



# **Darwin College Research Report**

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## **The Arrival of Research Degrees in Cambridge**

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Most of this story concerns the end of the nineteenth century and the early part of the twentieth. However, it might be as well to skate rapidly over earlier centuries. No-one could suppose that there was no research done in the university before the advent of research students; one could even argue that there was research before, or at least as soon as, there was teaching. The first members of the university were nearly all studying for higher degrees, and they were all graduates: it was being a graduate that made you a member of the university.

Obviously these learned men were teaching: doctors of divinity were teaching bachelors of divinity, who were teaching M.A.s who aspired to be bachelors of divinity, and who in turn were teaching the B.A.s, and so on. The B.A.s were, some of them, probably teaching those who aspired to the B.A., but their students were not members of the university.

So much for undergraduates. Some of them got B.A.s, and some of those went on to study (yes – *study*) for the M.A., but the M.A. was not a research degree. It had a syllabus, at least as fixed as that for the B.A., and it was a necessary step to becoming a full member of the university — one with a vote. You couldn't, and this is a fact which, as we shall see, had long repercussions, become an M.A., with a vote, without having first taken the B.A.

Over the next six centuries, the exercises for the M.A., notwithstanding several attempts to revive them, degenerated into a mockery and were abandoned, while the ancient doctorates (of Divinity, Law, Medicine and, to an extent, Music) and the B.D. degree maintained their status. The route to senior doctorates was clearly mapped: an aspirant to the D.D., for example, was obliged to take part in a fixed number of disputations *pro forma*, and was expected, if resident, to dispute routinely also; he had also to preach sermons, both in Latin *ad clerum*, and in English, *ad populum*, at Paul's Cross. These exercises performed, and the requisite residence being completed, his resident peers recorded their votes for his admission to the degree either from knowledge or belief (rather like elections to the Society of Antiquaries). Similar exercises were expected of Doctors of Law and Medicine, and they too were voted upon by resident Doctors in their faculties (often a problem in medicine, where such were not always to be found). Doctors of Music were odd. There were seldom any in residence, and their sole exercise was the composition of a piece publicly performed at a ceremonial occasion. Of all the ancient degrees perhaps the one closest to what we now think of as a research degree was the B.D., for which no very precise syllabus was ever produced, while those studying for it, in theory at least, presumably did so under the beady eyes of the D.D.s.

By the late nineteenth century the route to senior doctorates was much as today: that is, you submitted published work to the appropriate faculty, which sat on it, more or less literally sometimes. In the early 1880s, without too much brouhaha, new degrees were invented, viz. the Sc.D. and the Litt.D., there now being quite a number of senior academics who were not theologians, or lawyers, or medics. Quite a number of very venerable persons applied for the new degrees of Sc.D. and Litt.D., which gave their juniors an unusual opportunity to sit in judgement on them. 'Professor X's work is terribly old hat, but no doubt it was at the cutting edge in his youth, and he is an amiable old chap. Let him have the degree he so ardently desires.' The demand for these degrees was stimulated by their appearance elsewhere, notably in Germany, and those who saw themselves as having an international reputation thought that they should have one too. We might compare the recent moves to Senior Lectureship and to the proliferation of *ad hominem*, to say nothing of *ad mulierem*, professorships.

That was undoubtedly politically incorrect, and I fear that you are about to hear a good deal of political incorrectness, mostly, however, quoted from speeches made in discussions of the Senate between 1894 and 1919 by a set of University bastions — bastions of insularity, of self-satisfaction, of the age-old constitution of the university, and, sometimes, just bastions of a romantic faith in the supreme beauty of knowledge. Please bear constantly in mind that most of the events I shall be dealing with happened about 100 years ago and that nothing of the sort could possibly be said, or even thought, today.

First, however, we need to remember the context in which the demand for post-graduate qualifications arose. Within Cambridge there were, of course, young scientists already pursuing research. How did such a young man, or even young woman, recently graduated, embark on a course of research? They tiptoed up to their chosen Professor (or Reader, or Lecturer) and said, 'Please Sir, can I come and work with you?' And, with luck, their chosen mentor, said, 'Certainly, my boy' or 'If you must, madam'. And what did they live on? A certain number lived on college fellowships, some were lucky enough to get one of the few university or college studentships, some were self-financing, and some were paid by the Professors, out of their own pocket, as assistants — not very glorified lab technicians, but with scope for and encouragement with their research. Then as now, extra income could sometimes be raised from college teaching, and for those in arts subjects, waiting in the side-lines for a fellowship, this was their only likely source of income. I do not think that any of the arts professors had cottoned on to the idea of research assistants, although I suppose, in a sense, that might have initially been the relationship between the celebrated historian Frederic William Maitland and Mary Bateson. Such individuals are very hard to trace, let alone to quantify. Once you have traced one, you can sometimes find the evidence, but as often as not this will simply appear, so to speak, as a gap in his career as shewn by Venn;<sup>1</sup> in rare cases they appear in departmental records. But an Assistant Observer, for example, in the absence of other evidence, might be either a technician or a budding academic.

