

The Fifth International Botanical Congress.

NEVER has there been such a large and representative gathering of botanists as was assembled in Cambridge on Aug. 16-23 for the Fifth International Botanical Congress. Of the twelve hundred members who registered, nearly one thousand attended. As was to be expected, Great Britain supplied most members, but the United States of America sent a large contingent, and, including the overseas portions of the British Empire, about fifty-five peoples were represented. The original intention had been to hold the Congress in London, but it was decided that Cambridge would be a more convenient centre.

London, however, shared in the programme. The Linnean Society generously supplied a reception room at Burlington House for the two days preceding the meeting at Cambridge, and threw open its rooms to members of the Congress. In addition, a selection from the Linnean collections was exhibited and members were presented with a descriptive catalogue, which also included an account of the foundation and history of the Society. The story of the efforts of the younger Linnæus to prevent the sale of his father's collections and to preserve them from deterioration; of their offer by his mother to Sir Joseph Banks after her son's death, in order to provide suitable marriage portions for her daughters; of their purchase at Banks's suggestion by James Edward Smith; of the foundation of the Linnean Society and its early meetings at Smith's house in Great Marlborough Street, where the collections were for a time housed; of their subsequent homes, including for many years Sir Joseph's house in Soho Square, until their arrival at Burlington House in 1857; and of their purchase from Smith's executors at a price ruinously increased beyond the original cost, is well told in the pamphlet, which overseas members will value as an interesting memorial.

On the Friday evening a reception was held at the Imperial Institute, where the members were received on behalf of His Majesty's Government by the Right Hon. Christopher Addison, H.M. Minister of Agriculture and Fisheries.

At Cambridge many of the members were accommodated in the colleges, a privilege which was evidently much appreciated, especially by American visitors. The sunny weather which lasted through most of the week showed Cambridge at its best.

The business of the Congress opened with a plenary meeting in the large Examination Hall at Cambridge, where the members were welcomed, in a Latin speech, by the Vice-Chancellor of the University, in state, and by the president of the Congress, Prof. A. C. Seward. At a second plenary meeting on the following Wednesday, two hundred delegates conveying greetings from governments, departments of state, universities, societies, and institutions were presented to the president. At this meeting also Prof. F. A. F. C. Went, of Utrecht, presented an invitation to Holland for the next Congress, to be held in 1935. The invitation was unanimously accepted. Morning and afternoon

throughout the week were devoted to sectional meetings, the business closing with a plenary meeting at noon on Saturday.

Apart from the value of the papers and discussions in the sectional meetings, which were well attended, the Congress afforded ample opportunity for intercourse among fellow-workers from all parts of the world. Old friendships were renewed and colleagues known only by correspondence or exchange of papers took human shape, and the reception room (always a centre of activity), social meetings, excursions, and meals in common in the old college halls were media for conversation, discussion, and exchange of ideas.

Serious work was distributed among eight sections—bacteriology, phytogeography and ecology, genetics and cytology, morphology and anatomy, mycology and plant pathology, plant physiology, palæobotany, and taxonomy and nomenclature. A volume of abstracts of the communications, a copy of which was given to every member, facilitated the work of the sections.

An important duty of the Congress was to review the rules of botanical nomenclature. The code of rules formulated at the previous Congresses at Vienna (1905) and Brussels (1910) had been re-examined by an international committee appointed for the purpose at the previous Congress held in America in 1926. The function of the committee was to receive and report on suggestions and resolutions submitted by botanists generally, and the results of its deliberations in the form of a Synopsis prepared by the Rapporteur-général, Dr. John Briquet of Geneva, formed the basis of discussion by the Sub-Section on Nomenclature. It was hoped that certain differences in practice, and more especially the fundamental differences between the majority of workers on one hand and a school representing an important section of American botanists on the other, might be amicably settled, and that the 1930 Congress might witness the achievement of a system to which workers generally would be willing to conform. Pleasing features of the discussions were the evident wish to arrive at a common agreement and the absence of that somewhat polemic atmosphere which was noticeable at Vienna in 1905. Dr. E. D. Merrill, Director of the New York Botanic Garden, presided over the meetings, and, guided by the Rapporteur-général and other experts, the sub-section was able to formulate a revision of the Vienna and Brussels "Rules" which was adopted at the final plenary meeting of the Congress and left to an editorial committee to prepare for press. Especially helpful in securing this revision were the suggestions contained in a code drawn up by the British sub-committee appointed at the Imperial Botanical Conference in 1924, and a series of amendments to the international rules presented by Mr. Rehder, of the Arnold Arboretum.

An important outcome of the discussions on nomenclature was the appointment of a representative International Advisory Committee, to hold

office until the next Congress, which would adjudicate on debatable points in the interpretation of the rules. In the course of the debates the starting-point for the various groups evoked some discussion. While 1753, the date of the first edition of Linnæus's "Species Plantarum", was generally accepted for flowering plants and ferns (excepting fossil plants), later dates were suggested for some groups of cellular plants. To avoid upsetting well established names of genera by the strict application of the law of priority, the principle of lists of *nomina conservanda* was accepted for all groups. The scrutiny of these lists was to be a function of the Advisory Committee. The principle of similar lists of conserved names of species was rejected by a large majority.

