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Contributors

Ramsay, William, 1852-1916.
Tweedy, John, 1849-1924
Royal College of Surgeons of England

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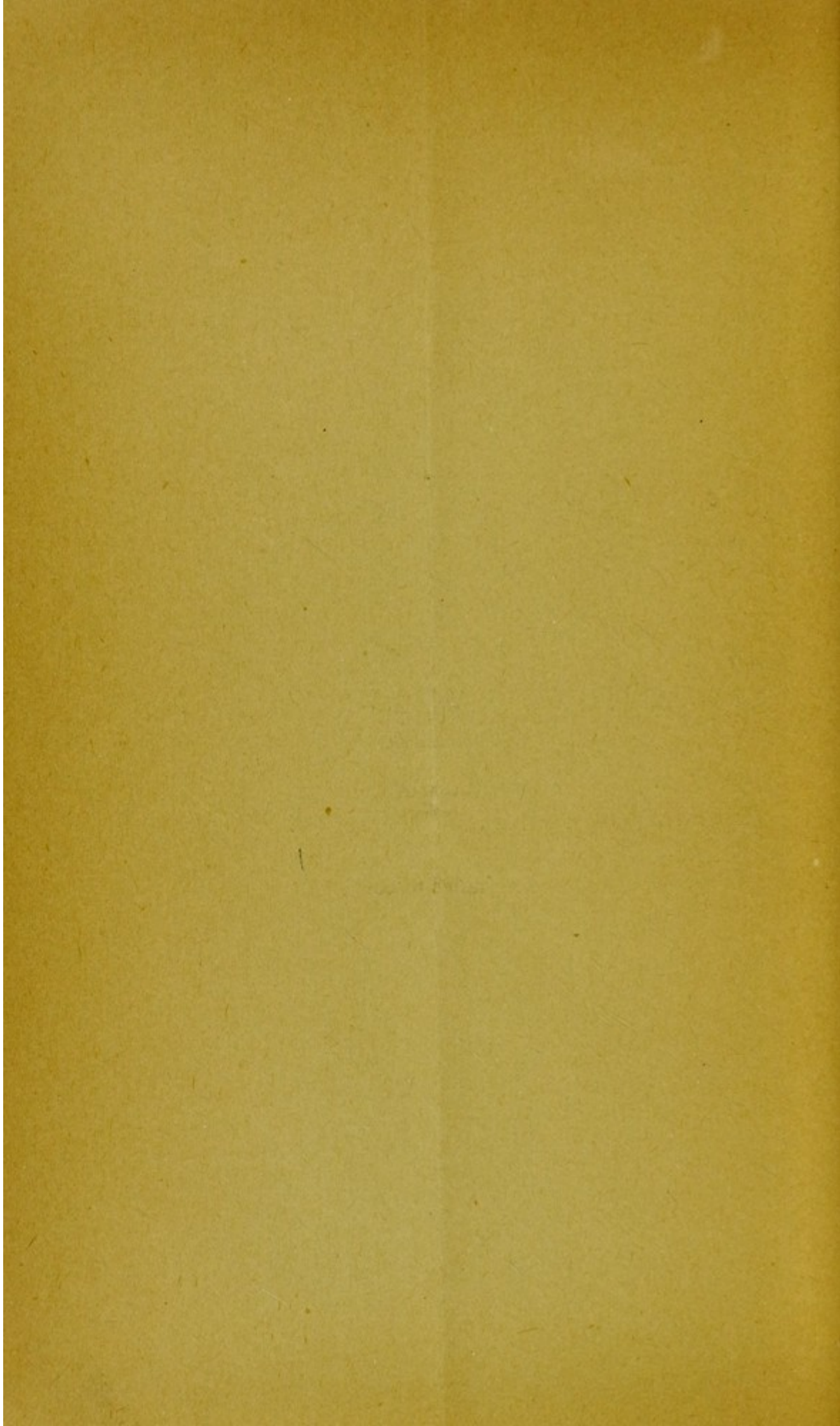
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UNIVERSITIES ABROAD

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PROFESSOR WILLIAM RAMSAY, Ph.D., F.R.S.,

Reprinted from the "Times" of June 8th & 9th, 1892.





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The last 10 or 15 years have witnessed great changes in the attitude of the English people towards education. Elementary education has been made first compulsory, then free; the endowments and efficiency of grammar schools have been subjected to close scrutiny; it has been decided that a sum of no less than £538,600 shall be yearly spent on technical instruction in England alone; local University colleges have sprung up in almost all the large cities of the kingdom; three of these—Owens College (of older foundation), University College, Liverpool, and the Yorkshire College of Science, Leeds—have acquired *status* as the Victoria University; a sum of £15,000 a year is granted by Government for the partial maintenance of the metropolitan and local colleges, with prospect of material increase at no distant date; a Royal Commission has recently issued recommendations involving a radical change in the constitution of the Scottish Universities; and lastly, and latest in order of events, a scheme has been approved by the Privy Council for the establishment of a Teaching University in London. The "Gresham Charter," however, having failed to command the concurrence of the House of Commons, a New Royal Commission is at present deliberating on the best means of uniting under one head the institutions in London which give education of University standard.

