THE INTERNATIONAL TECHNICAL CONSULTING COMMITTEE ON RADIO COMMUNICATION

IN the International Radiotelegraph Convention, adopted at the international conference held in Washington in 1927, provision was made for an International Technical Consulting Committee on Radio Communication. The general regulations adopted at the same time specified that this advisory committee should be formed, for each meeting, of experts representing either governments or private radio-operating companies. Meetings were to be held normally at two-year intervals, and the first one was to be convened by the government of the Netherlands.

In accordance with these agreements a meeting was arranged to take place at The Hague in September. American proposals for consideration at this meeting were prepared with great care by a joint committee of government and commercial radio engineers, acting under the auspices of the International Radio Advisory Committee. Subcommittees were organized to deal, respectively, with (1) frequency maintenance, (2) systematization of frequency allocation, (3) transmitter interference, (4) research organization, (5) definitions and ratings and (6) amateur licensing. Members of the bureau's staff have served as chairmen of three of these subcommittees.

Commercial companies in this country sent about ten representatives to the meeting, and the United States Government had three official representatives supported by four technical advisers. The three delegates were Major-General C. McK. Saltzman, member of the Federal Radio Commission; Major-General George S. Gibbs, chief signal officer of the Army, and Captain S. C. Hooper, head of the communication division of the Navy. The technical advisers include Dr. J. H. Dellinger and Dr. C. B. Jolliffe, of the Bureau of Standards.

The first essential for proper allocation and effective use of the radio-frequency bands available for communication is uniform and accurate measurement of the frequencies. The best method for comparing frequency measurements of various laboratories is the exchange of quartz piezo-oscillators. Consequently, in connection with this international meeting the bureau sent abroad a portable oscillator with thermostatic temperature control, on which measurements will be made at the national laboratories in France, Germany, Great Britain and Italy. Comparisons have already been made with the Bell Telephone Laboratories and the Naval Research Laboratory, so that the series of measurements abroad will serve to give a direct comparison between nearly all the laboratories in the world which are doing fundamental work on frequency measurements.

LAKE ERIE COOPERATIVE SURVEY

THE United States Bureau of Fisheries steamer *Shearwater* was used on the cooperative survey of Lake Erie from May 15 to September 20, 1929. The organizations participating in the survey were the Bureau of Fisheries, the Ontario government, the states of New York and Ohio and the Buffalo Museum of Science.

The bureau provided the vessel and ship's force, the State of New York contributed largely to the maintenance of the survey, the Ontario government, the State of Ohio and the Buffalo Museum of Science contributed most of the special equipment and scientific personnel. The United States Coast and Geodetic Survey furnished hydrographic instruments and the hydrographer.

The extreme western end of the lake was covered by the State of Ohio and the Bureau of Fisheries. Except for this western portion, the entire lake was covered by the cooperative survey.

The scientific staff consisted of Dr. Charles J. Fish, director; Dr. Paul Burkholder, planktonologist; Arthur H. Louden, scientific assistant; C. J. Munter, chemist, and Lieutenant Chas. K. Green, hydrographer.

Four regular cruises were made, one each in the months of June, July, August and September. The cruises started on about the third of each month from Buffalo and terminated at Put in Bay about the eighteenth. All the fifty stations were occupied in each of these four cruises. The intercruise interval was utilized in special work and in steaming back to Buffalo for the next regular cruise. During the survey 4,435 statute miles were covered.

The limits of the cold bottom water in the vicinity of the Deep Hole were found to shift considerably with meteorological changes, and therefore the stations in this area were occupied on the intercruises as well as the regular cruises. Stops were made at eight ports on each cruise, and the staff was able to get the view-point of many commercial fishermen at the principal fishing ports. Most of the fishermen, as well as the staff, are of the opinion that the only solution to the Lake Erie fish problem lies in the establishment of uniform laws regulating the type and size of nets throughout the lake, of limiting the catch to the months in which there will be least interference with reproduction and increasing the number of fry released by the hatcheries.

