In 1927 a senior fellowship, value £1,000 per annum for five years for research in tropical medicine, was created. To this Dr. Edward Hindle was appointed. This research has already afforded an answer to several questions of great practical importance in connection with yellow fever. It has been shown that:

(1) A vaccine prepared from the organs of monkeys of a certain species infected with the virus of yellow fever will give protection to other animals of the same species.

(2) That animals thus protected can withstand a dose of the virus a million times as great as that which is fatal to the unprotected.

(3) That, although this vaccine prepared from monkeys is protective to monkeys, it has not yet proved possible by similar methods to immunize human beings.

(4) That Europeans may suffer from a mild disease not clinically recognizable as yellow fever, and that subsequent examination of their blood may prove that all the accepted tests of immunity are present.

In view of the dangers of this work, the trustees have decided not to continue the research under present conditions.

Excluding those whose appointments are of too recent date to justify their inclusion, and taking the year 1925 as a convenient limit, it appears that the total number of fellows elected up to then was one hundred and one, of whom seventy-nine were men and twenty-two women; of the men seven died at a relatively early age, but none of the women.

Considering first the careers of the seventy-two men, it appears that four have received the F.R.S., the greatest distinction in science, and sixteen have been appointed to university professorships, a high proportion considering that the group includes many who are still young. Most of the remainder occupy whole-time posts for teaching, research or scientific work and have steadily continued the career upon which many entered when first elected to a Beit fellowship.

Of the total of fifty-two who held medical qualifications when appointed, thirteen have passed into medical practice, consulting or otherwise, but the majority of these are continuing scientific work and are thus influencing the character of the art in which they are now engaged.

Of the twenty-two women a few have married, but all continued for many years the work of research and many are still thus engaged. That they hold, or have held, such positions as members of the scientific staff of the Lister Institute, university lectureships in biochemistry; pathologist and bacteriologist to general hospitals and boards of health; head of a department in an institute for medical research; principal of a horticultural college; physicians to children's hospitals, and holders of Rockefeller medical fellowships is noteworthy.

Thomas Lewis and Edward Mellanby are especially mentioned as being appointed at the first election in 1909. During the last fifteen years England has made no more conspicuous contributions to the knowledge that guides practical medicine than those which lie in the analysis of disorders of the heart by Sir Thomas Lewis, and in the experimental proof that rickets is due to vitamin deficiency by Professor Edward Mellanby.

## THE MUSEUM OF THE CITY OF NEW YORK

THE Museum of the City of New York, which will open some time this fall in the buildings now being erected at Fifth Avenue and 103d and 104th Streets, has received a gift of $50,000 for the installation of a gallery illustrating the development of communication in greater New York, as announced by Hardinge Scholle, director of the museum, in *The New York Times*.

The donation, which is part of the original budget for the building fund of $1,600,000, was contributed jointly by the leading national communication systems. The companies which made the new establishment possible are the American Telephone and Telegraph Company, and its subsidiaries, the New York Telephone Company, the Western Electric Company, Inc., and the Bell Telephone Laboratories, Inc.; the International Telephone and Telegraph Corporation, and its subsidiaries, the Postal Telegraph Company and the Commercial Cable Company; the National Broadcasting Company, and the Radio Corporation of America.

The gallery will be used to demonstrate the development of intelligence communication, from a historical point of view, and only in so far as the use of new methods and inventions have affected the city's progress. There will be ten exhibition groups, designed by artists for miniature illustrations of the various stages of development and between the exhibition groups there will be exhibit cases, supplementing the scenes portrayed with prints, photographs and specimens of the instruments and models used in each stage of mechanical evolution.

Plans formulated by the officials of the museum, which are as yet somewhat tentative, provide for sets depicting the following scenes:

(1) Primitive communication: Early eighteenth century scene before a Dutch tavern, with the town crier ringing a bell in the village square.

(2) Harbor semaphore, about 1770: Scene on Fort Wadsworth Hill, S. I., showing semaphore attached to a

large pole signaling to ships in the lower bay and to Manhattan.

(3) Marine cable: Night scene showing Samuel Morse laying the first cable from Castle Garden to Governors Island in 1842.