In other European countries there is at present no such educational turmoil. The systems of primary and secondary education have long ago been elaborated; and the Universities pursue the smooth paths of increasing knowledge by research and by the training of students.

Recent correspondence and articles which have appeared in the public Press show that there are in England many conceptions of what a University should be. Many of the writers appear to consider a college as necessarily a hall of residence, as in Oxford or Cambridge; many suppose the primary function of a University to consist in bestowing degrees after

a certain course of study; while others advocate the claims of a "University for the People," where weekly evening lectures should lead to recognition of the students as eligible for an associateship or for a degree. There are yet others who imply that the function of a University consists in examination only, and who uphold the University of London as an ideal institution.

In this state of public opinion it is well to cast our eyes abroad, and to enquire what conception of a University is held by the nations of the Continent. Before beginning an experiment it is advisable to study the literature of the subject, for thus only can errors be avoided and a reasonable prospect of a successful issue secured. This is the invariable prelude in these days to all scientific inquiry, and surely the most important of all is—How can knowledge best be increased?

The Universities of the Continent are modelled after one pattern with the exception of small details of organization and administration; the University of France, established for political purposes by the Emperor Napoleon I., is the only one which differs from the others in any essential particulars. In it, centralization has been carried to an extreme; but of late years considerable efforts have been made to decentralize to some extent, which have proved partially successful. The difference between the system prevailing in France and those carried out in other countries is, however, still so considerable that it is convenient to describe the French institutions separately before proceeding to the consideration of the Universities of other countries, which resemble each other so closely that they may be treated *en bloc*.

THE UNIVERSITY OF FRANCE.

For the sake of clearness it will be well to divide the matter into heads, and to consider in their order:—

1. The government of the University.
2. The faculties.
3. The staff; the methods of filling vacant chairs; and the duties and emoluments of professors and lecturers.
4. The regulations for the admission of students; and
5. The regulations for graduation.

The title "University of France" is applied to all the institutions for higher education of University rank in France, except some which are designed for special purposes, such as the education of Officers of the Engineers and Artillery. The University was founded by Napoleon I. in 1806, and was organized by

the statutes of March 17, 1808, and November 15, 1811. It was designed as the centre of all public education—primary, secondary, and of University standard. It is presided over and controlled by the Minister of Public Instruction.

The University is divided into 17 "Academies," each of which is presided over by a Rector, except at Paris, where the Minister of Public Instruction is Rector by right of office, and a Vice-Rector presides as his deputy. Such "Academies" exist at Aix, Algiers, Besançon, Bordeaux, Caen, Chambéry, Clermont, Dijon, Lille, Grenoble, Lyons, Montpellier, Nancy, Paris, Poitiers, Rennes, and Toulouse. The Rector, who is almost always a past professor, is nominated by the Minister for an indefinite period; he is the head of the Academy. He is assisted by an "Academical Council," the members of which belong to three classes—Inspectors of Academies, General Councillors, and Municipal Councillors. The Academical Council assists the Rector in devising and carrying out regulations for the "Communal Colleges," the "Lycées" (two grades of schools), and for the institutions for higher education, and deals with all matters of administration and discipline which affect them.

But since 1885 this council has confined its action almost entirely to questions relating to primary and secondary schools; for in that year a new body was created; it had long been felt that the interference with University matters of a council, many members of which were ignorant of and out of touch with them, was not conducive to the successful administration of affairs.

1. This new Council is named the "Conseil-général des Facultés." It is presided over by the Rector, and consists of the Deans of Faculties, together with two representatives of each Faculty, chosen by their colleagues. It approximates, as will be seen, to the Senate of the Universities of other countries. Its duties are both educational and financial; the regulations for systematic study and for unity and concordance between the courses of instruction given in the various Faculties are committed to its charge. This Council may compel the cessation of courses of lectures which are found inexpedient, and may create new courses, after consultation with the members of the Faculty concerned. But in addition to such powers, it has control of the finance of the Academy, and receives periodical reports from the Dean of each Faculty and the officials of the office as regards the expense of their departments during the past year, and considers proposals for the finance of the coming year. It is also responsible for discipline among the students.

2. *The Faculties*.—There are at Paris five Faculties. In some of the other towns there are fewer. For example, at Nancy there are four, at Caen three, at Grenoble two. Those at Paris comprise Protestant Theology (the Roman Catholics in France declining to be associated with other institutions in educational matters connected with their religion), Law, Medicine, Science, and Letters. To this list may be added the *École Supérieure de Pharmacie*, which ranks almost as a Faculty. Where there are no Protestant churches, a School of Theology is superfluous; and where there are no hospitals of sufficient size, there is no Faculty of Medicine.

The government of the Faculties is of two kinds. First, the General Assembly of each Faculty comprises all the members of the Faculty—namely, professors, *agrégés*, or persons who are retained by the Academy to lecture on special subjects, but who have not the rank or title of professors, *chargés de cours*, a subordinate class of teachers, and *maîtres de conférences*, somewhat corresponding to the Oxford tutors of colleges. This General Assembly deals with the courses of instruction given in the particular Faculty, and assigns to each teacher his share in the general programme, arranging at the same time for *cours libres*, for which no special fee is paid. Second, the council of the Faculty, which consists only of titular professors and *professeurs adjoints*, has the power of accepting gifts and legacies; it distributes the revenues of the Faculty and aids the Dean in preparing his financial statement; in case of a vacant chair, it selects from a list of candidates. Besides these duties, it issues regulations regarding the attendance and work of its students. Every member of Council has a vote.