There was however, as we shall see, a dawning awareness that elsewhere things were done differently. It is quite difficult to ascertain the dates at which European and American universities first offered a Ph.D. (and I have lost the piece of paper): but in Leipzig they date from the 1860s and in the prime American universities from the early 1890s.

Until the last two decades of the nineteenth century almost all of these young researchers in Cambridge were Cambridge graduates. The idea of people coming on to Cambridge from other universities to pursue research had scarcely occurred to anyone. People did, however, come to Cambridge from other universities to pursue the Tripos. Significantly, J. J. Thomson came to Trinity from Owens College, Manchester, and it was the spectacular success of the first Cavendish Professors — James Clerk Maxwell, Lord Rayleigh and J. J. Thomson, that first attracted research students from elsewhere on a significant scale. At the Cavendish there had been a paid Demonstrator, since 1874, and shortly after Maxwell's replacement by Rayleigh in 1879 there were two. J. J. Thomson meanwhile was working in the laboratory with the financial support of his Trinity fellowship.

There had been voices in the wilderness advocating arrangements for research degrees from, according to some sources, the 1860s (when Ph.D.s first appeared in Germany) but it was not until 1894 that the university finally roused itself officially to consider the strange phenomenon of the apparent desire of students from elsewhere to pursue research at Cambridge and to leave with something to show for it. In February of that year the Council of the Senate reported that they had 'had under consideration the advisability of encouraging the residence in the university of graduates of other universities who may desire to pursue in Cambridge a course of advanced study or research'. The time was ripe, they believed, for 'proposing measures designed to induce advanced students to avail themselves in greater numbers of the advantages which Cambridge [had] to offer'. Note that the idea of Cambridge graduates being so desirous had apparently not occurred to them; and that is not really surprising. In a small university good wine needed no bush, and it was well within living memory that the acquisition of a Ph.D. by a Cambridge graduate who had succeeded in remaining in the university was regarded as something of an affectation. The fact that they might have been obliged or induced to take a post elsewhere, was conveniently ignored.

The Council observed that there were three university studentships which were open to graduates from elsewhere (one in International Law, one in Animal Morphology, and one in Pathology — and some colleges were beginning to have post-graduate studentships too), but that there was no mechanism for offering advanced students any qualification as a result of their studies. They therefore proposed two

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<sup>1</sup> *Alumni Cantabrigienses, Part 2, 1752–1900*, ed. J. A. Venn, 6 vols (CUP, 1940–54).

new degrees, a B.Litt. and a B.Sc. (except that they called them Litt.B. and Sc.B. in wholly proper conformity with the Sc.D. and the Litt.D.).

Candidates for these degrees were to matriculate, to reside for at least three terms, to present evidence, approved by a Degree Committee, that they had pursued a course of research, and to present a dissertation. Almost as an afterthought, they added that Cambridge graduates might also proceed to these degrees on presentation of a dissertation. More men, they thought (women were nowhere mentioned) might be encouraged by this prospect to take the second part of a Tripos — the first part alone being sufficient, in most cases, for the B.A.

It would, they maintained ‘in many ways be an advantage to the University to have in residence a larger number ... of mature students engaged in advanced study or research’. Meanwhile, no restriction was proposed on the more casual arrangements already in place. Back in 1888 the Council had stated that ‘they did not desire to place restrictions on the power of any Professor, Reader or Lecturer to admit to his lectures or laboratory for such time as he may see fit, strangers whom he may desire to see among his audience or working in his laboratory’.

