THE PROBLEMS OF UNIVERSITY MEDICAL EDUCATION IN LONDON:

TWO YEARS' EXPERIENCE OF CONCENTRATION.*

BY

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Two years ago the Charing Cross school adopted the policy of concentration of its earlier medical studies, transferring its students for this purpose to the King's College Laboratories of the University of London, immediately adjacent to the school. The time now elapsed has enabled one to form an opinion of the effect of this change on the character and work of the school and of the university laboratories.

ADVANTAGES.

It has had advantages to the students, to the school, and to the university laboratories. To the students in giving them access to the best scientific education which the University of London can at present give; to the school in freeing its laboratories (hitherto devoted to chemistry, physics and biology, physiology, and anatomy), its energies, and its finance, for the final portion of studies more immediately and legitimately connected with hospital work; and to the university laboratories in providing them, in our case, with a very considerable number of students, with corresponding increase of income, and a greater stimulus to their laboratory work and to their scientific teachers. The effect of the change in these three respects may be considered separately.

Number of Students.

As regards the number of students, there has been no falling off in the number either of earlier or final students. On the contrary, there has been a marked increase—from a total of 109 in the school in the year 1910-11 to an average of 150 for the past two years.

The total number of new students who have become connected with the school for the earlier and final studies, and for special studies connected with the final studies, has been no fewer than 140. The interesting feature is that 133 of these have taken the medical course, 23 of whom joined for the earlier studies, 41 for the final, and 69 for the special courses.

These students, like all other students of London, fall into two classes—full-time and part-time students. The net result has been a gratifying increase of full-time medical students now connected with the school, and a very striking increase in the number of part-time medical students, which rose from an average of 4 or 5 previously to 48 in the first year after the change, similar numbers have been retained during the past year.

Quality of Students.

As regards the quality of students, there has also been an interesting change. Instead of being half medical and half dental, the school is now practically entirely medical, only a few dental students remaining. Further, nearly one half of the full-time students entering the primary and final school are studying for the degree of the University of London; the standard of work has been good, with perhaps the highest record of honours which any school has probably ever shown in the same period of time. During the past two years the distinctions of the Gold Medal M.D. of the University of London, the Gold Medal M.B. of the University of London, the Murchison Scholarship in Clinical Medicine (open to young graduates of all schools of London and the University of Edinburgh), the gold medal with prize of £45 awarded by the Medico-Psychological Association, and, finally, the Rabbeth Scholarship of King's College Laboratories for the earlier studies for medical degrees of the University of London, have all been gained by students of the school.

The good spirit animating the school has also been evidenced even in the field of sports, where they have been able to fight through into the semi-final in spite of the handicap of their relative small numbers.

CHANGES IN THE SCHOOL.

The changes effected have been of a very extensive and radical character. The school has been able during the

past two years to greatly increase its accommodation for general pathology, bacteriology, public health, and sanitary science work. The large departments formerly devoted to earlier studies of chemistry, physics, biology, physiology, and anatomy have now been completely reorganized and adapted for the above final studies.

University Laboratories of Public Health and Bacteriology.

The increase in the number of students transferred into the university laboratories—in connexion with which two of the members of the Charing Cross staff (lecturers in anatomy and physiology) were taken over by the University of London, King's College—necessitated further room for the various classes for the physiological and other departments in the university laboratories. Later in the same year negotiations were therefore opened, and finally completed, by King's College with Charing Cross school with a view to transferring the bacteriological and public health departments of the college to the premises rendered vacant in the school by the transference of these earlier studies to King's College. These departments were eminently suitable by their character, proximity to King's College, central situation in London, and detachment from the hospital for university studies, affording greatly improved accommodation as well as space for considerable expansion. The cost of the structural alterations and fittings was met by the school, and under an agreement with the University of London, on behalf of its King's College, the transference of the bacteriological and public health departments of King's College was finally effected in October, 1912.