(4) Scene showing the first stock ticker in the office of Joseph Grosbeck & Co., in 1867, initiating the elimination of "runners" in stock quotations.

(5) Alexander Graham Bell demonstrating the telephone at Chickering Hall in 1876.

(6) Modern developments in the postoffice and mail service.

(7) Overhead telephone and telegraph wires in the blizzard of 1888.

(8) Mechanism of the modern telephone.

(9) Mechanism of wireless telegraphy.

(10) Tentative modern scene—perhaps the Democratic Convention of 1924 showing the employment of all methods of communication, such as the telephone, telegraph, radio, street amplifiers and the telegraphic transmission of photography.

## THE NEW WALL MAP OF THE UNITED STATES

A WALL map of the United States which will be designated as official for use of the Federal Government has been compiled by the Geological Survey and is now approaching completion, according to a review of map-making activities prepared by the senior mathematician of the Coast and Geodetic Survey, Oscar S. Adams, as reported in the *U. S. Daily*. The work of engraving the map will be completed in approximately six months, it was stated orally on August 19 on behalf of the Geological Survey.

The map is on a scale of one part in 2,500,000, on the Albers equal-area projection with two standard parallels. The extent of the United States is such as to be well fitted for mapping on a conical projection with two standard parallels, and the equal-area property is of great value in some uses for which the map may be required, according to Mr. Adams' review, which covers map-making activities during the years 1927, 1928 and 1929. "Since there are always two directions at every point that have true length scale, this kind of a map is about as satisfactory as any for scaling approximate distances between places," according to the review, which is as follows:

During the period of the past three years interest in map construction and map projections has continued to exist even in a greater degree than formerly. The need for special maps for aerial navigation has tended to this end. In general, two types of projection are considered for these maps, either the conformal or the equal-area projection.

The Coast and Geodetic Survey has published two pamphlets dealing directly with projections and has also issued a revised edition of another projection publication during this period. Some time ago the Board of Surveys and Maps of the Federal Government adopted the Albers projection for the general map of the United States.

Since no table of coordinates for such a map had been computed, a table was prepared at the request of the Geological Survey and published as Special Publication No. 130 under the title "Tables for Albers Projection." In Special Publication No. 153 is contained a development and computation of a conformal projection of the sphere within a square. One of the important contributions of the Coast and Geodetic Survey to this branch of geodetic work is Special Publication No. 68, "Elements of Map Projection with Applications to Map and Chart Construction." A revised edition of this work was issued in 1928.

In 1929 the Geological Survey published "Formulas and Tables for the Construction of Polyconic Projections," compiled by C. H. Birdseye as Bulletin 809. This publication gives the coordinates in inches for various scales of maps such as are produced in that bureau. Some forty pages of introductory text serve to explain the computation of the tables and their use in the construction of maps.

In the construction of maps for airways the Lambert conformal projection is used by the Coast and Geodetic Survey. The chief work in this line done up to the present time has consisted in the construction of maps for certain aerial mail routes. The work on sectional maps for general flying is just beginning and will be carried on until the whole country is covered by maps of this kind.

The Bureau of Foreign and Domestic Commerce has had constructed an interrupted map of the world on the sinusoidal equal-area projection which that bureau finds of great use in statistical work. This type of projection is certainly to be preferred in all cases where the relative area of various sections of the map come into consideration. Another equal-area world map has been constructed by S. W. Boggs, of the State Department, that is found to be very useful in certain statistical work of that department. It is coming to be recognized more and more that in the construction of a given map a projection should be chosen that will be best suited to the purpose in view.

A wall map of the United States, scale 1 part in 2,500,000, on the Albers equal-area projection with two standard parallels, has been compiled by the Geological Survey and is practically ready for engraving. After completion this map will be the official wall map for this country and should soon supersede all other types of wall maps in use in the various governmental departments. The extent of the United States is such as to be well fitted for mapping on a conical projection with two standard parallels, and the equal-area property is of great value in some uses for which the map may be required. Since there are always two directions at every point that have true length scale, this kind of a map is about as satisfactory as any for scaling approximate distances between places.