The proposed B.Sc. and B.Litt. would be complete degrees, but would not provide an avenue leading in due course, as the B.A. did, to the M.A., on the other hand those whose dissertations were ‘distinguished by conspicuous merit’ might be admitted to honorary higher doctorates — to the Sc.D. or Litt.D., which last suggestion seems to indicate that the newly created senior doctorates had not yet fully found their level in the eyes of beholders. Whichever degree was granted, these graduates from outside Cambridge, as the Vice-Chancellor (Augustus Austen Leigh, Provost of King’s) pointed out in introducing the report for discussion, would not become full voting members of the university (a prospect which he acutely suspected would cause great alarm in some quarters).

Most of this seems pretty sensible, and some straightforward improvements were suggested at the ensuing discussion. Dr Lawrence, who, in the course of an extraordinarily varied career had spent a year as a professor of international law at Chicago (he was LL.D., Cantab., 1892), suggested that the degrees should be masters’ degrees, M.Sc. and M.Litt. He hoped there would be some scope for students with less than a whole year to spare. He cast doubts, very sensibly, on the proposal that only students from universities and colleges on a select list should be admitted: the students not the universities should be tested. The idea of a select list of acceptable universities was not in itself an unusually outrageous one: such a list was maintained until quite recently with reference to the admission of affiliated students. And *if* it has since been abolished officially, it certainly exists in the minds of many.

Dr Lawrence also raised the question of women, whom, it transpired had been deliberately excluded from the report. This, it was explained, was because the Council did not want to stir up the hornets’ nest of degrees for women, who, in the event, were not to be admitted to full membership of the university, and to full degrees for another 54 years. Dr Lawrence, however, spoke highly of the women graduate students at Chicago, where they made up about a third of the graduate student body ‘and on the classical and literary sides at all events their work was better than that of the men’.

Sir George Murray Humphry, Professor of Surgery, was also enthusiastic about the scheme, insisting that it was ‘not a mere sentimental matter, but one of great intrinsic importance’. ‘Great and real advantages’, he maintained, ‘would result both from attracting more advanced and older students from other Universities and from retaining Cambridge graduates for a further period’. He went so far as to express the opinion that the university’s libraries, museums and laboratories were wasted on ‘ordinary students’ but offered great opportunities for more advanced students. ‘There was no place in the world which could offer better opportunities and advantages [than Cambridge] for higher study — and at the same time for social improvement’. Whether Humphry had sufficient experience of European and American universities to substantiate the first part of this claim is uncertain. The second part is a significant gesture to the opposition who, as we shall see, were uncertain that advanced students from elsewhere would prove to be diamonds, but were quite sure that should they so prove, they would prove to be *rough* diamonds. Cambridge wanted its diamonds perfectly faceted.

Moreover, not only would these older students be a good influence on the younger, but they would be a boon to the professoriate. On this Sir George was eloquent — heart-breaking stuff:

Nothing could be better for the Professors than to be brought into contact with older students who had studied elsewhere and would suggest new ideas and new modes of teaching. For more than fifty years he had had to continue courses of elementary teaching; it had been a pleasure to him, for he liked his subject and his students, but the continued repetition of this rudimentary work had sometimes palled, and it would have been a great pleasure if he could have worked with some older and more advanced students. With the limited opportunities of clinical teaching which Cambridge offered it could not be expected that any large number of such students would flock to Cambridge to study under the Professor of Surgery; but some might come, and such students would prove both an incentive and a delight to his successors in the chair.

So much for sweet reason. Indeed, two days after the discussion, Professor Stanton, Ely Professor of Divinity issued a flysheet with a yet more radical proposal: that the appropriate degree for such students was the M.A. which should be awarded for a degree with honours followed by a dissertation. Stanton felt that the removal of:

‘the present abuse of the M.A.’ was even more important than the encouragement of post-graduate study. ‘Though length of usage may mitigate the fault’, he went on, ‘it is a breach of a public trust that a body to which the duty has been committed of bestowing diplomas for intellectual proficiency, should grant one species of its diplomas solely in return for a money payment. The fact that it restricts the opportunity of purchasing to those who have fulfilled the conditions for an inferior degree diminishes, no doubt, the mischievousness and discredit of the transaction, but does not justify it’.

This was taking reason too far, and indeed those present at the discussion had heard other dissenting voices. Alfred Marshall, Professor of Political Economy, made radical proposals: ‘He agreed that it was unfortunate that Cambridge and Oxford had hitherto shewn so little hospitality to members of other universities. But perhaps it would be well to follow the example of the German universities, offer more facilities to students from elsewhere, and attract them by means other than offering them degrees on easy terms. It could not all be done at once, to organise post-graduate courses in all branches of study would be a matter of time. While supplying this want, they might remove a *danger*.