In order to assist the university laboratories the school, in addition to carrying out extensive alterations, has undertaken to make (out of the rent received for the use of these laboratories) a contribution of £250 a year towards its upkeep and maintenance, and in respect of the instruction in public health given to its students.

The laboratories were formally opened and handed over to the university authorities on behalf of the school by Professor Simon Flexner, the Director of the Rockefeller Institute, New York, on the occasion of his delivery of the biennial Huxley Lecture in October, 1912.

The accommodation provided comprises a large class laboratory, research laboratories, professors' laboratories and lecturers' laboratories, for each department of bacteriology and public health respectively, with a photomicrographic laboratory, preparation rooms, large theatre, and library for the joint use of the two departments.

ADVANTAGES OF CONCENTRATION.

These arrangements have proved of mutual advantage alike to the University of London, King's College, and to the school. To the college it has proved of great service in not only providing greatly improved accommodation for its bacteriological and public health work, but also in setting free the laboratories vacated at King's College for the greatly needed increased accommodation of their physiology, psychology, and zoological departments.

To the university the change has also been recognized as being of great importance in connexion with the teaching of hygiene and public health, and forms the subject of a specially approving comment in the final report of the Royal Commission:

We think all the university medical students might receive their instruction in these subjects of hygiene and public health wherever it is most convenient to provide for it. King's College has recently taken over the laboratories formerly used by Charing Cross Hospital Medical School, and has thus greatly improved its accommodation for research. We are not prepared to say that the subject of public health is adequately provided for at present in London, but we think adequate provision may be made by developing what now exists. The department should not be confined to the instruction necessary in the ordinary course of the medical curriculum. Instruction must be provided for the degree of M.D. in State Medicine, and, moreover, the subject is one in which there is great room for research in many directions.

To the school the advantages of the change have been that the whole school is now entirely adapted to final laboratory studies and research.

The pathological and bacteriological departments of the school are now provided with excellent laboratories—the laboratory of general pathology being capable of accommodating 100 to 150 workers. A reorganization of the department has been carried out, under which the work

* This report was presented at the opening of the winter session.

and duty of co-ordinating, of stimulating, and promoting research therein has been placed upon the Senior Lecturer as Director of Pathology. A new appointment of Research Fellow and Assistant Lecturer in Pathology in immediate charge of the pathological laboratory has been instituted, the first holder of this post being a former recent Carnegie Research Fellow in Pathology of the University of Glasgow, and arrangements have been made—when means shall permit—for two additional full-time appointments of demonstrators and research scholars.

The result of the concentration above described and of the developments connected therewith has been that it has been possible to expend a total of £1,500 on laboratory teaching, equipment, and research, and other final studies, as compared with the quite inadequate, almost negligible, amount which, owing to the cost of the earlier scientific studies, it was previously possible to expend.

The advantages, alike to the university, to King's College, and to the school, of the policy of concentration have thus been of an interesting and even striking character.

The question may be asked—as it has been asked—What have been its attendant disadvantages, either to the university, King's College, or to the school? I know of none.

The university and its King's College have, in my judgement, adopted a wide policy, capable of extension to other schools, of utilizing laboratories convenient for its purpose in its own schools wherever they can be found; and concentrating the professorial and teaching staff of individual departments of its scientific work wherever the situation of the laboratories is most convenient to its workers and students.

In the present case, as I understand, the effect on the University Public Health Departments which have been transferred, both as regards numbers and workers, prosperity and facilities for research, has been good. This has recently been recognized by the promotion to the rank of assistant professor and lecturer in the university of two of the teachers in these departments. The numbers attending the laboratories have increased from 69 in the year preceding the transference to 101 workers during the past year.

