sure of being adequately paid. Experience in the Faculty of Medicine indicates the contrary. If the applicants are not known to be good men, or have not the appliances for teaching, of course they should not be recognised; if there are no applicants, or if those who do apply do not obtain recognition, they will not disturb the professors' present arrangements, and things will at least be no worse than they are. But if good applicants do come forward, on what encouragement the University can afford to offer, then from the numbers drained off to their tutorial classes the University teaching may be improved, not only as regards the members of these tutorial classes, but also as regards the members of the professor's class itself, from the diminution of the crowds of students whom he and his assistants are struggling to educate.

The great opposition likely to be raised to any such proposal will probably be based on the fear of its proving too successful in attracting both teachers and students.

VI.

MUSEUMS AND LIBRARIES.

If practical instruction is ever to take the position it deserves in University teaching, the condition and administration of our Museums require serious attention. The educational value of such collections has been but little developed. The recent address of Mr. Jonathan Hutchinson on this subject is most suggestive (see *British Medical Journal*, 1888, vol. ii, p. 1257). Museums for the education of students have to be constructed, equipped, and managed on different principles from others. By the use of printed labels, with the necessary explanations and diagrams or drawings, the influence of museums in education might be greatly vivified, especially if tutorial classes, or occasional demonstrations on specified subjects were held there by the professors or other lecturers. In the case of *Materia Medica*, for example, this is clearly the proper method of learning for the student; but the museum, in that case, must be one with specimens actually available for the student to handle while reading up the descriptions; this need not interfere with the more elegant specimens kept separately for the admiration of the professor and his class. The combination of the tutorial method, by questioning and demonstrating, would greatly assist the students.

In Pathology also, the influence of a properly equipped museum, with adequate descriptions, notes, and illustrations, would be invaluable; mere numbers and letters referring to a catalogue are inadequate; the student should have actual printed labels with adequate descriptions. Occasional demonstrations to small groups of

students, to encourage them to study the series of specimens for themselves, might well take the place of some of the systematic lectures.

In Natural History, Geology, and Mineralogy, the Museum is already openly recognised as an important educational instrument; but great advances might be made if recognised teachers, in special departments, could be induced or permitted to demonstrate and expound parts of the collection to a limited number of persons anxious to learn the subject.

Even apart from special study, it is possible that the opening of the general Museums to the body of students, in all the faculties, might have a certain educational influence, which in a few instances might develop into something better. At present the admission of students to the Hunterian Museum in Glasgow, three times a session, each with two friends, makes it partake of the character of a show; and it is little wonder if the general body of the students regard it as such.

In various other departments of study, collections of specimens, models, instruments, &c., might be utilised for practical instruction as indicated above.

Not a few students have found in the past that the great advantage of their University Course turned upon their association with some of the better minds of their fellow-students, and upon their introduction to the master minds of the past and the present, whose works are preserved in University Libraries. These great advantages have induced many a student to look with leniency on any faults in the provision for his scholastic course.

What is to be said of a University which deliberately and intentionally secludes its Catalogue of literary treasures from the body of students for whom it exists? I am ashamed to say that this is the policy of our University in Glasgow in recent years. When I knew the University Library first, there was no dearth of Catalogues and

Supplements. The difficulty then was their abundance! But I well remember experiencing the sensation of a new power of acquiring knowledge when, by means of subject-catalogues or indexes in the old library, I felt that I could ferret out works by authors whose names were till then unknown to me. The mere looking up of a good catalogue has always seemed to me a lesson in literature.

For years I wondered when we were to see the new *Glasgow University Catalogue*, which I had heard of as costing so much in time and money, which was to supersede all the old supplements, and do much more. At length I discovered that it was no part of this University's policy to favour the students with even a distant sight of this implement of instruction. The Catalogue was for the use of the librarians, and for the benefit of the professors! No doubt, through the personal courtesy of the librarians, one like myself had access to it; indeed, I have received so much attention from the librarian and his assistants, that it is with great reluctance I feel impelled to make complaints. The complaints are, however, against the methods, not the men who administer them to the best of their ability. The state of matters seemed to me so amazing that I made personal representations to three of the professors, whom I knew sufficiently to venture to approach. Two of them evidently did not believe that my statement was true! The third knew it all, as well as I did, but was inclined to justify the policy, or at least was unwilling to condemn it.