The Deans of Faculty are ultimately selected by the Minister from a double list, each containing the names of two candidates, one presented by the General Assembly of the Faculty, and one by the General Council of Faculties. The Minister is assisted by an assessor, who is one of the two representatives of the Faculty at the General Council of Faculties, chosen by the Minister for this purpose.

The Dean holds office for three years. He presides at meetings of the Faculty and of its Council, he is trustee during the time of his office for funds held by the Faculty, he may accept gifts and legacies, he distributes the revenues of the year among the members of his Faculty, he prepares estimates for the ensuing financial year, and he pays all servants.

It is seen from this short description that there is only one University of France, consisting of numerous Academies in the provinces. But during this session, it has been proposed in the

Chamber of Deputies and in the Senate (corresponding to our Houses of Parliament) to bestow the name "University" on each local group of Faculties or "Academy" where there are at least the four Faculties of Law, Medicine and Pharmacy, Science, and Letters. Should this proposal be carried out, as seems probable, there will then be seven Universities in France, besides numerous Academies. Bordeaux, Lyons, Lille, Montpellier, Nancy, Paris, and Toulouse will be the seats of Universities; the remaining towns of the lists named before will be entitled only to possess Academies. This proposal is naturally opposed by these towns, and at present the matter is still under consideration.

3. *The Staff: their duties and emoluments.*—The ordinary professors of each Faculty are termed "titulaires." If a new chair is instituted it is filled directly by the Minister of Instruction. He is limited in his choice only by the necessity of choosing some one who possesses the degree of Doctor in the particular Faculty in which the chair is created. Thus a Doctor in Natural Science may fill a chair in Biology or Botany; a Doctor of Physics may be appointed to a new chair of Physics; a Doctor of Medicine may be added to the Medical Faculty as professor of one of the medical subjects; and so on.

If the chair to be filled is not a newly created one, the "titular" Professors of the Faculty (the Council of the Faculty), after advertisement, examine the claims of candidates and select from the list two names, giving preference to one. These names are submitted to the General Council of Faculties, which almost invariably ratifies the choice, and are then transmitted to the Minister, who consults a permanent committee sitting in Paris. This committee consists of eminent scientific and literary men; they generally confirm the recommendation of the Faculty. It sometimes happens, however, that they alter the order of the names transmitted to them by the Faculty, giving preference to the person named second on the list. The Minister almost invariably ratifies their decision.

"Professeurs Adjoints."—This title is of recent creation. It is generally given to those persons who have claims on a chair by their seniority and reputation, but for whom no vacancy has occurred. The number of such assistant professors may not exceed one-sixth of the "titular" professors in any Faculty. They are selected from among the lecturers (*chargés de cours*), and are nominated to the Minister by the Council of the Faculty. They have the same prerogatives as the "titular" professors, but have no vote in the election of the staff.

"Professeurs Chargés de Cours."—These are nominated directly by the Minister, and it is from this body that "titular" professors and *professeurs adjoints* are selected. They correspond in the main to the "extraordinary professors" of other Continental Universities. They lecture on special subjects, their courses of lectures being submitted to, and obtaining the approval of the "titular" professor and of the Faculty.

"Maîtres de Conférences."—These persons are also appointed directly by the Minister; but they require annual reappointment, whereas the members of the former classes are appointed for life. They act as assistants to the "titular" professor, and conduct classes of a tutorial kind.

"Agrégés."—A Council which meets at Paris from time to time appoints substitutes for professors who are unable to lecture on account of illness or from any other cause. They also assist, if desired, in examining, and may be required to conduct special classes. They are appointed only for the Faculties of Law and Medicine and for the Higher School of Pharmacy. Those in the Faculty of Law may hold office for an indefinite time; those in the Faculty of Medicine may be re-elected in ten years, but their office is usually allowed to lapse. The "titular" professors are often chosen from among the *agrégés*.

"Professeurs Libres."—This class of teachers corresponds to the *Privat-docenten* of other Continental Universities. They are unpaid; they must be doctors of their particular subjects, and they are licensed to teach by the Council of the Faculty to which their subject belongs.

As regards the payment of the professorial staff, they receive fixed sums from the State. All fees return to the State. This is obviously a mistaken system; for, whether a professor is successful or a failure, whether he attends to his students or neglects them, he is there for life, paid annually, with no pecuniary inducement to busy himself with research or with the needs of his pupils. This system contrasts very unfavourably with those pursued by other Continental nations; for elsewhere the professor has some inducement to undertake higher teaching, either in the direct increase of his emoluments or in the prospect of increasing his reputation and being called to a more lucrative post. But in France there is a nearly dead level of pay; and unless a professor is anxious, for personal or social reasons, to change his chair for another, he is stationed for life in one place. This is felt to be a hardship by almost all the occupants of chairs; and many of them accept office outside the University in order to increase their incomes. The *adjoints*, *maîtres de conférences*, and *chargés de*

cours are also payed fixed sums by the State, which rise gradually to a *maximum*, as in our Civil Service.