As regards the school, the fear often expressed that concentration of studies would interfere with the social life of the hospital and school—a matter to which so much importance has always been, and still is, rightly attached—has proved in our case to be quite groundless. The social life of the students, their interest in their Students' Union and its many spheres of activity, has never in the whole history of the school been greater or more intense. It has been shared equally by the earlier students as by our final students. As a matter of fact both secretaries of the Students' Union for the past two years have been students taking their earlier studies. At no time has the spirit of the school—in connexion with the functions of the students' union and the activity of its branches of athletics—been so well shown.

One fact connected with the recent changes, already noted, has been the reduction in the number of dental students. As already seen, this has been compensated by a still larger increase in the number of medical students. But, on the other hand, any disadvantage connected with this change is, in my opinion, compensated for by the increased number of students available for the two or three schools in London who are specially interested in dental education, and by the prosperity which the increased number of students has brought to them. In other words, the policy of concentration adopted in this school with many advantages, has thus produced a corresponding concentration of dental students in at least two other schools, with increased prosperity to them.

The principle of concentration is sound, but the principle of *local* concentration, of getting everything into one building, or in the case of clinical studies into one hospital, is not sound, because it would require such a total alteration of everything connected with hospital traditions, management, and work that it would not be received. The hospital system is not a difficulty if it can be utilized in accordance with the English traditions of clinical medicine.

As regards the provision of laboratories and facilities necessary to supplement the hospital clinical teaching in the case of the London schools, the laboratories are there, the equipment is partly there, and all that is wanted is for

the university to come and take hold of them, to equip them, and place professors, assistants, and research workers in them wherever these laboratories are suitable for the individual departments of studies. University students, if given access to university departments in the different schools as they should be given, will always concentrate for work in these individual departments, irrespective of any feeling that they are going to the individual schools in which these laboratories may be situated.

THE PROBLEMS OF UNIVERSITY MEDICAL EDUCATION IN LONDON.

Medical education has been a welcome guest, and has had a free run in all the school hospitals from the very first. This is in striking contrast to the experience of medical teachers elsewhere—for example, in Berlin, the capital of Germany, where all the hospitals refused to allow students to make use of them, and early in its career (twenty-five to thirty years ago) the Government was, in consequence, compelled to build—at first for its own war purposes, but now maintained for university purposes—the great Charité Hospital of Berlin.

Still more in America up to the present time, the greatest difficulties have been put in the way of medical schools by the governors of hospitals refusing or limiting their permission for students to attend.

In return for their free use by the university, the hospital governors in London have never asked or received any material or other recognition from the university.

Comparison between English and German Systems.

This freedom of the hospitals throughout the whole history of English medicine forms the basis of the chief English clinical traditions of medical education. They were thus described before the Commission by Mr. Flexner:

The conditions are much more favourable here from the point of view of the undergraduate student than anywhere on the Continent. The entrance to the wards is much easier. In Germany the student gets *almost altogether demonstrative teaching* during his undergraduate period. It is not till the close of his formal education that he is compelled to serve a clinical year in the hospital. (He is taught in a large lecture theatre every morning for an hour or an hour and a half, and then in batches of fifty or sixty he is taken round the wards for an hour twice a week.)

[In England, on the other hand, he spends on an average four to six hours daily in the wards for a period of three years before he qualifies.]

The opportunities for seeing sickness in the wards which you give the ordinary boy are so good—are so much better than he gets at most places—that that has itself become an obstruction to anything better. The clinical training is immensely better than it is in the ordinary medical school in America, and I think in some respects the conditions are *immensely more favourable* to the student than they are in Germany. The student in England can really use his material; he has almost as easy access to his patients as the physician has.

There seems to be nothing here materially wrong with English methods, and more particularly with the relations of hospitals to medical education. On the contrary, the relations between the university and the hospitals have been as friendly, elastic, and mutually helpful as they have always been between the hospitals and their medical schools. Moreover, these relations have been all-important in medical education in England—for without them medical education in England would never have been started in the first instance, and would even now be largely non-existent.

The Great Task of the London Schools in Medical Education.