This action as to the library is indeed, in a sense, perfectly consonant with the University policy elsewhere. The subjects for examination in degrees are regarded, as already shown, as being practically synonymous with the "Professor's Lectures." If books are required, they will be enumerated and recommended by the professor, and the student can ask for them, and get them if they are there. What more simple? As for any student searching out literature for himself in any subject the idea is too ridiculous!

Indeed, if the thing were encouraged or permitted, it might only lead to a neglect of the subject, or, at least, of what is the same thing—the “Professor’s Lectures”!

Curious to gauge the state of the students’ minds (not merely in the Medical faculty), I have tried for some years to inquire how many of them had ever *seen* the catalogue of the library of what is called their “*Alma* (!) *Mater*.” Many of them—such is the profound ignorance thus cultivated in the University student—thought that the library was managed without any catalogue at all; others had understood that some such thing was contemplated. Scarcely any had seen it, far less been in the way of looking for anything in it. Some three years ago, after much agitation on the subject in the General Council, a so-called “Students’ Catalogue,” “selected from the General Catalogue,” was issued, consisting of about 130 quarto pages, with “abridged titles,” only aiming at giving English books, and limiting itself to the last fifty years or so. In the preface the students are informed that “students and graduates engaged in special research will, on application, have access to the classified catalogues.” This is all very well; but the seclusion of the “General Catalogue” of their library from the body of the students is not likely to cultivate the spirit of “special research.” The catalogue ought to stand prominently in the library as an indication to all students, the youngest as well as the most advanced, of the stores of knowledge waiting for them, which they may, now or hereafter, desire to search. The barest principles of justice demand that those who have the *right* to use a library should also have free access to the catalogue of its contents. The merited neglect with which this poor “Students’ Catalogue” has been received by those for whom it was intended is held, I believe, by the authorities to justify their view that the students have no interest in the real catalogue of their library.*

The educational influence of this policy on the student is

* See Note (F).

disastrous, and its pernicious effect can scarcely fail to react on the professorial teaching.

I am glad to learn that the authorities of Edinburgh University, at the present moment, have at least aspirations after the issuing of a Catalogue of their Library, and so their policy must be based on different ideas from those accepted by the Glasgow professors, of which it is to be hoped they have a monopoly.

Museums and Libraries are classed here together; and, indeed, a Library may be regarded, in one sense, as a museum of books. As in the case of other Museums, demonstrations of special groups of books might be made from time to time. The bibliographical treasures in the library of the Hunterian Museum in Glasgow might be utilised for those interested in ancient literature and early printing. Some guidance to the methods of modern bibliographical research might be afforded to others, so that the means of contending with the increasing stores of books, and especially of our periodical literature, might not be utterly unknown. For when all is said and done, we must admit that the best education only places the student in a position to carry on his own education.

VII.

CHANGES IN ORDINANCES.

The representatives of the Scottish Universities, when urged to institute reforms in the teaching, often fall back on the fixity of methods imposed on them by the *Ordinances*. Thus, to take a recent instance, in the discussion in the General Medical Council on the absurd extent to which systematic lectures were carried in Scotland, Sir William Turner is reported to have "pointed out that the number of lectures in the Scotch Universities was fixed by statute, and it would not be easy to