Battle was joined afresh on the question of a compulsory Latin diagnosis when describing a new genus or species. The original alternative of the three best-known European languages is no longer tenable with the increasing spread of the study of taxonomy, and the only alternative to Latin was obviously the use of any tongue, a practice which would add to the difficulties of taxonomic work. It was also pointed out that the embodiment in a short diagnosis of the salient points of a genus or species would be helpful both to the author and other workers. The vote on the question indicated an almost complete disappearance of the opposition to Latin; an appeal from bacteriology and palæobotany to be excepted owing to inherent difficulties was, however, allowed. In order to legitimise names already published in a vulgar tongue, the rule will not come into force until January 1932. Another decision was the recognition of standard-species in fixing the identity of genera.

A discussion on methods of furthering the advance of taxonomy emphasised the importance of a broader training for the taxonomist and especially the value of a phylogenetic view-point. The formation of an International Taxonomic Bureau to assist and correlate systematic work and to relieve individual institutions of certain extraneous duties was also adumbrated. The question of finance was a serious factor. The species-concept was the *motif* of joint discussions, with the geneticists in relation to cytogenetics, and with the ecologists in relation to geographical distribution. The ecologists also considered standardisation in description and terminology in the study of vegetation-areas and plant-communities. The morphologists returned to two favourite subjects of discussion, the shoot-unit and the origin of the leaf, and floral organisation with special reference to the carpel. The mycology and plant-pathology section discussed the effect of environment on disease, plant-viruses (with the bacteriology section), and the dissemination of cereal rusts; in connexion with the last-named a resolution was formulated asking the co-operation of overseas governments in the study of these pests of cereal crops. The plant physiology section dealt with protoplasmic organisation and the cell, and problems of growth and nutrition; and the palæobotany section, the antiquity and origin of angiosperms, early terrestrial vegetation, and

plants as stratigraphical indices. Life-cycles of bacteria and criteria for differentiation were subjects of debate by the bacteriologists.

In connexion with the various sections, exhibits and demonstrations germane to the discussions were arranged. Evening lectures, including a topical one by Mr. G. F. Hickson on the University of Cambridge and its Colleges, and other subjects of general interest, provided a change from the more specialised work of the sections, which with their differing technicalities of language recalled, as Prof. von Goebel remarked, the Tower of Babel.

The honorary degree of doctor of science was conferred by the University of Cambridge on Dr. John Briquet, Director of the Geneva Conservatoire and Botanic Garden; Prof. Ludwig Diels, Director of the Botanic Garden and Museums at Berlin; Prof. T. G. Halle, Keeper of Palæobotany in the Swedish Natural History Museum; Prof. L. R. Jones, of the University of Wisconsin; Prof. C. J. Schröter, a pioneer in ecology, and Prof. F. A. F. C. Went, Director of the Botanic Garden and Laboratory at Utrecht; and (in absence) Prof. P. A. Dangeard, of the Paris Museum.

Social functions included a garden party by the president and Mrs. Seward in the grounds of Downing College, a reception by the Master and fellows of St. John's, and a dinner in the hall of Trinity College, where overseas delegates were entertained by their British *confrères*. Among the excursions were a whole-day visit to Wicken Fen. A select party visited Halesworth, Suffolk, where a memorial tablet to William and Joseph Hooker was unveiled by Sir David Prain (see NATURE, Aug. 23, p. 287).

Though the business of the Congress finished on Aug. 23, many members availed themselves of excursions and visits arranged from London in the following week. These included visits to Darwin's House at Down, Kent; the Rothamsted Experimental Station; the Royal Horticultural Society's Gardens, Wisley; the John Innes Horticultural Institute, Merton; and the nurseries of Messrs. Sutton and Carter. The Director and members of the staff of the Royal Botanic Gardens, Kew, received the visitors on Monday; and a special exhibit was arranged at the Department of Botany, British Museum, where the keeper and his assistants were in attendance on two afternoons. In connexion with the visit to the Museum a booklet had been prepared explanatory of the exhibits and giving an account of the origin and growth of the botanical collections since the foundation of the Museum as the result of the bequest of Sir Hans Sloane's collections in 1753. Of special interest to overseas visitors were volumes from the Sloane Herbarium containing the early collections from Jamaica and other parts of the New World, and the original specimens which were the basis of Linnæus's first great systematic work, the "Hortus Cliffortianus", and of his "Flora Zeylanica" (1747).

For the success of the Congress and the smooth working of the arrangements in Cambridge and London, special thanks are due to the secretaries, Mr. F. T. Brooks and Dr. T. F. Chipp, and their willing helpers.