How great the task of London medical education has been, and still is, is shown by figures and statistics which I placed before the Royal Commission. The medical schools of London, up to as recently as twenty years ago, were responsible for the entire medical education of no fewer than 70 per cent. of the total students of England, and for the part-time education of another 10 to 20 per cent.—that is to say, of no less than 80 to 90 per cent. of the students in England, this number constituting no less than 42 per cent. of the entire students of England and Scotland. Despite the formation of seven provincial universities during the past ten to fifteen years, it still has to educate, in whole or in part, over 70 per cent. of the total students in England, and over 40 per cent. of the total students of England and Scotland.

The medical schools of London have thus discharged in the past, and still continue to discharge, a big task for English medical education—and they have done this under great and increasing difficulties without endowment and without the slightest pecuniary support from the university whose students they educate.

Even if great difficulties exist—as they undoubtedly do in an almost overwhelming degree—as regards the working of the schools and the prosperity of the university which they so laboriously serve, it might be thought these difficulties did not extend to the relationships of the hospitals to the university or their willingness to serve the university.

What, then, is the chief problem presented by university medical education in London? It is represented to be the hospitals of London—their number, their intense interest in education, their multiple energies, the difficulty of reconciling their existence and their energies with the grafting on to them of another system of education and hospital control necessary, it is alleged, for the establishment of an ideal system of university medical education.

Educationalist View.

Mr. Abraham Flexner put the matter from the educationalist point of view as follows:

1. To put the teaching of medicine on a university basis, it is absolutely essential that the university should be in complete control of its own hospital. The purpose of the change is to elevate the general level and to make England a contributing factor to the progress of medicine, which now, except by individual accident, it is not.

2. The mistake is that the English schools have so long produced a good working type of physician that they have not stopped to ask: "Have we improved our clinical teaching to keep pace with the improvements the laboratories have placed at our disposal?" That, of course, they have signally failed to do.

3. I think, if you will ask the productive London physicians whether their productivity is in consequence of the English system of medical education or despite of it, they will tell you that it is quite in its despit—it does nothing for them. What is wanted is to make more prominent the educational aspect of the training.

4. Not only are the London hospitals disorganized when looked at as a whole, but they lack each of them internal reorganization.

You will at once have to begin to reorganize the hospital service, but that would be very easy, if you reorganized your Faculty. The reorganized Faculty will very soon reorganize your wards.

Here, then, is the picture of English medical education as it is drawn by a distinguished American educationalist (not a doctor). It is sharply outlined, and if the shadows are too deep in places and wrongly placed, his object is the highly laudable one, beneficial to education, of directing attention to the existence of the picture at all—not necessarily to its completeness or absolute technical accuracy. Personally, I feel that no one interested in the future of medical education and medical science can fail to be grateful for having had this picture of our English system of medical education put so clearly before us—not only in its higher lights of the special clinical advantages which our students enjoy, but also in its deeper darks of the incompleteness of the provision we make for laboratory work.

The problems facing university medical education in London, as here presented, are thus the following formidable ones:

1. To create, in the first place, a university which will be concerned and *financially able* to give any education at all to its students in their final hospital and school studies. For this the University of London has, so far, never done.

2. To create a *new Senate*, limited in number to ten or fifteen men, with the fullest financial, administrative, and executive control, over the whole affairs of the university.

3. To create a new *Faculty of Medicine*—small, compact, and sufficiently business-like in its methods to be able to draw up a scheme, after negotiations with one or more hospitals, and induce them to hand their hospitals over for university purposes.

4. As regards the hospital governors—the problem placed before them by the newly organized Senate will be to allow this university Faculty to modify their entire existing arrangements in some radical manner to suit university requirements—in short, to control the hospital—the hos-

pital managers to continue, as before, to devise schemes for obtaining from the public all the money necessary to keep the hospital going.

