afternoon, June 30, by the Prince of Wales in the large conference room of the British Empire Exhibition. Lord Derby, president of the conference, presided at this ceremony. In his address the Prince of Wales extended a cordial welcome to the delegates to the conference and expressed the hope that the personal contacts gained during the discussions would form the inspiring motive of progress in every great activity connected with modern industry. Sir Joseph Cook responded on behalf of the British Dominions, Dr. G. Semenza of Italy, spoke for the European countries, and O. C. Merrill, of the United States, replied for the Americas. Mr. Merrill received considerable applause when he stated that mutual understanding was badly needed in the world at the present time and that contacts between people more than contacts between governments would bring about that understanding.

More than four hundred papers were presented from over forty countries, which were classified for discussion under the following headings: Power Resources, Power Production, Power Transmission and Distribution, Power Utilization and General. Under this last heading financial, economic and legal considerations were discussed, as were also research, standardization, education, health and publicity. In the Survey of Engineering Progress in this issue will be found very brief abstracts of some of the foreign papers which deal with topics of outstanding importance. Forty papers presented by American authors summarized the results of American progress in power generation, transmission and utilization, and included a summary of American resources. The complete proceedings of the conference will be included in four volumes approximating 5,500 pages, which are to be published by Perry Lund, Humphries & Company, Ltd., 3, Amen Corner, London E. C. 4, England. The publishers will send a prospectus of contents upon application.

The technical sessions were held mornings and afternoons, sometimes three at a time, on the first ten week days of July. The meeting places were the conference halls at the British Empire Exhibition. The papers, which had been printed in advance, were presented by title and thrown open to discussion by the delegates present. Over one hundred and seventy-five Americans were at the conference and many of them participated actively in the technical sessions. Among the presiding officers were George Otis Smith, director of the U. S. Geological Survey; David S. Jacobus, John W. Lieb, John R. Freeman, Fred R. Low, Joseph W. Roe and R. A. Millikan. Arthur Surveyer, president of the Engineering Institute of Canada, presided at one of the sessions on Water Power Resources. Among those who discussed the various papers were W. L. R. Emmet, David Rushmore, W. S. Murray, Sanford Riley, O. F. Junggren, Geo. A. Orrok and Lieutenant R. B. Alexander.

At the concluding sessions, which were held on Friday, July 11, there was a review of the activities of the previous day's sessions and plans for future development were considered. At this session Mr. Merrill pointed out that the papers and discussions would be a source of reference to engineers and other for many years to come. Each country had brought its own contribution and the questions had been discussed in a spirit of confidence and cooperation. There had been general recognition of the fact that scientific knowledge was common property and should be used for the common purposes of mankind. Resolutions were passed asking that each country which participated in the conference create and maintain a permanent national power committee from which delegates would be appointed on an international executive committee which would for the time being carry out the necessary work arising from the conference. Another resolution recommended that the organization which had convened the London conference should remain as an organization during the transitional period. The following general resolution was unanimously carried: "That this conference is of the opinion that the world's most crying need to-day is greater production and manufacturing activity among its peoples under conditions which will promote individual prosperity and happiness, and that this can be largely achieved by the fuller development of national power resources and by the establishment of the most economical means for the general distribution and utilization of energy."

THE HEALTH COMMITTEE OF THE LEAGUE OF NATIONS

DR. O. R. EICHEL, director of the Division of Vital Statistics, on leave of absence and serving with the League of Nations, reports the following interview with Surgeon-General H. S. Cumming, chief of the United States Public Health Service, and U. S. Representative on the League Health Committee:

I am one of the ten members appointed by the International Health Office to the League Committee under the new arrangement just concluded between the two bodies. The close coordination of international public health work that has been made possible by the partial amalgamation of the two bodies is to be welcomed as a great step forward. I have been keenly interested in effecting this reform since 1919, for the previous situation bordered on the absurd. Practically the same representatives of practically the same governments (except the United States, which was a member of the office and not of the committee, and Japan, which was a member of the committee but not of the office) met and worked separately. Most of these anomalies have now been

abolished under the new arrangement, much to the benefit of public health.