4. *Regulations for the Admission of Students.*—The session begins in November and ends in July. A student entering the University has to show a certificate of birth, to declare that he has the consent of his parent or guardian, and to present diplomas required by the regulations. He is "inscribed" as student in some particular Faculty; and if he wish to change he must obtain a certificate from the Dean of the Faculty. Such "inscription" is renewed each year and costs 90f. The student must, in addition, pay 10f. for the use of the library; he must also pay admission to examination to degrees—*e.g.*, in the Faculty of Letters 120f. for the "Baccalauréat-ès-Lettres," 200f. for the "Licence," and 140f. for the "Doctorat." Should he attend a laboratory he pays 600f. a year.

Entry to the tutorial classes, the laboratories, &c., requires the presentation of a diploma of "Bachelier-ès-Lettres," a degree usually taken on finishing the school career and somewhat corresponding to the final exit examination of the *Gymnasia*, or upper classical schools of other countries; but the courses of lectures are open to anyone who chooses to attend. No one is admitted to study in the Medical Faculty who cannot produce a diploma of Bachelor of Letters or of Science, and in this way the general culture of the medical student is secured. Similarly, a student of law must produce either a diploma of Bachelor of Letters or a certificate of admission to the degree; the students of science must produce similar evidence of capacity in the form of a diploma of Bachelor of Science. These degrees are granted by the Academy, after examination, before the student is admitted. A candidate for such degrees must produce evidence of having completed satisfactory courses of study at the higher schools, the colleges or "lycées."

A student may migrate from one Academy to another if he receives authorization from the Conseil de la Faculté where he has studied, and if he shows his certificate of "inscription" of the Academy where he has studied last.

In the case of foreigners, equivalent examinations or evidence of study satisfactory to the Faculty gives entry to the Academy.

5. *Regulations for Graduation.*—As before remarked, the Academy examines pupils of the College before they are allowed to enter on higher studies. For this purpose a committee or jury of the Faculty is constituted, including those professors (of whom one, at least, must be a "titular"

professor; usually there are three) conversant with the subjects of examination, together with *chargés de cours*, *agrégés*, or *maîtres de conférences*. Should the candidate satisfy the examiners that he possesses a satisfactory school education and that he is able to profit by the work of the Academy, he is "inscribed." He may then proceed, after two years' study, during which he must attend lectures, practical classes, where such exist, tutorial classes, &c., to the "licence"; and finally to the doctorate. The examination for the doctorate is oral; it is confined to a discussion of a thesis which must be presented by the candidate to the Faculty. In certain cases the Faculty itself suggests to the candidate the subjects of two theses, of which he selects one. He is questioned on the subject of his essay, and should he satisfy the examiners he obtains the degree. Should he present a thesis of remarkable excellence his fees are returned. The examiners are always the student's own teachers, or a certain number of them selected by the dean, who compose the "jury." Indeed, it is not understood by those whom I have questioned on the subject how it is possible for any accurate judgment to be formed as to the attainments and capacity of a candidate, except by those who have known him personally and superintended his work during several years.

This short outline of the complicated system of the University of France will have given an idea of its organization and method. It was devised, as already stated, by the Emperor Napoleon to serve as a political engine, the control of which he held in his own hands. The professors who hold office complain of their want of freedom, of the excessive red tape, of the lack of incentive to exertion, and last and most important, of the over-teaching. They say that originality is crushed out of their students by too lasting attention to the requirements of the examinations. There is no doubt that the systems at work in other Continental countries are much more productive of good to the students, and serve better as stimulus to research. Senior students whom I have questioned make the same complaint. They say that they are over-examined, and that the incentive to work is not so much the desire to increase knowledge or the love of their subjects as the necessity of passing examinations. In this they are not alone. It is the drawback of all our English Universities and Colleges. We shall subsequently see that the systems of other countries are much more favourable to intellectual growth.

It will convey some idea of the size of the University at Paris—*i.e.*, the Faculties of the University of France which

exist in the metropolis, if we give the number of teachers in each faculty.

In the Faculty of Protestant Theology there are five "titular" professors, one *adjoint*, three *chargés de cours*, and two *maîtres de conférences*.

In the faculty of Law there are twenty-two "titular" professors, two *adjoints*, and eight *agrégés*.

In the Faculty of Medicine the number is much larger. There are thirty-three "titular" professors, thirty-five *agrégés*, and six *chefs de travaux pratiques*.

In the Faculty of Science there are twenty-one "titular" professors, three *adjoints*, one *chargé de cours*, and eleven *maîtres de conférences*. In the Faculty of Literature there are eighteen "titular" professors, three *adjoints*, twelve *chargés de cours*, and twelve *maîtres de conférences*; and, lastly, the School of Pharmacy possesses eleven professors, seven *agrégés*, and three *chefs de travaux pratiques*. In all, the University possesses ninety-nine full professors, nine *professeurs adjoints*, and one hundred teachers of inferior rank, in all two hundred and eight persons. From an approximate estimate, about four hundred and forty courses of lectures and tutorial classes appear to be held annually in the University, besides numerous others in the Schools unconnected with the University.