modify their arrangements" (*Brit. Med. Journal*, 1889, vol. i, p. 136). Of course, the word should be "Ordinance," as "Statute" is apt to be misleading; but the second statement is undoubtedly true. Difficult, indeed, it is to change an *Ordinance*, but not impossible; many *Ordinances* have been altered, and the Edinburgh University has succeeded in adding three courses (Practical Physiology, Practical Pathology, and Practical Pharmacy) to those enumerated in the original *Ordinances*, as compulsory for graduation in medicine. However difficult it may be to get compulsory courses added, it would, no doubt, be ten times more difficult to get them abolished or curtailed, and I am not aware of a single instance of this having been done, or even seriously proposed, in any of the Scottish Universities. The Commission should, therefore, in framing new *Ordinances* bear this in mind. Not only have arrears of reform accumulated, for the last thirty years, urgently requiring to be dealt with now, but great flexibility in the new arrangements should be aimed at, so as to prevent this same appeal to the *Ordinances*, as a bar to necessary reforms in the future. For any alterations in the future will be about as difficult, apparently, as in the past, so far as the new Act is concerned.

Limiting my remarks entirely to changes indicated by the considerations adduced in this paper, and deliberately omitting all reference to the urgent matters of adequate entrance examinations and alternative courses for degrees in Science and Arts, I would say that the following are important.

I. Attendance on certain *practical* classes, varying, of course, for different degrees, should be made compulsory; sufficient precautions should be taken that the certificates relate to really practical instruction, and not to mere lecturing with demonstrations.

II. Attendance on all *systematic* lectures should be entirely voluntary as regards the various courses for degrees.

III. A choice of teachers in each subject, if such can be obtained, should be provided or permitted, by the appointment of recognised lecturers within the University, or by the recognition in some way of lectures outside the University, or by the affiliation of Colleges. In particular, teachers of tutorial classes in languages, &c., and of practical classes in scientific subjects, should receive every encouragement, compatible with the resources of the University, so as to induce good men to apply for recognition.

IV. Attendance on a Systematic, or on a Practical, or on a Tutorial Class should count equally as fulfilling the requirements of the prescribed course, except in those cases where the Practical Classes are made compulsory, in which case they, at least, must be taken.

V. Examinations for degrees should be on the SUBJECTS duly specified; and the Examining Boards should be so constituted as not to be dominated by the Professors, or by a group of teachers of any kind.

VI. The management of the Museums and Libraries should be made to fit in with the other machinery for the education of the students, and certain Professors or Lecturers within the University should have the right to utilise them in their teaching.

These statements may seem too general and vague. The following draft illustrates their application to the curriculum for medical degrees, as to which only I can speak with the confidence arising from familiarity. For other degrees similar schemes could be drawn up. In some cases the Tutorial Classes would be relatively more important, just as the Practical are in others. In framing the *Ordinances* for medical degrees, the Commission have a free hand. The General Medical Council only insists on a preliminary examination and on four years of study thereafter. Even these requirements are expressed in the form of "Recommendations;" some of these "Recommendations" are at present quite ignored by the Scottish Universities.*

* See Note (G).

PRACTICAL CLASSES OR COURSES OF INSTRUCTION PROPOSED
AS COMPULSORY FOR GRADUATION IN MEDICINE.

I. PRACTICAL ANATOMY.—Twelve months. Certificates to be produced, showing that the student has dissected all the various “parts” of the human body.

II. PATHOLOGY.—(a.) Practical Pathology. Three months.

(b.) Six months’ attendance at the Pathological department of some Hospital where instruction is given, with demonstrations, at least twice a week, of morbid parts.

(c.) Certificate that the student has performed two *post-mortem* examinations on the human subject, and made reports thereon, under the supervision of some of the medical officers of an Infirmary, Workhouse, or other Institution.

III. ATTENDANCE AND INSTRUCTION AT A GENERAL HOSPITAL.—The Hospital must contain at least eighty beds, and regular instruction must be given. Two years’ attendance.

(a.) The attendance of the student to be strictly ascertained, and certified by the Physicians and Surgeons in whose department the student works, from time to time, and who are thus responsible for his instruction. “Clinical Lectures,” so called (which are often mere systematic lectures with a thin disguise), to be given or not at the discretion of the teachers.