‘There was at present a danger that the teaching should be in the hands too exclusively of the older men, and that the supply of younger teachers preparing for more responsible work should be deficient. What was wanted was some system analogous to the German one by which the older teachers gave much of their attention to the *Seminar* while the more elementary teaching was mainly in the hands of younger men — *Privat Dozenten*. He thought that any good scheme which attracted older students from outside would be a step towards the re-organisation of schemes of study in this direction. But he feared that the new degrees might become too cheap if they, instead of more suitable teaching, were put into the forefront as a means of attracting students from elsewhere. For if the standard of the new degrees were kept high, either very few men would be attracted by the degrees, as distinct from the instruction, or most of those who did come would fail to get the degree, and be disappointed. The difficulty of getting truly original work from students was felt in Germany, and one German professor had told him that his own work was hindered because he had really to do this work for them. He doubted whether the desired end could be attained better by altering the arrangements for existing degrees than by making new degrees. The degrees of LittD. and Sc.D. had not produced all the good results that were anticipated from them, perhaps because people were invited to apply for them only at a too mature age. When a student had arrived as such an age he did not care to apply to undergo the equivalent of an examination. He suggested that the degree part of the scheme might be omitted, and the Doctor’s degree given at an earlier period, a really good essay be required for it; a requirement which could not be made if only one year

were allowed. It was even more important to develop the advanced teaching of Cambridge students than to attract others from outside.’

William Heitland, a pillar of the classics faculty, was mistrustful of the whole scheme, but thought it might perhaps be tried out on the scientists:

‘It was clear that some of the teachers of Science had got ideas as to what was wanted, though perhaps their ideas were not so clear as to how the object should be effected. It would be in every way an advantage to restrict the scheme to Science at its outset: if it proved a failure it would be so much smaller, and if it proved a success it would be easy to extend it to letters.’ As for the contention of a previous speaker, Mr Dale, that what had been described, disparagingly, as an ‘Educational Foreign mission’ was merely an extension of the existing work of the Local Examinations and Local Lectures Syndicates, clearly Mr Dale ‘had lost sight of the important distinction that what was not proposed was an alteration of statute, of the conditions on which degrees were given, an interference with a structure so complicated that it was impossible to see how far the effects of a scheme like this would extend. It was a new departure which might break up the whole system of degrees and the government of the University’.

Henry Jackson thought it unlikely that Cambridge could attract serious research students, but provided some useful information about the regulations for Ph.D.s at German universities.

But the most vocal of the dissenting faction was Heitland’s brother-in-law, William Bateson, the eminent physiologist and a man who in spite of having spent the year after his graduation researching in an American laboratory, could see nothing at all wrong with the present lack of arrangements at Cambridge. The new degrees, he claimed, were to be had on very easy terms. He divided the envisaged candidates for them into three groups:

1. those from Cambridge, of whom, he said, as many already stayed on as could afford to, and whose souls he envisaged as too lofty to be tempted by the offer of another degree;
2. those from mainland Europe and America, whom he was always glad to see, but who, when they came, were brought not by the desire to add letters to their names, but because of the stature of the professors.

He cited Pasteur (who, sadly, was not at Cambridge) and Balfour, the astonishingly brilliant animal morphologist, for whom a chair had been created in 1882, but who had tragically died in that same year. If students did not come to Cambridge in the same way as they travelled to work with men like these, he said ‘it was because the Professors had nothing sufficiently original and attractive to offer them’. Arguably true in large part, but hardly an argument likely to win supporters from among his peers.

Bateson’s third group were students from other English and Colonial universities. These he regarded with wild suspicion. Great heavens! Students from London or from Manchester might find this an easy route to a Cambridge degree. As for arrangements for research degrees in German universities, such as had been cited by way of example, he held the quality of dissertations approved there in contempt. If there were any good bits in them, he maintained, it was where that bit had been written by the Professor.

He hoped that the whole scheme would be abandoned, but that if it were pursued then it should be amended so as to exclude graduates of English and Colonial Universities. Henry Sidgwick was unclear as to Bateson’s reasons for classing English and Colonial Universities together and putting American universities in a different class. It turned out to be not some hazy notion of maintaining imperial supremacy, but simply Bateson’s observation that many students already came from colonial universities, and went through the usual course, whereas very few came from America. Bateson’s conviction that Cambridge graduates would not hanker for degrees may have seemed to him to be

borne out of present experience. This is the very year in which he started working on the basis of genetics — and he had a very able research assistant in the form of Becky Saunders, who, of course, being a woman, never *would* get a degree. His daughter, meanwhile, a Research Fellow of Newnham, was or would shortly be working, as mentioned above, with Maitland. Bateson, indeed, was a strong champion of the cause of degrees for women, so cannot be defined from our perspective as consistently aligned with the liberal or conservative university politicians.