THE FORESTS OF LIBERIA

G. PROCTOR COOPER, field assistant in tropical forestry at Yale University, has returned to New Haven after nearly a year's investigation of the forests of Liberia, West Africa. This work has been done by

the Yale Forest School in cooperation with the Firestone Plantations Company, which is establishing extensive rubber plantations in that republic. The clearing of large tracts of virgin timber afforded an opportunity for the study of the forest conditions which has never before been presented in West Africa.

Numerous sample areas were carefully laid out and all the trees were listed and measured. Hundreds of wood specimens were obtained together with leaves, flowers and fruits of the trees for botanical identification. Logs of 130 different species were hewed out and will later be tested for strength and other properties in the forest school laboratory. These logs represent every degree of hardness and color from white and punky "Corkwood" to the flinty "Red Ironbark." Boards of native manufacture will be tried out for their carpentry and furniture value. Since the Liberian forest is in many ways typical of the conditions found for hundreds of miles eastward the results will have a practical bearing on a vast region which is just on the threshold of unprecedented exploitation of tropical forests.

So little is known in America about the flora of West Africa that arrangements were made by Professor Samuel J. Record, who has charge of the tropical work at Yale University, to have the trees and other plants identified at the Royal Botanic Gardens, Kew, England. Three sets of herbarium samples have accordingly been shipped to England, one for Kew, one for the Natural History Museum in London and one for the Imperial Institute at Oxford.

The expedition also collected a series of birds from the tropical evergreen forest for Peabody Museum at Yale University. Mr. Cooper was assisted in this phase of the work by Mr. Rupert H. Drinkwater, of India, who is now in the British Camaroons continuing his ornithological investigations. As many of the birds have the same native names as the trees in which they live or whose fruit and seeds they eat, it is often a great help in locating the tree when the bird is seen in the bush.

A collection of the forest insects, mostly butterflies and beetles, is now at Peabody Museum awaiting study and classification. Dried barks, leaves, and fruits from 75 of the important trees used in native medicine and witchcraft are to be studied and analyzed by pharmaceutical chemists. Some of these plants contain very powerful and even deadly alkaloids which are used as poisons by the natives.

The Liberian wood specimens bring the total in the Yale collections to 16,000, representing 1,650 genera of 170 natural families. This is by far the most extensive assortment of woods in the world and nearly every country of the earth is represented. More than 2,000 samples, many very rare, have been added since the first of the year from the West Indies, Mexico, Central and South America, Japan, Siam, Java, New Caledonia, Papua, New Guinea, Norfolk Island, Australia, and all parts of Africa. Yale is cooperating with Oxford in an exploration of the forests of the Peruvian Amazon. The specimens are being systematically studied at the university and selected lots are sent to foreign institutions for special investigation.

THE PROFESSION OF ENGINEERING

THE American Engineering Council has appointed a committee on engineering and allied technical professions. The chairman is H. C. Morris, retired mining engineer, of Washington, D. C. Other members are: A. B. McDaniels, of Washington, representing the American Society of Civil Engineers; Conrad N. Lauer, of Philadelphia, the American Society of Mechanical Engineers; H. A. Kidder, of New York, the American Institute of Electrical Engineers; L. W. Wallace, of Washington, executive secretary of the American Engineering Council.

Committees from the American Society of Mechanical Engineers, the American Institute of Electrical Engineers and the Washington, D. C., Society of Engineers will work with the committee, whose findings, it is expected, will enable the council, organized ten years ago under the headship of Mr. Hoover, to enter upon a program of professional advancement. The announcement says:

> The committee will collect, tabulate, analyze and disseminate information concerning earnings of engineers. Such information will be so classified as to give a clear conception of the earnings of engineers in the several branches of the profession and also in various lines of endeavor, such as federal, state and municipal employment.
>
> For the purpose of suitable comparisons information will be obtained in so far as possible relating to the earnings of other professional men. The status of the profession as measured by appropriate standards will be ascertained, and the major trends of the profession determined. Dissemination of the facts revealed will be directed toward both engineers and the public.
>
> There will be classifications showing in which each type of engineer belongs, and a statement of the qualifications requisite to each classification. This is particularly needed in the federal government service.
>
> Registration of engineers prevails in some twenty states. This movement has had no guidance on the part of any major fraction of the profession. However, because of existing registration law, no adequate plan can be projected relating to the economic and professional status of the engineer without giving due consideration to the influences and trends of registration.