(b.) Certificates of having reported six cases in the Medical Wards to the satisfaction of the Physicians, and Certificates of having acted as Dresser to six indoor cases to the satisfaction of the Surgeons; such Certificates may be given by any Hospital Physician or Surgeon who is recognised as a Teacher by any University in the United Kingdom in any of the departments of medical study.

(c.) Certificates of six months’ attendance on the out-patient department of some recognised Hospital or Dispensary.

IV. ATTENDANCE AT A FEVER HOSPITAL (or at Fever Wards): Three months; also a Certificate that the student has reported, from personal observation, the course of five fever cases to the satisfaction of the Physician in charge.

V. ATTENDANCE AT A LUNATIC ASYLUM where Clinical instruction and demonstrations are given : Three months.

VI. PRACTICAL MIDWIFERY.—“Attendance for three months on the indoor practice of a Lying-in Hospital, or presence at not less than twelve labours, at least three of which must be conducted personally by the candidate under the direct supervision of a Registered Practitioner.” (See *Glasgow University Ordinance*, of 28th May 1889, *Calendar* for 1889-90, p. 371. This is in accordance with the General Medical Council's recommendation.)

[Any great accumulation of practical classes is to be avoided, and so this list is limited to the above subjects. Instruction in Vaccination and in Practical Pharmacy may be secured by insisting on certificates from registered medical practitioners in the one case, and from registered pharmaceutical chemists in the other ; so-called “classes” in these two subjects have not proved such a success as to warrant their being instituted as compulsory. Instruction in such specialties as Eye, Ear, Throat, and Skin diseases may be safely left to be ensured by thoroughly practical examinations, without specifying the conditions of study ; enforcing such conditions definitely, really tends to hamper practical instruction, from the accumulation of students at one time in a class. The specialties named are all particularly well adapted for the application of practical tests. Of course, they should be specified as coming under the department of Surgery at the examination in the first three cases, and under Medicine in the last ; and examiners competent to deal with these subjects should be on the Examining Board.]

For the other departments of medical study, at present required by the *Ordinances*, no great changes seem called for, provided it be understood that one Systematic, or one Practical, or one Tutorial Class, may count equally as representing these subjects.

A few changes are, however, generally acknowledged to be desirable.

The classes of *Materia Medica* and *Therapeutics* should be separated, each having *not more* than a three months' course, and

attendance on either the one or the other qualifying for graduation.

The classes of Midwifery and Gynæcology should also be separated, each having a three months' course. Gynæcology—Systematic or Practical—should be made compulsory. Practical Midwifery is already compulsory, and so, according to the plan proposed in this paper, the systematic class ought to be optional. Most students will take their Practical Midwifery at the Hospital, and sufficient systematic instruction ought to be given there to enable the student to make a *beginning* at practical work, after which he can judge for himself whether lectures or reading will serve his purpose best.

The farce of pretending to include the Diseases of Children in the Midwifery Course should cease. If the student wishes to learn, he must go to the *Cliniques* where children are seen: the clinical examination in Medicine should include, occasionally, cases of children's diseases, so as to secure the attention of the student to this important subject.

In Anatomy and General Pathology the student would only take the systematic lectures if he desired to do so.

In Chemistry, Botany, Natural History, Physiology, Surgery, Materia Medica, and Gynæcology, the choice would be between Systematic, Practical, or Tutorial Classes; and in Medicine, Medical Jurisprudence, and Therapeutics, between a systematic and a tutorial course.

It is, no doubt, an open question, and one requiring the grave consideration of the Commission, whether Chemistry, Botany, and Natural History, should remain in the purely medical curriculum at all; or whether a sufficient knowledge of these subjects, for the medical student's requirements, might not be secured by including them in the preliminary examination, adding, perhaps, to the curriculum a new and special course of Chemistry in its relationship to Medicine. In illustrating the plan of the curriculum here advocated, these courses are retained as at present; the subject is difficult, and the decision will depend largely on whether the Commission extend the period of medical study to five years instead of four as at present; if only four years are fixed for the medical course, they should undoubtedly be removed.