Several of the issues raised in the discussion were to be raised on future occasions. There was the question of competition from elsewhere; the question of both the standard of the degree or degrees to be offered, and their status within the hierarchy of Cambridge degrees; the question of whether the requirements for admission and for graduation should be the same for Cambridge graduates as for the rest of the world.

There were some interesting potential anomalies: a graduate from another university might be a woman, and no provision was to be made for the students of Newnham and Girton (some of whom, to be sure, were already happily pursuing research in various university laboratories). Finally there was the underlying conflict between the complacent, who thought, indeed they *knew*, that Cambridge was the best university in the world (though with less justification than their present-day counterparts), and the realistic, who saw the University turning its back on an opportunity greatly to enhance its standing by attracting research students from elsewhere.

It was October before the Council submitted its second report. By this time there was pressure from elsewhere: Oxford in the intervening May had given approval for the institution of new degrees for special study and research (although the proposed titles of M.Sc. and M.Litt. were not approved), and by 1895 their B.Litt. would be in place. Among other things the Oxford scheme would allow affiliated students from approved colleges and universities to proceed to the B.A. in two years ‘without passing the usual examinations’ and to proceed in due course to the M.A. A similar scheme had been prepared by the Scottish Universities Commission. The Royal Commission considering the draft charter for a proposed Gresham University at London had proposed the research degree of doctor, and a similar scheme had lately come into operation at Harvard.

The Secretary of State for the Colonies had written to the Vice-Chancellor pointing out that, for lack of adequate encouragement to come to Cambridge, Canadian students were going to foreign universities for their post-graduate work.

The Council, therefore, reacted to this crisis in the best Cambridge manner: it proposed the setting up of a syndicate to consider the matter. Not, however, without exposing to view new proposals of its own, viz. that students who could provide evidence of academic fitness, and who were aged at least 21, should be allowed to study for the degrees of B.Litt. and B.Sc. by dissertation; they were to be distinguished in title from undergraduates and to have library privileges on the same basis as undergraduates who had passed Part I of a tripos. Cambridge graduates were to be admitted if they had passed either Part I or Part II of a tripos, either in the course of their original studies for the B.A. or subsequently.

Note that this proposal did not actually specify that students from elsewhere should necessarily be graduates, and for this reason the Vice-Chancellor (still Austen Leigh) felt unable to sign the report, stating that ‘it would be a very serious thing to ask the Senate to provide students who objected to examinations with an easier avenue to a degree avoiding both the Scylla of Greek and the Charybdis of mathematics’. Why, the very idea!

And as to this threat from Oxford: ‘There were times when it was desirable for the two universities to act together, as for example in obtaining legislation, but as a rule it was much better that each should pursue its way independently. It would be a misfortune if either university were led into anything like servile imitation of the other’. Now there’s a sentiment which even now might raise a cheer in the context of governance!

Several of those who had opposed the first report rose to their feet again in the discussion of the second, among them the implacable Bateson, still alarmed at the prospect of a back-door to a Cambridge degree being offered to English students, who would now be able to qualify after one year at Cambridge. No real research was possible in one, or even 2 years. As to foreign universities: 'He could not regard as genuine students the majority of those Americans who now went to the German Universities and took up some subject like Political Economy or Psychophysics without any serious intention'. (Marshall, as Professor of Political Economy, and here Bateson's natural ally, must have loved that!)

For these despicable beings Bateson coined the phrase 'degree hunters', and he continued to insist that 'the *real* students would come without the attraction of the degree which would bring only those who were not wanted'. Heitland again supported his brother-in-law, stating that no gentleman, that is no classicist or theologian, would be attracted by the degree, but that it might be all right for scientists.

Professor Jebb expressed ironically his pleasure that the teaching body had at last been consulted, 'better late than never'.