It only remains to give a brief account of other institutions in Paris devoted to higher education. These are:—

1. L'École Normale Supérieure, destined for the education of those who wish to become professors at "colleges" or "lycées." There are two sections, of literature and of science. Entry is gained by severe competition.

2. The Museum or Jardin des Plantes. This is a self-governing institution under the charge of the Minister of Public Instruction. It receives endowment from the State, and the lectures are free. The professors are selected by the Minister from a double list presented by the existing professors and by the Académie des Sciences, a body analogous to our Royal Society, but more restricted in its membership. Each professor is obliged to deliver 40 lectures a year. This institution may be regarded as designed to furnish incomes for persons engaged in research, and the lectures are the means by which they inform the public of their results. The attendance at such courses is small, and consists of very mixed audiences, with a sprinkling of persons interested in the subject of the lectures. They are not specially popular. The courses of instruction extend over two years.

3. The Collège de France is similarly constituted. The professors may lecture on what subjects they please. They are also nominated by the Minister, and each is obliged to deliver 40 lectures a year.

4. The École des Langues Orientales Vivantes and the École des Chartres have a somewhat similar function.

5. The École Polytechnique is attended by students of the Engineers, and by officers of Artillery. Entry is gained by competition, as at Woolwich and Greenwich. The course of study lasts two years.

6. The École Spéciale Militaire de St. Cyr is designed for officers of Infantry and Cavalry. These two schools are under the Minister of War.

7. The École Centrale des Arts et Manufactures is a private school for civil engineers.

8. The Conservatoire des Arts et Métiers is under the Minister of Commerce. The professors, whose duty it is to deliver 30 lectures a year, are nominated by the Minister from a double list provided by the professors at the Conservatoire on the one hand, and by the Académie des Sciences on the other. The lectures are free, and are intended specially for the labouring classes.

9. The École Municipale de Chimie et Physique is the property of the Municipal Council of Paris, which defrays its expenses. It is intended specially for the inhabitants of Paris. The students pass three years in study, and receive 50f. (£2) a month.

It is thus seen that there are numerous institutions in Paris for higher or for special education which have no connexion with the University of France, except in so far as some of them are under the control of the Minister of Public Instruction. It is necessary for admission to some of these schools that the student should present his diploma of *bachelier ès lettres*—i.e., his leaving certificate from school. But in most of them the lectures are perfectly open and free; any one may attend any lecture, and is subject to no test whatever during the course.

The other representative Universities of which it is proposed to give a sketch here have been selected as types, giving a fair idea of the systems pursued in the countries to which they belong. More variety in government and customs is to be found among the Universities in Germany, for example, than in the French Academies, because each University is practically self-governing, and to some extent has followed

special lines of development. It would be beyond our scope to give any approach to a detailed account of even a small number of the leading Universities; hence we have selected those of Leipsic, St. Petersburg, Geneva, Rome, and Christiania as examples. The functions of these Universities shall be considered in the same order as before, allowance being made for the great difference between their organization and that of the University of France.

1. *The Government of the Universities.*—At Geneva and at St. Petersburg, the Senate consists of all the professors of the University, ordinary (corresponding to the French *professeur titulaire*) and extra-ordinary. At Leipsic the Senate consists of Rector, Pro-Rector, the four Deans, and twelve representatives, six from the Faculty of Philosophy, and two from each of the other three Faculties. In Christiania the Senate is replaced by the "Collegium," a body consisting of seven persons, namely, the Deans of the five Faculties, and one representative chosen by the professors of the Faculty of Philosophy, and one from the Faculty of Science. These members hold office for two years, and retire in rotation, but are eligible for re-election for other two years' service. They elect a chairman from among their number; and their meetings are attended by a secretary appointed by the Crown, and, if the Crown desires, by a "Quæstor," also a nominee of the Crown. These official representatives do not draw payment from the funds of the University, but are officers of State. This body is somewhat analogous to the "University Court" of the Scottish Universities.

In Rome, the "Consiglio Academico" consists of the Rector, the past Rector, and the Deans of Faculties; the Deans who have just retired from office, and the Director of the School of Pharmacy.

The Senates or Councils at Christiania and Rome constitute the highest courts of their respective Universities; they are subject only to the Crown, the Conseil d'État in Switzerland, or to their representatives, the Ministers of Education. They transact all ordinary business, and have entire charge of the monetary affairs. In St. Petersburg, while the Senate, consisting of the whole body of professors, is responsible for all academic matters, the fiscal and administrative government is in the hands of the Rector and the Deans of Faculties.

It is expressly enacted in the statutes of the Universities of Rome and of Christiania that their respective governing bodies shall present an annual report on academical and fiscal matters to the Minister in Rome (through the Rector), or to the King in Norway.

It might be imagined that meetings of so large a body as a Senate, consisting of all professors, would be unwieldy and tend to hinder rather than promote business. But it meets but seldom, and most of the business is transacted by the Faculties, and much by private arrangement between the members. With a small executive body, as in Rome and Christiania, such a difficulty is not felt.

We see from these examples that the foreign Universities are self-governed. It is believed, and justly believed, that after careful selection of professors by capable judges, education may safely be left in their hands. We shall consider later how such elections are made.