It is not the purpose of this paper to discuss financial questions, although, in view of the extension of the teaching power here advocated, this subject is of the utmost importance. The total revenues in many of the classes are large, and might well bear some distribution.* A proposal to raise the fees for the classes, in some of the faculties, has often been entertained; but it seems to me that if, without any such increase, the annual matriculation fee for the University had simply a guinea added to it, a substantial fund of about £2,000 each, for Edinburgh and Glasgow at least, might be obtained for administration by the University, in the fitting up of laboratories, and in the payment of teachers for practical or tutorial classes in the various Faculties. Another plan naturally suggests itself—viz., levying a percentage for General University Purposes (say 10 per cent) on the gross amount of the fees in each class. Other plans could also be devised, for it is obviously absurd that, with overflowing classes and rich professorships, the general funds of the University itself should be starved.

Those graduates who have obtained important Bursaries, Scholarships and Fellowships, might very properly be required to assist in the University teaching, allowing them, of course, in addition, any fees accruing from their classes.

* See Note (*H*).

NOTES.

(A.) "Personal instruction of a living man."

See Address by Dr. W. T. Gairdner, *Lectures, Books, and Practical Teaching*: Glasgow, 1877, p. 10. This address contains an able and interesting defence of Lectures. The author, however, also says: "I have, indeed, in my time known and attended lectures which were nothing but articulate text-books; and of such lectures it might very well be said that they were neither better nor worse than text-books; or, if anything, worse, seeing that they cost the labour of listening and transcription, while the text-book is procurable for a moderate sum in the very words of the author, and is always at hand for consultation. Of lectures constructed on this plan I am no apologist." Why should the gifted author of the Address have been *compelled* to take such lectures?

(B.) Rejections at First Professional Examination in Medicine.

The General Medical Council give the following returns for 1888:—

University of Edinburgh, .	221 rejected,	286 passed.
University of Glasgow, .	120 ,,	105 ,,

(C.) *Students overburdened by Lectures.*

The General Medical Council recognise this by their formal "Recommendation," at present in force, of 26th May 1888—"That in order to afford due time for clinical work it is desirable that the number of systematic lectures be restricted."

The subject was partially discussed at the meeting of the Council on 31st May 1889, and will no doubt be taken up fully next May.

(D.) *Paris M.D. Regulations.*

In the "Report (*ad interim*) by the Education Committee on Clinical Work and Systematic Lectures," submitted to the General Medical Council on 31st May 1889, we find—"The system followed in Paris is: (1) The period of study previous to the final examination is four years; (2) Strict rules for enforcing hospital work during the last two years of study, three forenoon hours given up to that work, and no lectures during these hours; (3) Practical courses in the various subjects compulsory, and attendance carefully enforced; (4) The lectures in no course given oftener than twice a week, and attendance on all lectures entirely voluntary."

It is a noteworthy fact that Dr. Struthers, till lately Professor of Anatomy in Aberdeen, has declared strongly in favour of this system. At the discussion in the General Medical Council he is reported to have said that "he wished to draw special attention to the system adopted in Paris, which he regarded as the perfection of education" (*Lancet*, 1889, vol. i, p. 1,143). When we remember that Dr. Struthers has spent a lifetime as a lecturer himself, surrounded by lecturers both in Edinburgh and Aberdeen, including many of the most celebrated men of their time, his opinion acquires a special value.

In Glasgow, the class hours, as arranged by the University, do not permit of the students attending the out-patient department at the Infirmary at the very period of their course when they could profit most by this, although certificates of such attendance are required by the regulations (Contrast last clause of No. 2 of the Paris regulations above).