The United States Government is very much interested in the opium question, especially so in view of the conference this fall for cutting down the production and manufacture of opium to the amounts needed for medical and scientific purposes. In this connection the figures of 450 milligrams of raw opium per head per year suggested by the League Health Committee is extremely valuable, for it gives us something to go on. However rough and tentative an estimate the figure represents, it is a first step to a solution of the problem. We are at present collecting data in the United States on our annual requirements for medical and scientific purposes, as a contribution to this enquiry.

The proposal of the health committee that a central bureau of epidemiological intelligence should be established in the Far East is an excellent thing, and the selection of Singapore as a site is an excellent choice that was made on the merits of the matter and not on political grounds. The Straits are a funnel through which practically all shipping bound east or west passes; the geographical position is central; wireless communications are good and the port is right on the harbor.

The proposal for a Far Eastern sanitary convention shows above all the crying need for bringing the Paris Sanitary Convention of 1912 up to date, when the proposed Far Eastern Convention could easily be incorporated as a special chapter in the new general convention.

The progress of malaria in Eastern Europe has become a grave international problem, particularly in the Balkans, Southern Russia and Turkey, and the enquiry in these areas that is about to be undertaken by a League Committee will be most valuable. The committee is composed of extremely able men, and the United States will be much interested in the work it accomplishes.

Lastly, I would say that the system of "interchanges" by which medical officers of health from many countries are enabled to study health problems in and establish personal contact with colleagues from other countries is extremely valuable. The development and consolidation of this branch of work is one of the most valuable things the league has done from the point of view of public health.

THE NATIONAL PHYSICAL LABORATORY

THE annual report of the National Physical Laboratory, London, signed by Sir Arthur Schuster, chairman of the executive committee, gives as summarized in the London *Times* full particulars of the work of the laboratory during 1923, under the following heads:

(1) General research; (2) maintenance of standards; (3) research carried out by the laboratory for the coordinating research boards and committees of the Department of Scientific and Industrial Research; (4) investigations and tests for which payment is made by other government departments; (5) investigations and tests carried out for payment by firms and other bodies.

The report states that the past year has been characterized by a steady growth of work in all departments of the laboratory. This has been mainly due to the demands made upon the laboratory from outside, and in particular to the requirements of other government departments. Owing to the general business depression there was a slight falling off in work for firms, as compared with the preceding year, but towards the end of the year this work also showed a tendency to recover. The growth of the work involved considerable pressure on the staff, and necessitated increase in the staff in nearly all departments.

The work comprised under the heading of maintenance of standards constitutes one of the most important functions of the laboratory. The Board of Trade is responsible for the custody of the primary British standards of length and mass and for arranging certain periodical intercomparisons of these standards. At the request of the Board of Trade, the laboratory has recently undertaken the duty of making these intercomparisons on their behalf so long as the Superintendent of the Metrology Department continues to act as Deputy-Warden of the Standards. The close relationship thus established between the standards department of the board and the laboratory is expected to be of great value in maintaining uniformity in the fundamental measurements of length and mass. With reference to the resolutions adopted by the International Committee of Weights and Measures, the Department of Scientific and Industrial Research has also been requested by the Board of Trade to undertake an investigation into the use of a wavelength of light as a standard of length. This investigation was already included in the laboratory program for the current year, and, in response to the request of the board, steps have been taken to secure that the work shall be advanced as rapidly as possible.

Satisfactory progress has been made during the year with work on the fundamental electrical standards. The construction of the new cylinders for the ampere balance has been proceeding steadily, and it is hoped that these will be completed during the coming year. A series of comparisons has been made between one of the standard wire coils of the laboratory and the mercury ohm; for the realization of the latter the tubes used in 1912 by Mr. F. E. Smith have been again employed. The comparisons indicate that a slight increase in the dimensions of the tubes may have taken place, and the tubes are being recalibrated to check this supposition. Work on the new Schuster-Smith magnetometer is also well advanced.

The work undertaken for boards and committees of the Department of Scientific and Industrial Research has greatly increased, and a further considerable increase is anticipated during the year 1924–25. This,