The Rector holds the highest office in all these Universities. He is chosen by the ordinary professors from among their number; he must be a professor in active work, except at Rome, where he may be an *emeritus* professor—that is, one who has retired, having fulfilled his professorial duties with honour. At St. Petersburg and at Leipsic the extra-ordinary professors have also a voice in the election of a Rector, but they cannot hold office as such. At Geneva, a Vice-Rector and a Secretary are also elected, who hold office for two years, and are not eligible for re-election. Their names must be submitted for approval to the Conseil d'Etat. At Leipsic the Rector of the preceding term holds office as Pro-Rector; and the Secretary is a Government official.

The duties of the Rector are—to represent the University on all public occasions, to confer degrees and diplomas, to act as intermediary between the University and the Government, to maintain discipline, and to be responsible for the museums and libraries. In Christiania the chairman of the Collegium, who is the equivalent of the Rector, is excused from his regular duties, should he so desire, during his term of office. Presumably there is a tacit understanding to this effect in the other Universities, although nothing bearing on the matter appears in the regulations.

The Faculties elect Deans in all these Universities, who serve for a period of two years (one year in Leipsic), and are not eligible for immediate re-election. Their duties are to preside at Faculty meetings, and, in Rome, to present an annual report to the Rector.

Two other bodies are recognised in Rome—the Assembly of Faculties and the General Assembly of Professors, ordinary and extra-ordinary.

2. *The number of Faculties* differs in different Universities. Thus, at Leipsic there are four, viz:—Theology, Law,

Medicine, and Philosophy, under which Science is comprehended. In other German Universities there are Faculties of both Protestant and Roman Catholic Theology, and the Philosophical and Science Faculties are distinct. In Leipsic the Theological Faculty contains eight full professors; that of Law, nine; that of Medicine, thirteen; and that of Philosophy, thirty-six; in all sixty-six. In Geneva the numbers are six, eight, and fourteen for Theology, Law, and Medicine; the Faculty of Literature (*Lettres*), thirteen, and of Science, ten, or fifty-one in all. There are in addition numerous extra-ordinary professors and *privat-docents*. In Rome there are four Faculties—Science, Medicine, Law and Literature, the latter sub-divided into Philosophy and Letters. There are also a School of Pharmacy and an Engineering School: the last does not form part of the University, but entry to its courses is only permitted to students who have taken the *licenza* in physical and mathematical science—*i.e.*, a degree equivalent to the French *licence*. In Norway there are five Faculties, Philosophy and Science being separated; and in St. Petersburg five, for, in addition to the German four, there is a Faculty of Oriental Languages.

A professor belongs to only one Faculty, but, if required, he may act as assessor in some other Faculty in which his courses are necessary. In Germany, and possibly elsewhere, a professor belongs to the Faculty as such, and is not necessarily teacher of any particular subject; he may, if he so choose, deliver lectures on any subject included in his Faculty. Thus a recent instance has been observed where a professor of chemistry delivered lectures on certain physical aspects of music, a subject which belongs to the Faculty of Science, but which is not attached to his or indeed to any chair.

3. *The Staff*.—Generally speaking, there are three grades of teaching in all these Universities—the ordinary or full professors; the extra-ordinary professors, who supplement the teaching of the ordinary professor by lectures on special subjects, and whose rank and emoluments are inferior to those of the full professor; and the *privat-docents*, a class of junior teachers who also lecture on special subjects and assist in teaching. The positions of *privat-docent* and extra-ordinary professor may be taken as a kind of apprenticeship for the post of full professor.

Tutorial work is generally undertaken by the *privat-docents*, but it is not so generally recognised as in Oxford. The *privat-docent* must in every case have taken a doctor's degree, except in Switzerland, where a *licencié* is eligible. In Norway every doctor has a right to teach; the word still retains its etymo-

logical meaning; the only restriction is that he must announce the subjects of his lectures to the Collegium and obtain its approval. In Switzerland former professors, doctors, and *licenciés* may teach, if they obtain the approval of the Senate, but their teaching must not interfere with the courses of the professor. A special dissertation, approved by the Senate, is required if the *privat-docent* desires to lecture in the Faculty of Medicine.

In Germany *privat-docents* must be doctors of at least two years' standing, and must show evidence of continuous scientific work. They are also obliged to pass an oral examination, and to sustain a thesis at a meeting of all the four Faculties. In Italy a commission appoints *privat-docents*, and may test their powers in any way they may think fit. These teachers are not paid fixed salaries, but draw a certain share (in Germany the whole) of the fees paid by their students. It is to their interest to make a reputation for research and for teaching powers, for that is their road to preferment. Should they show capacity, they may be promoted to the rank of extra-ordinary professors; and these again may attain the rank of ordinary professors should their reputation prove sufficient.

The professors are thus carefully selected from the beginning of their careers, and are usually, if not always, men eminent in their branch of knowledge, capable of increasing as well as of communicating knowledge. The method of election varies to some extent in the different countries.

In Geneva the committee of selection consists of the rector, the four deans, a professor of the Faculty in which the vacancy occurs, and three persons, always *emeritus* professors, appointed by the Minister of Public Instruction. The vacancy is officially advertised, and candidates send in applications. The Conseil d'Etat makes the final appointment. The extra-ordinary professors are similarly appointed, but must be re-elected every three years. These professors have no voice in the election of professors.