A lunatic named Griffiths lamented the fact that those who had only achieved a pass in the Ordinary (non-honours) B.A., should be excluded. Those who had experience of overseas universities, however, rose to their defence, and to that of the 'degree hunters', although both Alfred Marshall and, more surprisingly Henry Sidgwick, chose to sneer at German dissertations; Marshall disparaging the German process whereby research students acquired 'a fragmentary knowledge of some small class of out of the way facts, out of which they could make a thesis that had the air of originality.' Mr Breul, later to be the first Cambridge Professor of German, defended them. Dr Donald Macalister, later to be Vice-Chancellor and then Chancellor of Glasgow University, argued for the good effects wrought by research students on their teachers, and prophetically envisaged the University moving from being a place of elementary education to being an international university.

As I said, the proposals in this report were, in any case, only by way of a litmus test; the syndicate was duly set up and duly reported some months later. The Syndics had been carefully chosen to include men who had expressed strong views, either way, in the discussions: J. J. Thomson and Donald Macalister from among the advocates for research degrees and William Bateson and Alfred Marshall from among the doubters. Wonderfully, they all signed the syndicate's report.

And what was proposed? Why, that post-graduate students should be allowed to come, either for taught courses or for research, and that they should indeed be allowed a Cambridge degree, to wit, the mystical and magical B.A. As Henry Jackson magically put it, 'to offer a degree which was not in Arts seemed too little to offer to graduates of other universities'.

Dr Lawrence had, in any case, been almost alone in the discussion on the first draft of the report in objecting that nearly all students coming to Cambridge for advanced courses would already be B.A.s, so Jackson's rhetoric prevailed, and the ground was neatly cut from under the feet of the opposition. There was to be a minimum period of residence of six terms, and two routes to the degree: courses of advanced study, which involved taking a part of the tripos, and courses of research by dissertation. Degree Committees were instructed to draw up standards for the courses of advanced study, some demanding a first class in Part I or Part II, some a first or second in either Part I or Part II, and so on.

This, after the usual ritual tweaking, was the scheme adopted. It was soon to be criticised.

In February 1901, a Memorial, with 76 signatures raised four objections:

1. That admission to such courses were at the sole discretion of the chairman of the Special Board concerned;
2. That although such students might be admitted to Tripos in their third term, six terms of residence were still required for a degree;
3. That, on the other hand, although such students might be admitted to Tripos in their third term, they might also be admitted in *any* subsequent term [their fiteenth perhaps?]

4. That having failed a Tripos, such candidates might, with the permission of the Degree Committee concerned, re-sit the Tripos.

Such laxity, in the Memorialists' view, debased the holy Tripos; they thought it better that all advanced students be required to undertake a course of research; they further objected to the freedom whereby dissertations might be submitted in 'the third or (again) *any* subsequent term', and the apparent scope for re-submission.

The Memorial provoked a Report of the Council on 3 June, which expressed the Council's satisfaction with the Regulations in so far as they concerned those admitted to a course of research. The Registry had reported that since June 1896, 45 students had been admitted to courses of advanced study [the Tripos option] and 67, including 10 who had first taken the Tripos, to courses of research. Of the 45 who had taken the Tripos option, 6 out of the 11 who had actually sat the Tripos had passed. The rest had decided that discretion was the better part of valour. These figures gave the Council especial pleasure, proving, as they seemed, that the Tripos was not the soft option described by the Memorialists.

Of the 67 who had taken the research option, 32 had submitted dissertations. A total of 34 advanced students had actually proceeded to a degree: just over 50% of the total. The figures were used as an argument that foreign and colonial students came for the opportunity to study rather than as 'degree hunters'.

As to the precise objections of the Memorialists, the Council decided that, as most applications arrived in the Long Vacation, it was not practicable for them to be put before Degree Committees, but that the Chairman should report his decisions to the first meeting of the Committee of the academical year, and that he should, if intending to be away from Cambridge, appoint a deputy to handle applications. On the question of those who, needing 6 terms' residence for their degrees, had nonetheless submitted to the Tripos at the end of their third term, but were not intending to proceed to a dissertation, the Council decreed that Degree Committees should arrange for them receive direction and supervision of their further studies. As to the possibility of advanced students spending several years in preparing for the tripos, the Council were relatively unmoved since, they argued, the Tripos was for such students neither an honours examination nor a competitive one, merely a matter of pass or fail; but not wishing to see time squandered they suggested that those sitting Tripos should normally do so no later than the tenth term after their admission. On the question of being allowed to re-sit the Tripos the Council graciously conceded to the Memorialists, and proposed an alteration to the regulations such that no candidate could sit the same examination twice. They also made provision for Degree Committees to lay down a period of time at their discretion between the submission of a dissertation deemed to be substandard and its re-submission.