(E.) *Inadequate Recognition at present of Extra-academical Courses for Graduation in Medicine.*

According to the *Ordinances*, following the Act of 1858, the student was allowed to take "four of the departments of medical study" in the classes of recognised extra-academical teachers. In Glasgow University, at that time, this was really a very fair allowance. Out of twelve classes in the University he was allowed to take four with recognised private teachers if he desired to do so. Not that this really was of any use to the student; for the University of Glasgow steadily refused to recognise any such teachers in Glasgow till 1875. Nevertheless the generous scope of the *Ordinances* in this respect is plain: the Commission of 1858 were not responsible for the action of the Glasgow University Court. It is to be observed that at that time a student could, *theoretically*, take four classes outside the University apart from Clinical Medicine and Surgery and Pathological demonstrations, all which could only be had at the Infirmary. At the present day, if the student takes his *qualifying courses* of Clinical Medicine and Surgery with some of the Hospital Physicians and Surgeons who are not Professors, as was common or almost universal about 1858, he is actually allowed to take only *one* class outside the University. By some curious reasoning the course of Pathology is reckoned an outside course, although there is no inside course on this subject in Glasgow. Hence, as the student *must* take Pathology, this reduces his available courses outside the University to three; and with Clinical Medicine and Surgery, formerly open to be taken from any of the Hospital staff, we have other two deducted, reducing the student's liberty to *one* course outside the University, *instead of four*, as intended by the *Ordinances* for Glasgow University, for at that time no Professorships existed in these departments. This interpretation of the University *Ordinances* *may* be legal: certainly, as regards Pathology, it seems strained. In any case there is clearly a violation of the spirit of the *Ordinances*, which the present Commission will, no doubt, correct. Indeed, with the lapse of thirty years, instead of this retrograde policy, a great extension in this direction is now indicated.

(F.) *Glasgow University Library and its "General Catalogue."*

This is really an admirable catalogue. It has been prepared and printed at a great expenditure of time and money. The plan adopted is that of printed slips, each having an author's name with the title of the book, &c. These slips are pasted into large paper volumes, with spaces left for additions, so that it may be kept up to date. A large number of such volumes are, of course, required. So far as I am aware, only one copy of this catalogue has been made up; but, if the students' interest in their Library had been kept in view, another copy, with the slips pasted on muslin or some durable material, might have been prepared for their use, without any risk of the Librarian's copy being damaged by them. In discussing the matter, one is met with the objection that such a catalogue would be so run after by the students as to make it useless for consultation; and again, by the other objection, that the students would not care to look at it. These reasons are mutually destructive. The fact, no doubt, is that comparatively few students would desire to consult it often; but the very size of such a catalogue, as thus arranged, favours, as every one knows who has seen such catalogues, simultaneous consultation by a considerable number of persons, if there did happen to be numerous searchers after knowledge.

In the Library arrangements, little provision has been made for the purposes of consultation on the premises by the students, who, being only allowed to take home two (or four) volumes, might desire, at special times, to consult other works there. The want of such provision is, of course, quite in harmony with the want of access to their Catalogue; but neither can be justified. Even for those who do consult the Library now, on the premises, the arrangements are deficient, as the situation selected for this purpose exposes them to constant interruption by passers by; it is admirably situated for the mere looking up of references and the like, but for the purpose of quiet reading or note making, a suitable room should be provided, properly warmed, and free from this disturbance.

(G.) *Recommendations of the General Medical Council
not Adopted by the Scottish Universities.*

Hygiene and Mental Diseases are not compulsory courses, nor is the student specially examined in them, for his M.B. degree, as recommended.

The study of fevers recommended has not yet been made compulsory.

Recommendation No. 21 :—"In order to afford due time for Clinical work, it is desirable that the number of systematic lectures be restricted." No attempt has been made to conform to this, unless we reckon the action of Glasgow University, in the case of Pathology (see p. 15), as an anticipation of this Recommendation. It is to be hoped that the Commission will insist on this reform.

(H.) *Large Emoluments of Certain Chairs.*

According to a Parliamentary return, issued 19th February, 1890, the emoluments of the Professors of Mathematics, Greek, and Humanity, in the University of Glasgow, during the three years from 1886 to 1889, varied from £1,512 (Greek, during 1888-89) to £1,890 (Mathematics during 1886-87). These are large sums, when we remember that they refer to six months' work in the year, and that substantial pensions have hitherto been awarded to the Professors in case of inability from age or infirmity.