5. There is a fourth problem—most clearly presented by Sir William Osler in his evidence before the Commission.

He was asked:

Supposing the hospital governors refuse to hand their hospital and its control over in the way suggested, what influence of a compulsory character could you bring to bear upon them? and the reply was: I do not know, sir.

NATIONAL CHARACTERISTICS IN MEDICAL SCIENCE.

National characteristics play an important part in medical science as they do in all other spheres of human activity. They have played an all-important part in the development of English medical education and medical observation.

In the case of English medicine that characteristic has been *individualism*, shown in connexion with the foundation alike of hospitals and schools, and no less manifested by the individual philanthropy which originally created and still underlies and supports the English hospital system.

In the case of Germany the national characteristic has, on the contrary, been essentially governmental and bureaucratic, all hospitals and medical faculties being supplied and maintained by combined State and municipal aid.

In America there has been exhibited individualism—rampant to a degree quite unknown in the history of any country—condoned, connived at, and even legalized by a degree of recognition and support on the part of individual States and municipalities totally unknown in the history of medicine in this or in any other country. No greater service has ever been rendered to American medicine than the full, clear, and remarkable exposure recently given by Mr. Abraham Flexner of the proprietary nature of scores of the medical colleges, "institutes," quasi-universities, "national medical universities," "colleges of physicians and surgeons," etc., which for many years have given their M.D. in a frankly commercial spirit. One of the offers made by one of these institutions having an attendance of 150 students is "free transportation from Chicago to Vienna by way of New York, London, Paris, to any graduate who has for three years or more paid regular fees in cash." This school, apparently owned by the "dean" and bearing the title of "National Medical University," has "no equipment of any sort, and a dirty, unused, and almost inaccessible room as its dissecting-room; and its 'hospital' consists of a top floor, containing two lonely patients." Despite these limitations it enjoyed the happy and considerable (estimated) annual income of £4,500.

The Carnegie Foundation for the Advancement of Teaching.

These conditions set out in Mr. Abraham Flexner's report (1910) in many of the 148 "medical schools" of the American States must have been, if possible, even worse some thirty years ago, when the Johns Hopkins Hospital and University were first conceived and founded.

It is a great biological fact, and new pathological law, that every "toxin" has the power of producing its own "antitoxin," powerful and effective in proportion to the virulence of the original infection. The history of medical education in the United States during the past twenty-five years has afforded a single proof of the correctness of this law in the realm of medical education. Great evils produce great antidotes.

The evil of medical education in America—namely, individualism and individual "schools" and "colleges" run rampant—has been signally checked, and is in process of being in due course effectively arrested by a still greater individualism originally created by the munificent foresight of one philanthropist, Johns Hopkins, and given effect to by the brilliant imagination and practical genius of a young pathologist, Professor Welch, to whom at the early age of 28 was entrusted the unique task of formulating the conditions and selecting the professors for the first Faculty of Medicine to govern the new "Johns Hopkins Hospital and University" of Baltimore. His first selection was a young Canadian physician professor, educated in the McGill University of Montreal and in London in the best clinical traditions of English medicine, transferred to the

University of Pennsylvania in Philadelphia, thence transferred to the Johns Hopkins University in Baltimore, and finally finding his present home in the ancient University of Oxford—Sir William Osler.

No more interesting chapter in the history of medical education—its aims, objects, and needs—has ever been written than that written by these two men during the past twenty-five years. Both of them are happily known personally to the students of the school—Professor Welch in the capacity of Huxley Memorial Lecturer to the school in 1902, and Sir William Osler when last year he fittingly occupied the chair when the Huxley Lecturer was one of his most distinguished pupils—Professor Simon Flexner, the Director of the Rockefeller Institute, New York.

I have recently elsewhere, in the opening address of the McGill University, Montreal, in 1910, paid my tribute to the influence of these two great teachers on the science of medical education. I said:

Under their aspiring spirit and guiding hand, supported by their enthusiastic colleagues and pupils, Anglo-Saxon medicine on the American-Canadian Continent has shown itself capable of combining in a degree unknown to English medicine the scientific spirit underlying German work and methods with the more great clinical practical outlook which throughout its whole history has specially characterized English medicine.