So things continued for another decade or so, and you might think that, teething troubles over, these 'advanced' students were faced with nothing too demanding; but apparently not so: when the General Board reported in 1912 on the regulations for advanced students they produced even more remarkable figures than those of 1896. Of 101 students admitted to courses of advanced study, that is the tripos option, only 35 had succeeded, 18 had failed to reach the required standard, and the remaining 48 had chosen not to put themselves to the test.

There was great discrepancy between faculties. Natural Sciences, which attracted most students, had admitted 20. Of the six who, as required, took Part II, only three had reached the required standard: 85% left without a qualification. In Law the figure was 93%. On the other hand, of the six students in Oriental Languages, four had qualified. Professor Rapson deplored the Report which he regarded as retrograde and as abolishing 'practically the only opportunity which the University afforded for advanced studies', and as having disastrous effects on certain subjects, notably, of course, his own, Oriental Studies; where, it transpired, a large percentage of candidates for the tripos were, in fact, Advanced Students. Rapson also argued for increased facilities for admitting advanced or research students for subjects for which there was no tripos, Assyriology for instance, for which 'there was no place in the world where that subject could be studied with greater advantage than at Cambridge at the

present time', or Egyptology, where the excellent collection being acquired by the Fitzwilliam would be of inestimable benefit. In general Rapson's arguments, if such they were, served only to confuse his auditors.

Stanley Gardiner (Zoology) made more sense: the question was of directing potential students from elsewhere to the best route for them: as affiliated students they took both parts of the Tripos; as research students they should be required only to take Part II. He gave a good account of the current problems:

[In his own department] eight students had directly or indirectly applied for admission as Advanced or Research students. [By 'indirectly, he referred to those whose first approach was to the relevant Professor.] Of these eight he had persuaded four that it was of no use for them to come to the University at all. It was impossible for these four ... to do research work that would do credit to the University, and he did not think that any one of them would reach in two years the standard required for passing part II of the Tripos in the first class. Authorities in the Universities of these four wrote to him with regard to three of them, and it was a rather curious thing that in two cases it was definitely stated that they desired to take the degree by examination. He wrote back that they could become Affiliated Students. As a matter of fact, their becoming Affiliated Students under the existing regulations would be of little use to them. They had already done the elements of the subject and to do it again for Part I of the Natural Sciences Tripos would be of little or no advantage to them. What would be of use would be for them to go straight to the advanced teaching of Zoology and then take Part II of the Tripos. This was exactly what was proposed by the General Board. Of the four applicants who proceeded with their applications, one, at any rate, went on against his wish. However, his testimonials were such that he had to be admitted, and if he would continue research for four years, in the first two preparing himself by learning, he might do something. It would be better for two, if not three, of them to proceed by examination.

In more general reflections Gardiner stated that the first duty of the university was to the universities of their colonies and of the Indian Empire, which universities were very sparsely staffed, and that, by inference, such students needed additional training before embarking on research. It should be made easier to change status, from Advanced to Affiliated Student.

Professor Seward (Botany) rose to rebut Rapson, and gave the view from Natural Sciences: 'of 20 men who had entered as Advanced Students, presumably intending to take the Tripos, 14 had disappeared, three passed and 3 took the examination but failed to reach a first class standard'. Clearly basic Cambridge training was the only thing that really equipped a man for the job.

Professor Burkitt gave the view from Theology, starting with the premise that "research" meant such very different things and was of such very different value in different departments of study'.

He was given to understand that in the Natural Sciences any man could go in usefully for research, but in Theology what was dignified by the name of research means, so far as Research Students were concerned, a second-rate dissertation which might just as well never have been written, and if written had better be thrown into the fire [if not, indeed into the burning, fiery furnace]. The thing that was called research, and —called by that name—sounded so grand and magnificent, was really a mere exercise of not greater value to learning than what was written in answers to questions in the Tripos; and therefore the Theological Board, whilst recognising the value of this dissertation work for other subjects, had always done their utmost to encourage their own Advanced Students, who were generally advanced in years but not very highly advanced in their subjects of study, to go through the discipline of a prescribed course of study which would be tested at the end by an examination, rather than to write an immature dissertation. He had seen several of these dissertations in theology. One of them was written by a distinguished man, distinguished at the time, and more distinguished now, but as regarded most of the others one wondered why they had been written except for the purpose of getting a degree' [doubtless an ungodly purpose].

