

Proposed New Constitution for Belgian Telegraph and Telephone Administration.

THE Minister responsible for the Belgian telegraph and telephone services, which at the present time are conducted by a self-contained department of the Ministry of Railways, Marine, Posts, Telegraphs, Telephones, and Aeronautics, has presented a report to his government indicating some of the difficulties which are experienced in providing adequately for the public needs in relation to these two services under the existing organisation of the department. Particularly, it has been found that the provisions of a law of 1846 dealing with the State finances are not sufficiently elastic to permit of the existing telegraph and telephone systems being maintained and developed with the degree of efficiency necessary in an undertaking of a commercial and industrial character, and consequently a new constitution is required for the conduct of these services. At the same time it is considered essential that the public telegraph and telephone systems in Belgium should continue to remain under State control.

The Belgian Government has been impressed with the arguments advanced in the report above mentioned in favour of the proposed reorganisation, and recognises the need, not only from the point of view of the economic life of the country, but also from that connected with the restoration of the nation's financial stability, for immediate action being taken to alter the present arrangements for carrying on these two important services. Accordingly a Bill, which the Government states is of an urgent nature, has been introduced by it in the Belgian Senate providing for the creation of a new "Telegraph and Telephone Administration."

It is the intention of the Belgian Government that

the proposed Telegraph and Telephone Administration shall be endowed with the legal status of a corporation, which will have imposed upon it the duty of conducting the public telegraph and telephone services, including wireless, in the national interest, on lines similar to those in vogue in up-to-date industrial and commercial undertakings. The framers of the Bill have sought to remove, so far as it is possible to do so, the risk of a conflict between the State and the proposed Telegraph and Telephone Administration.

The Bill provides that the management of the Telegraph and Telephone Administration shall be entrusted to a board or commission, of which the Minister in charge of the telegraph and telephone services, or his deputy, is to be the president. There are to be eighteen other members, and it is expressly laid down that three of them shall be selected by reason of their special knowledge of the technical side of the problems connected with these services. Of the remaining members, eleven are to be chosen from lists prepared by certain Chambers of Commerce and other important institutions, whilst one member is to be nominated by the Finance Minister, and three others, who must be on the staff of the Telegraph and Telephone Administration, are to be nominated by the president of the commission. The existing telegraph and telephone networks will be transferred to the commission, which will make payments to the Belgian State Treasury in accordance with the provisions of the proposed law, which deals fully with the method in which the public telegraph and telephone undertakings are to be financed. The text of the Bill, *in extenso*, has been published in the issue of *L'Echo de la Bourse* (of Brussels) for Oct. 22, 1928.

The Faraday Society.

CELEBRATION OF THE TWENTY-FIFTH ANNIVERSARY.

AN event of considerable importance and interest in the world of science is the twenty-fifth anniversary of the foundation of the Faraday Society. This was celebrated on Friday, Nov. 9, first by a luncheon which was attended by representatives of scientific institutions from the leading countries of the world, and then by the delivery of the first Spiers Memorial lecture by Sir Oliver Lodge at the Royal Institution. Prof. T. M. Lowry, president of the Faraday Society, presided at the luncheon, at which were representatives of the Union Internationale de Chimie Pure et Appliquée, the Bunsen Gesellschaft, the American Chemical Society, the National Research Council of Italy, the Institute of Physics, the Institution of Electrical Engineers, the Physical Society, and others.

During the course of the speeches at the luncheon, Prof. E. C. Billman, representing the Union Internationale de Chimie Pure et Appliquée, presented to the Faraday Society two volumes containing correspondence between Oersted and the technical societies, and also between him and Faraday. One other item of interest during the luncheon proceedings was the great compliment paid to the late Mr. F. S. Spiers for his organisation of the general discussions of the Faraday Society—which it was suggested were rendered the more valuable by the co-operation of men of science in other countries—and the suggestion of the president that there might be organised international general discussions which would take place alternately in different countries.

Sir Oliver Lodge took as his subject for the first

Spiers Memorial Lecture, "Some Debatable Problems in Physics," in which he first discussed the seat of the electromotive force in the voltaic pile. He related something of the discussions that have taken place upon this matter, and commented on the fact that they have continued throughout the nineteenth century and are continuing into the twentieth. At the same time, he rather suggested that although there have been acute differences of opinion on the matter, the advocates of the different points of view are really much of the same opinion, and some of the difficulty has been introduced by different modes of expression. Indeed, taking Poynting's diagram of energy paths, Sir Oliver suggested that this is a complete reconciliation of the views on both sides and justifies the rival views. It indicates, said Sir Oliver, that the rival views have a great deal in common, but that those who have been expressing them have not done so in the most convenient way. It is legitimate but not convenient to define potential as that in the air near the metal; if we do that we get into trouble.

In the latter part of the lecture Sir Oliver Lodge dealt with one or two matters indicating how small effects observed in the laboratory become very important as time goes on. He commented on the fact that the contact of two metals, as in the voltaic pile, led to modern electrical generation, and how closely the small observation of Becquerel on spontaneous radioactivity is related to atomic disintegration. From this he passed on to the dissipation of energy, and asked the question whether, after all, matter does turn into radiation and that that is the end of it.