That tribute paid three years ago, without any reference to the problem of medical education in London, has an interesting significance at the present time. For it practically embodies the *Leitmotive*—the note of “fate and gloomy sorrow” which runs through the whole of the evidence of the Royal Commission on the University of London with regard to medical education—the *motif* which has eventually determined their final recommendations. That *motif* is the excellence of English clinical traditions in hospital work; and the extraordinary defectiveness, insufficiency, inadequacy, absence of organized support, whether from Governmental and public services, or by public opinion, or by private generosity, for the provision for laboratory work and research necessary for the promotion of medical education or the advancement of medical knowledge.

What, then, was the antidote which these pioneer workers introduced into medical education in the United States as they found it in the eighties, and as it still exists to a degree quite unknown in English medicine? It was the following: that Sir William Osler introduced the clinical traditions of clinical teaching—by the system of clerks and dressers in the wards and continuous relations with and observation of patients; while Professor Welch grafted on to that system the all-essential, supporting, educational, and progressive system of great laboratory institutes created on the lines of German methods and example. This was possible in their case, for they had a clean slate to write upon—a free hand both as regarded money for their hospital and school and as regarded the organization which they saw fit to adopt.

The proposals now submitted in evidence before the Royal Commission on University Medical Education in London and ultimately adopted and recommended by the Commission are shortly that similar organization is necessary to create the proper conditions for placing hospital education in London on a university basis.

Inasmuch as the chief basis of the whole system is the English clinical traditions of hospital education—the system of clerks and dressers and facilities for hospital work, and assistance always freely granted by hospital authorities in this country—is admitted by all to be immensely superior to the system obtaining in any other country, it might be thought to be perfectly easy and practicable to graft on to this system for university purposes the laboratories necessary to supplement and complete the system.

I think myself that that is perfectly practicable, and, the matter having now been referred to a strong Departmental Committee of the Board of Education to draft a bill to carry this into effect, so far as this portion of university education is concerned, I am quite prepared, in common with every one interested in placing university education on a sound basis in London, to afford them every help in my power. The character of the Departmental Committee is to my mind a sufficient guarantee that due weight will be attached to the distinctive national characteristics and honourable traditions of English medicine, which have been far more fruitful in advancing medical knowledge than some of the

sweeping generalizations submitted by witnesses before the Commission realize.

Still more, I am satisfied that the widely different conditions of hospital management and support peculiar to this country and to institutions like the Johns Hopkins Hospital and a few other American hospitals and quite unknown to Germany—to wit, the voluntary public charitable support and government of the hospitals in this country, as contrasted with the Governmental or municipal autocratic and endowed support and government of the German and American hospitals and universities—will be better known to that Committee than they could possibly be to witnesses unacquainted by practical experience with their working, and more fully weighed by it.

To pour new wine into old bottles is proverbially a risky business which it is said no wise man would attempt. To pour a German full-bodied wine compounded of full control of the Minister of Education, exchequer control in connexion with insurance money, municipal control and autocratic directing control of one professor over the whole of a hospital and of all the laboratories connected with his subject, would certainly burst the old bottles (quite decent and useful ones) of the entire voluntary system of hospital support and government existing in this country.

To change the metaphor, as one witness, a physician and teacher—himself eagerly in favour of reform—graphically put it, it would undoubtedly “upset the whole apple-cart” of reform of university clinical medical education in London.