Professor Ridgeway supported Burkitt, but backhandedly, pointing out that whereas in other subjects Advanced Students were required to attain to a first class in the Tripos, in Oriental Studies and Theology and second was deemed sufficient, which was NOT FAIR. He also argued that the proper course for those intending to submit to examination was for them to enter as Affiliated Students in which case (a) it did not much matter what class they achieved, and (b) they were not sent out into the world, or indeed regarded in the university, under false colours of learning. He also threw interesting light on the social standing of such students within colleges. It had, apparently, been urged on the General Board that it 'would be hard for these men [affiliated students] to sit along with freshmen in the college halls, but that was a matter for the colleges themselves. In his own college affiliated students were allowed to sit with the B.A.s, just as Advanced Students were'

A further report, in April 1913, finally suggested the abolition of the Tripos route (although students from elsewhere could still enrol as affiliated students, and take the tripos in two years), and post-graduates, now to be called research students, were to proceed by dissertation. It also suggested alternatives to graduation certificates as a ticket for admission, with allowances for applications from non-graduates to go to the Council of the Senate. From now on successful dissertations were to be deposited in the University Library.

In the Discussion of this report W. L. Mollison, speaking as Secretary of the General Board, observed that, 'In the old regulations, the work submitted had to be "of distinction as an original contribution to learning or as a record of original research"'. The General Board were of the opinion that the word 'distinction' was perhaps too strong to indicate the merit of the various original contributions that had received the approval of the Degree Committee ... and ... [had] substituted the word 'merit'. The General Board had, however, no intention whatever of suggesting any lowering in the actual standard of work to be required of Research Students'.

In the shadow of World War I things moved a little faster: in 1914 the bold decision was taken to grant Certificates of Research to women via the same regulations under which they were granted to men, the General Board having been informed, perhaps by telegraph from India, or some other place where the fact was well known, 'that women who have graduated at other universities come to Cambridge for purposes of research, and that there are women students who, having gone through the Cambridge course, and having passed a Tripos examination, or examinations, pursue their studies further by engaging in research'. These Certificates, unlike those for men, were to be issued by the Local Examinations Syndicate which at this time was responsible for issuing the famous Certificates allowing women to use the titles of their degree, the 'B.A. tit.' The Discussion of this report included a characteristic contribution from Dr Mayo, too good to pass over. He 'did not propose to offer an objection to the principle ... for he recognised that it was far too late in the day to maintain the old fashioned view that it was inexpedient for the University of Cambridge to take an corporate cognisance of female education'.... 'There was, however, this disadvantage, that the more lady students they had, the more congested became the very few departmental libraries which they possessed. The intrusion of ladies into departmental libraries was so constantly on the increase that inconvenience might be expected in the near future to accrue to members of the University'.

AND in 1917 regulations were approved, in the face of further pleas for a doctorate from, among others, J. J. Thomson, for the granting of an M.Litt. and an M.Sc. for research, and for a B.Litt. and a B.Sc. for an advanced degree by examination. No such degrees, however, were granted in the next few years.

This was not because the standard had been set too high. It was because somehow no one had got around to drafting regulations for the degrees.

There is scope here for research which I have not yet found time for: the responsibility will have rested ultimately with the Registrary, John Neville Keynes, who was one of those who had been opposed to the creation of research degrees of the sort that led ultimately to full, voting membership of the University. On the other hand, even in the relative sanctuary of Cambridge, there were other problems in the next year or two. He may have just been too busy coping with *them*.

Finally, in 1919 the proposal for the Ph.D. made it, and the first one was approved on 17 May 1921, some 13 months after the establishment of what was then called the Board of Research Studies. Already complaints had been heard, not so much from the candidates, as from their supervisors, that it was Too Hard, and that it took more time than some people could spare. The 1917 proposals for an M.Sc. and an M.Litt. were revived, not without some unhappiness that it might be regarded as 'Ph.D. failed', and in October 1928 the first M.Sc. was awarded.

So much then, for the struggles of the Truly Enlightened, and the obfuscations of the rest. One of the recurring themes, not often, if ever, stated in so many words, was the tension, or at least the perceived tension, between offering on the one hand a desirable package to research students from abroad and from home, and on the other of maintaining the highest standards of the day, and, perhaps above all, an exclusively Cambridge-bred Regent House.