In Italy the appointment, which is advertised in the official *Gazette*, is made by ten commissioners. Each member of the Faculty in which the vacancy occurs transmits five names to the Minister of Education, who selects the ten who have obtained the greatest number of votes, and the ten persons thus selected form the commission. Candidates for chairs of "official" professors, extra-ordinary professors, or for the rights of *privat-docents* send in testimonials and copies of their publications. The committee, in addition, may apply any test which it may think advisable.

In Norway the Collegium makes the appointment, which must be confirmed by the King. In Germany a committee of the Faculty recommends a name to the Minister of Education for appointment as ordinary or extra-ordinary professor. The ordinary professors are always chosen from the ranks of the extra-ordinary, and the latter from among the *privat-docents*. It is not necessary that they should belong to the University to which they are promoted; indeed it is common for the professor to be chosen from among the extra-ordinary professors of another University. In St. Petersburg the German system is followed, but the Tzar exercises direct control. There is no candidature either in Germany or Russia; the person selected is often not informed that he is thought of until an official notice arrives; yet, when it is agreed on to call a Professor from another University, it is common to ascertain whether he would accept the post if asked.

In all these countries the sole claim to promotion consists in distinction in Science or Literature, and the decision really rests with the Faculty, for it is extremely rare for the Minister to revoke its verdict.

The duties of the professors are very simple. It is understood that they are to advance knowledge by all means in their power; they are selected with a view to this, and they are left entirely unfettered, except in Italy, where an annual report, embodying the publications by teachers and students of the Universities, is presented by each to the Minister of Education and published at the public expense.

They are also obliged to deliver an official course of lectures during the whole of the academical year, and on condition of the fulfilment of this duty they receive their stipends. The stipend varies in different countries and in different Universities in the same country. Thus, in Switzerland the official salary of a full professor is £240 a year; but if it is deemed necessary to secure or to retain the services of a specially eminent man the Grand Conseil has the right to increase its amount. Besides this fixed income the professor draws half the fees. The extra-ordinary professors receive £80 per annum for official courses and draw half fees for their lectures; the *privat-docents* receive only half fees. In Italy practically the same system obtains; in Norway no fees are paid for public lectures, but the professors may (and do) hold other classes, the fees of which they receive in full. In Germany all the fees go to the professor, whether paid for lectures or for laboratory tuition; and in Russia the stipend is augmented by a large share of fees. These plans are obviously better than the French one, where all fees revert to the public exchequer.

The professor is not expected to defray any expenses connected with his department. All apparatus and material for laboratory work, museum specimens, servants' wages, &c., are paid out of the public grant. This sum is sufficiently large to provide material for research, when required.

4. *Regulations for Admission of Students.*—Those who attend lectures are divided into two classes, termed in Switzerland "students" and "auditors." Only the members of the first class are admitted to graduation. The students are those who present a certificate of "maturity" from the higher schools (gymnasia in Germany and Russia, lycées in Italy), or who have produced some equivalent testimony satisfactory to the Senate. In Italy the license of the Technical Institute gives admission to the University; also attendance for two years at the Military College, or at similar institutions. In Norway an entrance examination may be passed in lieu of the exit examination of the schools. As a rule the students are free to attend lectures or not, as they choose; no "roll" is called, but it is rare for the students not to make good use of their opportunities. But in Italy and in Russia attendance at specified courses of lectures is obligatory on every student. In Norway each student on entering the University must select a professor as tutor, from whom he receives advice, if necessary. The professor is, however, not compelled to accept the office of tutor to all the students who may select him. It is easy to see that favourite professors might thus become overburdened by calls from too-appreciative students.

Such regulations as these are advantageous both to professors and to students. They prevent waste of time and dissipation of energy in the teachers, inasmuch as the students are usually sufficiently prepared to enter on the subjects which they intend to study; and they prevent a would-be student from wasting his time in trying to acquire knowledge and learning methods for which he is, in consequent of defective training, insufficiently prepared. In default of such exit examinations in England owing to the heterogenous and unorganised nature of our secondary education, a matriculation examination of some kind is an absolute necessity; but it might be possible, as in Norway, to receive those who pass creditably from the secondary schools, as soon as their organisation is perfected. In Germany auditors are sometimes exceptionally admitted to the degree examinations; but special excellence is required of them in the thesis which they present.

The auditors are other persons, who must be at least eighteen years of age. They may be examined, if they choose,

but their examinations do not lead to a degree, except under the special circumstances mentioned above.

Residence in halls or colleges attached to the University is unknown abroad, except in the case of certain students of theology, who obtain special help. The student is his own master. He is regarded as a man, able to look after his own interests, and to behave in a reasonable way; the lack of restriction is regarded as part of the necessary training which University life brings to him. In Germany, at any rate, the result of this freedom is almost wholly good; although there are black sheep, as, indeed, there are in the wider world of "Philister," yet the absence of control develops character and fits young men for their subsequent life in a way which no collegiate residence can.