The problem is one of the greatest difficulty. So far from subjecting the Commission's report to criticism, with regard to the individual recommendations, my own opinion is, after the closest perusal of the whole volumes of evidence submitted, that a satisfactory solution of the problem of university reform in London, including that of medical education, is to be found in connexion with its fundamental recommendations, in my judgement admirable in character, relating to:

1. Government by the university court.
2. Financial administration and executive control by a compact and limited Senate of 17 business men (instead of an unworkable Senate of nearly 100 men representing independent and, in many cases, opposing interests).
3. The creation of a small, compact Faculty of Medicine, not merely advisory, but made responsible for the educational arrangements and provisions subject only to the control of the Senate so far as its regulations affect the finances of the university.

FINANCIAL NEEDS OF MEDICAL EDUCATION.

The needs of a school are determined by the requirements of full-time students, who are engaged in work in the school and hospital all day. Part-time students, who come for shorter periods of time, share in the arrangements thus provided to their own great advantage, and contribute to the support of the school.

To place medical education on a sound basis, the fees thus earned, *plus* any educational grants given by the Board of Education, should be entirely available for the education of the students, and for payment of lecturers and demonstrators.

1. On the basis of what is being done in German universities and a few of the schools in America, to which so much attention has been drawn as examples of what the standard of university education should be, these ought to constitute about one-third of the total annual cost of a student's medical education.

2. But this alone is quite inadequate. In addition there is required money for the provision, equipment, and support of the laboratories required for instruction, and for payment of the salaries of the professors in charge of the various departments. The amount required for this is about the same as that earned in fees.

3. And lastly, over and above these requirements there should be a third quotient connected with medical education, available for the promotion of research in the various departments.

I estimate, on the basis of practical experience, that the current annual expenditure for university medical education in London should work out to at least £70 to £80 a year per degree student, or approximately £80,000 to £100,000 a year. No provision approaching this is avail-

able in any of the medical schools of London. It means that two-thirds of the cost of education should come from sources other than fees. Owing to the absence of any adequate support from the State, university, or municipal, or any public sources no such funds are available.

The requirements here stated may seem to be large and costly even for a rich country like England. Nevertheless, they fall below the actual expenditure on medical education in the universities of Germany. According to official figures supplied by the German Government, the actual expenditure in ten universities in Germany amounts to no less than £35 per student, and a total sum of over £500,000 per annum.

For purposes of inquiry, I have thought it interesting to compare the expenditure in one of these universities—Königsberg (with 370 medical students)—with that of one of the largest London schools, taking 353 full-time students—in addition to 170 part-time students—a total of 523. The total expenditure in the German university is £34,000, as compared with £14,000 in the English medical school, and £92 per student, as compared with £40 in the English medical school. The amount of this total contributed by the State in the German university was £23,500—£63 per student—whereas in the English school the amount received from Board of Education grant was £4,600—£13 per student. The amount contributed out of the university chest is £29 out of £92 per student in the German university, whereas in the London school this source is non-existent.

The result thus is that in the German university more than two-thirds of the total cost (£92) is contributed by the State, whereas in the English school only one-third of the total (£40) is received from education grants.

I have also worked out the comparison in relation to departmental expenditure on corresponding subjects in the different class of studies. In the German university this amounts to £24,500, £14,000 of this being for clinical salaries, teaching, and work, and the English school is £6,000, of which £1,500 was available for clinical teaching. In other words, the departmental expenditure of a moderate-sized school in Germany is four times greater than the expenditure in one of the largest and most prosperous London schools educating 150 more students.

There is not much comforting in this contrast either to the English Government or English public opinion. In my opinion, the financial conditions of medical education in this country are a discredit to all parties concerned, except only the medical schools and their devoted band of teachers who support the whole cause of medical education in London on behalf of 70 per cent. of the total students of England, under the greatest difficulties, without financial support, without recognition, and without even sympathy.

If I might venture to make any criticism on the final report of the Royal Commission, which I am loth to do, having regard to the extraordinary labour which it has devoted to its great and difficult task, it would be that this financial aspect of medical education in London has not been brought out in connexion with the comparisons of a startling and invidious character between English and German medical education to which so much weight has been attached in the evidence placed before it and in its own final report.