It is, he said, a debatable point; is it really an irreversible process? Is it not possibly and conceivably a reversible process? Are there any possible circumstances in which radiation can turn back again into matter? Sir Oliver suggested that irreversibility is not proved, and that the material universe may be a cyclical process after all. Matter has been clashing together under gravitation, developing heat; that seems to be irreversible, but how does the energy get back? Not so matter. If at the confines of the earth the heat so developed could be turned back again into matter, it could form a sort of continual pulsation and cyclical change without beginning and without end.

Sir Robert Hadfield, who was in the chair at the Royal Institution, and with his usual keenness for the affairs of the Faraday Society had prepared an interesting little brochure giving the history of its development and work, mentioned an important matter in connexion with the Royal Institution. There are plans in hand, he said, for improving the building which it is very necessary should be carried out, and he expressed the hope that all the technical and scientific societies would give every assistance in the matter. Sir Robert referred in his pamphlet to important work which has been accomplished by the Faraday Society during the twenty-five years of its existence, laying special stress on its contributions to the solution of the problem of the fixation of nitrogen. When the Nitrogen Products Committee was formed in 1916, largely at the instance of the Faraday Society, the Society was directly represented, and no less than seven other members were also members of the Society, while many of those concerned in the work of that Committee now occupy prominent positions.

University and Educational Intelligence.

BIRMINGHAM.—The Huxley Lecture for 1929 is to be delivered by Sir Humphry Rolleston on Feb. 12, the subject being "The Nature of Disease."

The James Watt Fellowship for 1929 has been awarded to Mr. D. Watson.

CAMBRIDGE.—Dr. T. D. Cockerft, Clerk Maxwell student in the University, has been elected to a fellowship at St. John's College.

The Regent House has decided to accept the offer of the International Education Board of a gift of £700,000 towards the proposed new library and for the development of physical and biological studies. Details of the scheme were given in our issues of Oct. 6, p. 556, and Oct. 20, p. 632.

EDUCATIONAL relations between the United States and Germany will be fostered by a tour to take place next summer under the joint auspices of the International Institute of Teachers College, Columbia University, New York City, and the Central Institute for Education and Instruction, Berlin. Assembling at Hamburg or Bremen, the party are to visit, during the six weeks beginning June 17, schools of different types in various cities under the official direction of the German educational authorities, proceeding afterwards to a conference of the World Federation of Education Associations at Geneva, to be held during the last week in July.

THE Committee of the Leplay House Educational Tours Association announces that during the Christmas vacation a group for historical and social studies will be going to Lisbon, under the leadership of Mr. Barry

Parker, vice-president of the Town Planning Institute. Burgos, Madrid, and Toledo, and other places in Spain, are included in the itinerary. Further, Prof. P. Geddes has again invited friends of Leplay House to go to Montpellier. A few days will be spent in visiting Avignon, Nîmes, and other places of interest. Mr. G. Morris will lead the group. Particulars can be obtained from Miss Margaret Tatton, Leplay House, 65 Belgrave Road, Westminster, S.W.1.

FROM the Universities Bureau of the British Empire we have received a copy of a useful prospectus for 1928-29 of the professional schools, post-graduation courses, and specialist studies in the universities and university colleges of Great Britain and Ireland. This pamphlet gives, in forty pages, first, a summary of information under those headings regarding each university (except Oxford and Cambridge) and university college; secondly, combined lists of their professional schools under the headings—*theology, law, medicine, dental science, veterinary science, pharmacy, music, art, architecture, journalism, librarianship, commercial science, engineering, metallurgy, mining, agriculture, etc., and education*; and, lastly, alphabetical lists of subjects of study to which special attention is devoted in the several institutions. By reference to these lists one can ascertain at a glance where special facilities are to be found for the study of, for example, aviation and aero-engineering (Cambridge, London—Imperial College and East London College—Oxford, and Glasgow), colloidal chemistry (Bristol, Leeds, and Manchester), economic entomology (Liverpool, London, Manchester, and Edinburgh), photography (Manchester), and so on. This pamphlet will no doubt be distributed to universities in other countries, where it should prove extremely useful to advanced students proposing to study abroad.

THE Board of Education has published another of its useful booklets, this time on the supply of literature—that is, reading books and libraries—for public elementary schools ("Books in Public Elementary Schools." Pp. xxii+163. London: H.M.S.O. 1s. 3d. net). It starts from a statement of the admitted inadequacy of the expenditure of the authorities under this heading. The Board's Committee is able to make out an unanswerable claim. The expenditure on books only averages 1s. 7½d. a head, taking elementary schools of all grades in England and Wales together. In the central schools alone, that is, the schools for scholars from twelve to fifteen or sixteen years of age, it amounts to just under five shillings. Even this is small enough, and for the other schools the amount is ludicrous. The report is emphatic that children in elementary schools need more books and books of better quality, though a steady improvement in the quality is noticed. Of the many detailed suggestions that are made it is only possible to mention one or two. There should be a collection of books of reference in every school, both for pupils and teachers, and children should be taught as part of their education how to make use of a book of reference. Arrangements are also suggested by which each pupil might acquire a small selection of books which especially interest him. The last recommendation is that special attention should be given in training colleges to guiding teachers in the right principles for the selection of books, for on them ultimately the choice of nearly all the books in an elementary school must rest. A regret seems justified that no one on the Committee was specially interested or qualified on the subject of books on science, and hence this section, and that on science and invention in the section on history, are conspicuously weaker than the rest.