5. *Regulations for Degrees.*—Here we meet with differences. While the Latin countries approximate more closely to the French system, Russia, Germany, and Norway follow nearly the same plan. It is therefore necessary to consider the degrees in some detail. (a) Geneva.—Candidates for the *Baccalauréat-ès-lettres* may be lads from the "gymnasia" or students of the University. That is, it is not necessary to pass the examination directly on leaving school; a year, or even two, may elapse. An oral examination in Greek, Latin, French literature and history, logic, elements of natural science and elementary mathematics, and German is imposed. Should the candidate satisfy the examiners he is then examined in writing on Latin and Greek composition, and he must write essays in Latin, French, and German. For the corresponding degree of bachelor of science, the candidate must show a certificate to vouch for his having worked for two semesters, or half-years, at mathematics, or that he has attended a laboratory of physics, chemistry, botany or zoology to the satisfaction of the teacher. The candidate may be examined in a portion of his subject after one year, and may take up the remainder in a second. To enter medical classes he must present one of these diplomas.

For the *Licence-ès-lettres* the candidate must show that he possesses the former degree, and that he has attended the University for not less than four semesters. These admit him to the first examination. Should he pass, he is admitted to the second. There is no *Licence-ès-sciences*; but a degree of *Licences-ès-sciences Sociales* may be taken in political economy and allied subjects. For the *Licence en droit* five examinations must be passed, requiring at least six semesters of regular study of law; the same regulations hold for the degree of Bachelor of Theology. That of Bachelor of

Medicine requires work in a chemical laboratory for a least one semester, with a complete course of anatomy, and histology, physics, botany, zoology, and physiology. The degree does not correspond to our M.B. degree, which demands far more technical and professional knowledge; but it insures to the medical man a liberal scientific education. Besides these, the diploma of Chemist is granted to Bachelors of Science who pass a practical and an oral examination in physics and chemistry.

Similar regulations are in force at Rome. The courses at the "gymnasium" last eight years, of which five are spent in the gymnasium proper and three in the lycée. To secure admission to the lycée an examination is passed at the end of the five years. After three years in the lycée, a second examination gives the right to enter the University. There was formerly a matriculation examination, giving entrance to the University, but 15 years ago this examination was abolished. Pharmacists alone are allowed to enter the University after two years in the lycée. The University course lasts four years. After two years the student is examined for the *licence*; should he pass he attends for other two years, when the degree of Doctor is taken. The *licence* gives the right to enter the engineering schools, and to be examined for the doctorate. For this a thesis is required: but it is generally a mere form, where the candidate recites a lesson previously learned by heart before the commission, which consists of seven ordinary professors of the Faculty, the president, and four members selected as already described. Should the lecturer in the subject professed be an extraordinary professor, or even a *privat-docent*, he always forms one the commission.

The complaint both in Switzerland and Italy, as in France, is that there are too many examinations. The candidates are led to look at them as the chief object of work rather than at the promotion of his subject. In Germany, Norway, and Russia the case is different. In Germany the custom varies with the University, but there is only one degree, that of Doctor. In Leipsic, for example, a dissertation is presented; if it is accepted, an oral examination in three subjects in the same Faculty follows, the subjects being selected by the candidate. The whole Faculty is assembled, and the examination lasts for the best part of two hours. In other Universities, after the dissertation has been accepted, the candidates are submitted to a written examination in at least two subjects, and an oral examination in three. The questions are of such a nature as to demand a short essay, and may be put in any portion of the subjects taken. As a rule the candidates study in the University in which they graduate; if they do not, they

come with special testimonials from their last University, and their dissertations are examined more minutely than if they had been executed under the eye of the professors who examine. Both ordinary and extra-ordinary professors form part of the commission appointed by the Faculty.

There are no "honours degrees." It is possible for the University to grant a degree *honoris causâ*; these, however, are bestowed on eminent men alone, and are honorary degrees. It is true that the ordinary diploma bears on it the phrase *Magnâ cum laude* or *Summâ cum laude*, but the candidates are not "placed."

In Norway also there is only one degree. For this a dissertation is required, together with a disputation, and three "test lectures," for the word "doctor" still retains there its original meaning of "teacher;" but in certain cases a written examination may be substituted for such lectures.

In Russia the two degrees are "Magister" and "Doctor." A year after he has obtained his first diploma—*i.e.*, two years after commencing his studies, the candidate appears before the whole Faculty; he professes and must be examined in one complete subject, and in two subsidiary subjects. The examination goes on for two or even three meetings of the Faculty. If he satisfy the examiners, he then presents a thesis, and if this obtains the approval of a committee of the Faculty, he has to defend it in a public meeting of the Faculty, at which two members of the Faculty, selected for the purpose, attack it. A year after the degree of "Magister" has been taken a second thesis is presented, and, if approved, it is also publicly defended at an open meeting of the Faculty, where any one of the public may state objections. Of course the degree of Doctor is taken in only one subject.

Women are admitted to classes and degrees in Norway, Switzerland, and Italy, but not in France, Germany, or Russia.

Such, then, are the more important features of certain typical Universities of the Continent. Without much fuller treatment, it is obviously impossible to cover the subject, but at a time when University education in London is being discussed, it may be desirable to note the work and organization of foreign Universities.