The prosperity of university medical education in London would be enormously promoted by providing three to nine professors in certain selected schools of London, each of them with £4,000 at its disposal for the development of medical and surgical science and teaching in the university, as proposed by the Royal Commission.

The total sum of £36,000 a year thus provided for salaries and working expenses would not, however, solve the problem which it is sought to solve—salaries to full-time professors and their assistants, and the providing and maintaining and paying adequate scientific and final laboratories connected with the schools selected. It is little more than that referred to in the expenditure on one moderate-sized German university. And this is apart from any capital outlay necessary for the provision of new laboratories.

The current expenses of the Medical Faculty of the University of Berlin with Charité Hospital with 2,000 students is £183,000 a year, £98,000 of which is defrayed by the State, equal to £49 per student.

In addition, the capital expenditure on the Faculty

during the twenty-five years 1887–1911 inclusive has amounted to £1,500,000.

The current expenses of ten medical schools in London with 1,122 full-time students, plus 765 part-time students, during the year 1911–12, was £52,500, of which £12,700 was defrayed by grants from the Board of Education, equal to £11 per full-time student. Allowing a similar grant per student for the 261 full-time students in the Medical Faculties of University and King's College (plus 252 part-time students), we get an additional figure of £2,870, or a total grant of about £16,000 for 1,383 full-time students (plus about 1,000 part-time students).

This represents a State contribution of about £12 per full-time student as compared with £49 in the Berlin University.

An Address

ON

THE PROVINCIAL SCHOOL OF MEDICINE AND THE PROVINCIAL UNIVERSITY.

DELIVERED AT THE PRIZE DISTRIBUTION IN THE SCHOOL
OF MEDICINE, UNIVERSITY OF LEEDS.

BY

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MR. VICE-CHANCELLOR, MR. DEAN, LADIES, AND GENTLEMEN,—The time-honoured custom that a guest on this annual occasion should address a few remarks to you deserves to be maintained. This it is which forms the chief justification for venturing to occupy your time for half an hour with words of mine. And as one stands in this fine room, well fitted for its purpose as a place where by dissection the fabric of the human frame can be thoroughly studied, one's thoughts turn naturally to the provision made and the opportunities given in such centres as Leeds for the student of medicine. Many of those now present in this room are students of medicine. They typify a class which I am glad to say has become larger than formerly in our country—the provincial student studying in the provincial university.

It is not always that the student, and especially the young student, plunged in the immediate occupation of his opening career, realizes the general bearings of the current of which he forms a part. Perhaps he will forgive me if, as a visitor from a distance, I attempt to put before him some of those features of his position which appear to me to be particularly interesting, and indeed important for him to bear in mind.

To do so I would recall—though this audience knows it in detail better than I do—the fact that the School of Medicine here is an old one, and a good deal older than the university itself. The student here is, therefore, a member of two corporations—of the School of Medicine and of the University of Leeds; and these two things are, happily, but one thing, this School of Medicine and the university being, in so far, one—a conjunction once a consummation devoutly to be wished, and now a consummation heartily to be congratulated on. And I would remind you that it is a consummation which was not reached without some trouble, without some of that toil, and self-sacrifice, and devotion, and enthusiastic service which all educational advances inevitably demand.

The young student may ask what to him is the actual advantage of this combination with the university and the enrolment of his school of medicine under the banner of the university. And some older student may reply, "You can be examined here and take your degree in medicine here without going to some distant and alien centre and wholly alien laboratories and wards, to face wholly strange wild beasts at Ephesus, and elsewhere, calling themselves examiners for external students." (Gentlemen, I can call them names for I have been one of them myself. I have seen "the sad face of Ruth amid the alien corn!") Now that reply of the friend to our young student questioner is quite cogent, yet it expresses but a small part of the whole advantage which the student reaps from his provincial university. Let me say here—though it is not really necessary—that in applying the term "provincial" to a university I find that it implies in