

there is no engineering difficulty in constructing and operating lines at commercial rates to give satisfactory speech between any one and any other part of Europe; and he illustrated this statement by pointing out that between Brussels and Athens, or Paris and Constantinople, the distance is about the same as between New York and Omaha, between which calls can be made at any time, and that the direct distance overland from London to Delhi is about the same as from Key West in Florida and thence to San Francisco and Los Angeles, over which distance calls can be made regularly.

Results of this kind, however, require the use of elaborate technical devices, such as loading coils and repeaters. Formerly a long-distance telephone line consisted merely of a pair of copper wires, which with comparative ease could be kept in good order by independent maintenance units situated along its length. But now that simple structure has vanished, the plant is more complicated, the various parts are interdependent, and it is no longer possible to consider maintenance of each part solely as a sectional matter, since what is done at one place may cause serious effects at another.

Present knowledge can secure great increase in the distances spoken over, in the number of channels of communication afforded by one pair of wires, and in the cheapness, security and speed of the service, but a price must be paid for these advantages in the shape of definite and unified planning throughout the area to be covered, with unity of maintenance and of operation. In Europe, however, there are about forty self-contained local telephone operating organizations, which, though for through service they must function as a whole, are without coordination, standard practice or common technique of construction, maintenance and operation; and the through service is meager in quantity, slow and inefficient.

The through business must be handled as a complete unit, if it is to be efficiently done, and to Mr. Gill the correct course appeared obvious—to depute a body to do for all the European nations what no one nation can do for itself. Such a body, he suggested, might consist of a single company working under licenses from the various governments, or of a company or commission in which they would be

the sole stockholders, which would operate all the through business both within and between the various countries of Europe. As another alternative, frankly of a temporizing nature, he suggested that all the telephone authorities should form an association and hold an early conference to study the problem in detail.

THE INTERNATIONAL COMMITTEE ON MARINE FISHERIES INVESTIGATION

THE International Committee on Marine Fisheries Investigations held its fourth meeting in Washington recently, the members present being William A. Found and Dr. A. G. Huntsman, representing Canada, and Drs. H. F. Moore, R. E. Coker and H. B. Bigelow, representing the United States. Dr. J. Playfair McMurich, of the Canadian delegation, and Dr. James Davies, the Newfoundland delegate, were unable to attend.

The *Fisheries Service Bulletin* states that the permanent organization of the committee was completed by the election of Dr. Moore as permanent chairman, Dr. Huntsman having been elected permanent secretary at the meeting in Montreal in May. It was announced that the French government, by reason of its investigations incident to the fishery on the Grand Banks from the island of St. Pierre Miquelon, was interested in the work of the committee and would apply for representation.

The records of current drift-bottles released by Canada and the United States on the coast north and east of Sandy Hook were discussed, and the preparation of a report assigned to a committee consisting of Messrs. Huntsman and Bigelow.

Plans were made for the initiation during the coming spring of experiments in tagging cod, haddock and other commercial species of importance in the fisheries of Canada and New England, and tentative arrangements were made for the conduct of other investigations of these fish. The committee adjourned to meet in Toronto in May.

COLLOID CHEMISTRY AT THE UNIVERSITY OF WISCONSIN

THE department of chemistry of the University of Wisconsin desires to call attention to the program for colloid chemistry which will be conducted by Professor The Svedberg