Cambridge Meeting of the International Union for Pure and Applied Chemistry.

THE International Union for Pure and Applied Chemistry met at Cambridge on Sunday, June 17, under the presidency of Sir W. J. Pope, and carried out the programme previously outlined in these columns (June 16, p. 825). The countries which have now joined the Union are the following—The Argentine, Australia, Belgium, Canada, Czechoslovakia, Denmark, France, Great Britain, Greece, Holland, Italy, Japan, Luxemburg, Norway, Peru, Poland, Portugal, Roumania, Spain, Switzerland, the United States of America, Uruguay, and Yougoslavia; over one hundred delegates representing the chemical interests of these countries were in attendance at Cambridge. A feature of the meeting was the presentation of several comprehensive reports on subjects which at the moment present special chemical interest; these were printed and distributed beforehand, and at the meeting brief summaries were presented by their authors, after which general discussions took place.

The report on "The Study of Soap Solutions and its Bearings upon Colloid Chemistry," presented by Prof. J. W. McBain, included a statement of the chief conclusions arrived at by its author in his extended studies of the properties of salts of the higher fatty acids. About one-half of the electrical conductivity of a soap solution is due to a negative carrier, which does not exhibit osmotic activity and is therefore colloidal; this is the ionic micelle, and consists of highly charged and solvated ionic particles. Accompanying the ionic micelle is the undissociated colloidal electrolyte, which consists of electrically neutral micelli. Interesting contributions to the discussion were made by Prof. H. E. Armstrong and Prof. W. D. Bancroft. Dr. E. K. Rideal presented a report on "Recent Developments in Contact Catalysis," in which the conception of Hardy and Langmuir, that adsorption of reactants occurs in monomolecular and orientated films, is shown capable of application to the reactions at the surface of charcoal, studied by Van Kruyt, and at the surface of the enzyme, oxidase, present in liver tissue, as studied by Hopkins.

The report contributed by Prof. J. F. Thorpe and Dr. C. K. Ingold consisted in a summary of the recent work of the authors on "Some New Aspects of Tautomerism." It is claimed that the original definition of the term "tautomerism" should be broadened, in accordance with modern investigation, and that the term should apply to all reversible isomeric change; a reasoned classification of the various types of tautomeric change which have been more carefully studied during recent years is then given. The report by Prof. F. G. Hopkins, on "Chemical Mechanisms involved in the Oxidations which occur in the Living Body," describes the success which has attended the attempts to elucidate the nature of the oxidation processes involved in living tissues by a simple chemical mechanism. In the resulting discussion, Prof. C. Moureu drew a parallel between the course of these apparently complex reactions and the catalytic oxidation of aldehydes which he has himself studied. Mr. W. Barlow showed and described a number of solid models which he has devised for the interpretation, in accordance with the valency volume law, of the results of the X-ray analysis of crystalline materials by the Laue and Bragg method; incidentally he demonstrated an hitherto unknown mode of partitioning space into identical polyhedra.

A large proportion of the time of the meeting was devoted to the work of the numerous committees which are engaged in the attempt to systematise practice throughout the world in connexion with nomenclature, abbreviations, standard methods, tables of constants, and the like.

It was decided that the Union will hold its meeting next year in Copenhagen, on the invitation of the chemical representatives of Denmark. At the concluding ceremony honorary degrees of the University of Cambridge were conferred on a number of distinguished visitors whose names were announced in the preliminary statement on the meeting (NATURE, June 16, p. 825).

Tercentenary of the Oxford Botanic Garden.

THROUGHOUT the three hundred years of its existence, the Oxford Botanic Garden can never have looked more radiant than it did on Saturday, June 23, when it welcomed the distinguished company which met to celebrate the tercentenary of its foundation. Sheltered by high and stately walls from the incessant north-east winds which in spring play havoc in more exposed gardens, it gave the impression of serene beauty, the more impressive because of the simplicity of the lines on which it has been laid out.

Those, however, who know the rigours of the Oxford climate will ascribe the luxuriance of growth of the plants in the garden rather to skill in cultivation than to good fortune with respect of site. For although the walls which surround the garden do, indeed, give shelter, the soil is none too kindly and the Thames water is too near the surface to make cultivation a light or easy task. It was, therefore, no less a tribute to their own perspicacity than to Mr. Baker, the superintendent of the gardens, that more than one speaker referred in terms of admiration to the skill in cultivation which the gardens displayed.

The Chancellor of the University, Lord Curzon, who presided at the tercentenary celebrations, spoke on gardens with the simple sincerity which proves his title to be ranked among the goodly company of true gardeners, and nothing in his speech gave more pleasure to the company which were met together under the trees of the garden than his reminiscences of the happy hours which as undergraduate and fellow he had passed in the Oxford Botanic Garden. For surely this old garden has for three centuries irradiated a happy influence on successive generations whose feet have walked therein and whose eyes have been refreshed by its scenes of peaceful beauty.

Sir David Prain, who followed the Chancellor, traced in a masterly way the history of the Garden from the time of its foundation, by the beneficence of Henry Lord Danvers, on St. James's Day (July 25), 1622. He reminded his hearers that it was in this Garden that the first greenhouses erected in England were put up, and that it was there that experiments were first made in methods of heating them. Bobert the elder and the younger, men of great wisdom; Morison, the great professor of botany and a pioneer of systematic botany; Sherard, the founder of the chair which bears his name; Sibthorpe, who deserves the title of a great botanical explorer; and Daubeny, versatile and generous,

are names which will always live, not only in the history of the Garden but also in that of botany. In more recent times, Bayley Balfour and Sydney Vines have maintained the great traditions of the Garden so that, in despite of difficult times which have occurred in the past and may recur in the future, the permanence and usefulness of the Garden are assured.

