demonstrated the great advantage gained by the use of government-owned ships for scientific exploration. Be it therefore,

Resolved that this conference unites in inviting the attention of governments to the desirability of providing vessels for suitably planned expeditions.

5. PROMOTION OF EDUCATION

The results of scientific research have led to extensions of human knowledge and to increased control of the forces and resources of nature the values of which can not be measured. All scientific work which is well done is of value, and no man can predict to what useful purposes the results of any investigation, no matter how recondite, may be put. It is of fundamental importance that sufficient numbers of young men and women of first class ability shall be adequately trained, and that teachers and investigators shall be properly compensated. This conference therefore, *Recommends:*

1. That in order that young men may enter upon scientific careers without sacrificing all hope of reasonable financial returns, the compensation for instruction and for research in science be increased so that all can at least be assured of a comfortable living for themselves and their families, and that men of exceptional attainments may receive financial rewards which shall approximate those which their powers could command if directed to commercial ends.

2 That persistent efforts be made to inform the public of the progress of science and of its bearings upon the practical affairs of life.

3. That to enlarge the experience and vision of the instructors in the various colleges and universities of the Pacific countries, making them thereby more competent and inspiring teachers, the exchange of teachers between institutions in different countries to be encouraged and made possible.

4. That a clearing house of information relative to opportunities for scientific study and research in the Pacific area be established.

5. That arrangements be perfected between the universities and other research institutions whereby properly qualified students may move from institution to institution carrying on their work at the place or places where the best facilities are available for the special kind of work upon which each may be engaged.

6. That a considerable number of fellowships be provided, with adequate stipends which shall be looked upon as compensation for the faithful performance of scientific work, and that especially able work by young investigators be rewarded by substantial prizes.

7. That to stimulate interest in the Pacific and inculcate a knowledge of its importance and unity, text-books should be prepared in which proper emphasis will be placed upon the Pacific area, its physical features, peoples, fauna, flora, resources and trade, and that the schools in Pacific countries be encouraged to give instruction which will stimulate the interest and enthusiasm of young students in the objects of their environment.

SCIENTIFIC EVENTS

DIMENSIONS AND AREA OF THE UNITED STATES

THE gross area of the United States is 3,026,789 square miles. The land area amounts to 2,973,774 square miles, and the water area—exclusive of the area in the Great Lakes, the Atlantic, the Pacific, and the Gulf of Mexico within the three mile limit—amounts to 53,015 square miles. These and other data determined or compiled by the United States Geological Survey, Department of the Interior, to show the limits of the continental United States contain some interesting facts.

The southern most point of the mainland is Cape Sable, Fla., which is in latitude 25° 07′ and longitude 81° 05′. The extreme southern point of Texas is in latitude 25° 50′, and longitude 97° 24′. Cape Sable is therefore 49 miles farther south than the most southern point in Texas.

A small detached land area of northern Minnesota at longitude 95° 09′ extends northward to a latitude 49° 23′.

The easternmost point of the United States is West Quoddy Head, near Eastport, Maine,

in longitude 66° 57′ and latitude 44° 49′; the westernmost point is Cape Alva, Wash., in latitude 48° 10′, which extends into the Pacific Ocean to longitude 124° 45′.

From the southernmost point in Texas due north to the forty-ninth parallel, the boundary between the United States and Canada, the distance is 1,598 miles. From West Quoddy Head due west to the Pacific Ocean the distance is 2,807 miles. The shortest distance from the Atlantic to the Pacific across the United States is between points near Charleston, S. C., and San Diego, Calif., and is 1,152 miles.

The length of the Canadian boundary line from the Atlantic to the Pacific is 3,898 miles. The length of the Mexican boundary from the Gulf to the Pacific is 1,744 miles. The length of the Atlantic coast line is 5,560 miles and that of the Pacific coast line is 2,730 miles. The Gulf of Mexico borders the United States for 3,640 miles.

Nearly all maps of the United States show the parallels of latitude as curved lines and are likely to lead the ordinary observer to believe that certain eastern or western states are farther north than some of the central states that are actually in the same latitude. For this reason, one who is asked which extends farther south, Florida or Texas, is very likely to say "Texas," but, as stated, the mainland of Florida is nearly 50 miles farther south than the southernmost point in Texas. For the same reason, when we consider the geographical positions of countries south of the United States we find that errors are likely to be made in estimating position or extent in longitude. Few realize that the island of Cuba, for example, if transposed directly north would extend from New York City to Indiana, or that Habana is farther west than Cleveland, Ohio, or that the Panama Canal is due south of Pittsburgh, Pa., or that Nome, Alaska, is farther west than Hawaii.

THE BRITISH DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH

The following is a list of Research Associations which have been approved by the department as complying with the conditions laid down in the government scheme for the encouragement of industrial research and have received licenses from the Board of Trade:

The British Boot, Shoe and Allied Trades Research Association, Technical School, Abington Square, Northampton. *Secretary*—Mr. John Blakeman, M.A., M.Sc.

The Brittish Cotton Industry Research Association, 108, Deansgate, Manchester. *Secretary*—Miss B. Thomas.

The British Empire Sugar Research Association, Evelyn House, 62, Oxford Street, London, W.1. *Secretary*—Mr. W. H. Giffard.

The British Iron Manufacturers' Research Association, Atlantic Chambers, Brazennose Street, Manchester. *Secretary*—Mr. H. S. Knowles.

The Research Association of British Motor and Allied Manufacturers, 39, St. James's Street, London, S.W.1. *Secretary*—Mr. Horace Wyatt.

The British Photographic Research Association, Sicilian House, Southampton Row, London, W.C.1. *Secretary*—Mr. Arthur C. Brookes.

The British Portland Cement Research Association, 6, Lloyd's Avenue, London, E.C.3. *Secretary*—Mr. S. G. S. Panisset, A.C.G.I., F.C.S.

The British Research Association for the Woollen and Worsted Industries, Bond Place Chambers, Leeds. *Secretary*—Mr. Arnold Frobisher, B.Sc.

The British Scientific Instrument Research Association, 26, Russell Square, W.C.1. *Secretary*—Mr. J. W. Williamson, B.Sc.

The Research Association of British Rubber and Tyre Manufacturers, c/o Messrs. W. B. Peat & Co., 11, Ironmonger Lane, E.C.2.

The Linen Industry Research Association, 3 Bedford Street, Belfast. *Secretary*—Miss M. Burton.

The Glass Research Association, 50, Bedford Square, W.C.2. *Secretary*—Mr. E. Quine, M.Sc.

The British Association of Research for Cocoa, Chocolate, Sugar Confectionery, and Jam Trades, 9, Queen Street Place, E.C.4. *Secretary*—Mr. R. M. Leonard.

THE CENTENARY OF OERSTED'S DISCOVERY[1]

On August 31 and September 1 the centenary of the discovery of electromagnetic action by the Danish physicist, Hans Christian Oersted, was celebrated at Copenhagen. Meetings were held in the Town Hall and

[1] From *Nature*.