The chairman of the curators, Sir Herbert Warren, whose knowledge of the Garden extends over fifty years, in the course of a delightful speech in which he referred to the love which the Garden has inspired in the minds of Oxford men, omitted to mention the great and beneficent part which he himself has played in steering the Garden through the recent difficult years when costs have been so high and the financial resources of the University have been so strained. In helping the Garden to meet the financial difficulties inherent in these times, the University has shown wisdom and understanding that, it may be hoped, will touch the imagination of a generous benefactor and make the Garden secure for all time, not only as a place of botanical study, and as a repository of herbaria of historic and present importance, but also as a quiet sanctuary wherein men who love plants may study and admire them.

Prof. Seward, who in the absence of Lord Ullswater spoke on the subject of gardens as aids to botanical teaching and research, congratulated the University on the fact that gardens and laboratories, library and herbarium, were all assembled in one site. He referred to the generosity of Mr. Reginald Cory and other benefactors in aiding the Cambridge Botanical Garden to maintain itself, and expressed the belief that the value of the work done at Oxford and the need for assistance required only to be known to ensure the supplementing of existing resources by private benefaction.

After the formal ceremony the visitors, who numbered some 500, inspected the gardens and laboratories, admiring particularly the famous tank houses wherein the blue water-lilies (*Nymphæa zanzibarensis*, *N. gigantea*, and *N. stellata*) thrive with amazing floriferousness in company with many other Nymphæas, *Nelumbium speciosum*, the white rose-tipped Egyptian Bean of Pythagoras, *Cyperus papyrus*, graceful and historical and the source of the papyrus of antiquity, and a large assemblage of aquatic and marsh plants, all of which are of interest and collectively give a memorable impression of luxuriance which few parts of the tropics can rival.

After tea in the gardens the ceremony terminated, the departing guests averring that few among them had realised so clearly as they now did the vital part which botanic gardens play and have played in the social life of civilised communities.

University and Educational Intelligence.

EDINBURGH.—Prof. F. Gowland Hopkins, Cameron prizeman for 1922, delivered two lectures in the University on June 27 and 28 respectively, on the present position of the vitamin question. The Cameron prize, which was founded in 1878, is awarded annually to an investigator who in the course of the five years immediately preceding has made an important addition to practical therapeutics.

SHEFFIELD.—Dr. P. J. Daniell has been appointed to the Town Trust chair of mathematics.

AN Edward K. Dunham lectureship has been established at Harvard University in memory of the late Prof. E. K. Dunham, for many years professor of pathology in the Bellevue and University Medical College of New York City (*Science*, June 15). According to the terms of the gift, which is made by Prof. Dunham's widow, the lectures are to be given annually by eminent investigators and teachers in medical science or one of the contributory basic sciences, and there is no restriction as to the nationality of the lecturer. It is hoped that the foundation may "serve to bind closer the bonds of friendship and understanding between students and investigators in this and foreign countries."

AN outline of President Harding's plan for reorganising the educational activities of the Federal Government was given by the United States Commissioner of Education at the recent annual meeting of the Department of Superintendence of the National Education Association. The plan is a part of a comprehensive scheme, foreshadowed by the President in his first message to Congress and presented to the Senate in February, for a reorganisation of all the executive departments, including the establishment of a department to promote citizenship and general welfare. The educational work now carried on by some thirty separate agencies, belonging to six of the principal departments and several independent establishments, is to be included along with certain other services, the whole costing at present 700 million dollars a year, in a new Department of Education and Welfare comprising education, public health, social service, and veteran relief. The Division of Education, which will be under a permanent assistant secretary, will take over, *inter alia*, in addition to the Bureau of Education and the Board for Vocational Education, the Smithsonian Institution, including the National Museum and Art Gallery, the International Exchange Service, the Bureau of American Ethnology, the Astrophysical Observatory, the National Zoological Park, and the International Catalogue of Scientific Literature, and will create and direct an entirely new bureau for promoting physical education. The scheme is to come before Congress in December.

THE work of the University of London during the year 1922–23, measured by the usual statistical standards, shows a notable expansion. The Principal Officer, while careful to point out that the great mass of the university's continuous achievement is the expression of imponderable forces, directs attention to figures 75-200 per cent. higher than the corresponding figures for 1913–14, and points out that "we have passed well beyond the wash of what was commonly regarded as the abnormal demand for educational facilities that followed the great deliverance of 1918"; the figures are as follows: admissions (8498), candidates for degrees (3191), candidates for matriculation and registration (19,985), and other examinations (7663), and internal students (8881). There has been a noticeable decrease in the percentage of successful to total candidates from 53 in 1913–14 to 32 in 1922–23. The "growth of ignorance" among the younger generation to which Prof. John Burnet directed attention recently in the Romanes lecture is apparently not confined to Scotland. Indicative of the ever-growing specialisation of the subjects of the curricula is the increase in the number of Boards of Studies from 27 with 374 members in 1900 to 42 with 1051 members. That the senate is alive to the dangers incidental to this specialisation and resolved to guard against them is shown by its creation of a Board of Studies in "the principles, history, and method of science," designed to embrace not only the natural and mathematical sciences, but also logic, ethics, history, pedagogy, economics, linguistics, archæology, scholarship, and medicine.