The *Marion* cruised a total of 8,100 miles, or the distance from New York to Sydney, Australia, from July 7 to September 18. The vessel was stopped at 191 stations where over 2,000 serial sub-surface observations were made with the oceanographic instruments. A fathometer, for recording the depths by means of submarine echo, took over 2,500 measurements, thus developing a detailed bathymetrical map of a region where formerly areas of 50,000 square miles contained not a sounding.

The *Marion* expedition marks a departure from former oceanographic voyages in that 2,000 odd samples of sea-water taken from the depths were tested for salinity immediately on board instead of conducting such tests months afterwards in a laboratory on shore. The salinity-testing machine measures the dissolved chemical salts in the water in grams per thousand by means of the electrical conductivity of the water itself.

For those unfamiliar with the waters investigated, it may be said that the *Marion* expedition covered a region as extensive as that from Cape Cod to Key West and having a mean width off shore of 500 miles. The amount of physical data collected exceeds that of any recent oceanographic work with the exception of the three-year German *Meteor* expedition in the South Atlantic. In fact, the frequency of stations and the location of the observation points at right angles to general trend of the circulation are the main features of the *Marion's* work.

Although it is early as yet to state definite and final results, there are certain outstanding features which are of much interest.

(a) A surface layer of water 100 meters thick, covering most of the oceanic basin between Labrador and Greenland, was found to be about five degrees Centigrade warmer than normal. This represents an additional heat reservoir of tremendous proportions and one that is bound to have far-reaching climatic effects. The presence of this mass lends support to the assertion of many that the Arctic climate has undergone recent temporary amelioration.

(b) The bottom water found in the trough between Greenland and North America had a temperature of 2.6° C. and a salinity of 34.90. The observations show that this water was not produced on the surface, either as a result of winter cooling as suggested by Nansen, or by melting ice as claimed by Pettersson. The observations indicate, on the contrary, that the bottom water even in this extreme northwestern corner of the North Atlantic has its source as a slow creep from the Antarctic.

(c) The depth survey reveals the west Greenland half as much narrower and its slope a smuch steeper than shown on the present-day maps. The Labrador shelf is reliefed by a depression about forty miles out which extends as a trough along the entire coastal length.

(d) Three headlands in southern Baffin Land were accurately located by the *Marion,* showing discrepancies between present charts of as much as 20 miles.

(e) Arctic waters were unusually open this summer. There were about a thousand icebergs counted in Disko Bay near the glaciers; about two hundred bergs on the Labrador coast near Cape Harrison, but other places than these were featured by a remarkable absence of icebergs. The Arctic pack during August was shrunk to an outer edge thirty miles off Cape Dier, Baffin Land, and no field extended south of Cumberland Sound. Cape Farewell was sighted on September 1 but here there was not a piece of ice in the famous East Greenland current.

The scientific report of the *Marion* expedition will be published some time within the next year by the U. S. Coast Guard as one of its series of Ice Patrol Bulletins.

EDWARD H. SMITH,
Lieutenant-Commander U. S. Coast Guard
Commander Marion Expedition

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

GRANTS FOR RESEARCH IN 1929

THE American Association Grants are not unfamiliar to most of its members. Yet, if, each year, the opportunities and conditions relative to these grants are brought to the attention of investigators needing aid in their respective fields, experience indicates that a good end is being served.

The sum available each year is derived from the income from endowment and varies somewhat. Last year it was $3,000 and it is reasonable to expect that a sum approximating this will be available next January. Out of this, allotments are to be made to individuals who make application before December 1. The amounts are necessarily small. They have rarely exceeded $500 and usually they have been considerably smaller. It is expected that the work contemplated, which may be partly finished or about to be begun, would not be possible without financial aid such as this. Grants are usually for apparatus, for assistance or for necessary travel; they are seldom for publication.

Applications for grants should be addressed to the permanent secretary of the association, at the Washington office. From him may be obtained special

blank forms for this purpose and they should be used. The latest date for the receipt of an application is December 1. Two supporting letters are needed, from persons acquainted with the applicant and with his project. It is suggested that those desiring to become applicants for grants for work in 1929 should secure blanks very soon, filling them out and returning them promptly and arranging for the supporting letters to reach Washington before December 1.

The applications for 1928 aggregated more than $18,000. This necessitated, of course, the disappointment of a large proportion of those who had applied. On the other hand, the sum total of actual allotments for 1927 was somewhat less than the amount available. There is no reason for hesitation in sending in or in renewing an application.

Attention is directed to the rule whereby unsuccessful applications are not carried forward for reconsideration in a subsequent year. Any one is free to apply again but his application must be renewed in full.

Applications received at the permanent secretary's Washington office are referred to the Committee on Grants for Research, whose final action is to be taken at the New York meeting. Results will be announced in January, the funds becoming then immediately available. A grant may be disbursed in a single sum or in installments, according to the wishes of the grantee. Any money undisbursed by the end of the fiscal year (September 30) reverts to the treasury unless the grantee specifically requests that an undisbursed balance of his grant be carried forward to the next fiscal year. Requests of this nature are also referred to the Committee on Grants for approval.

Progress reports on work still uncompleted are expected and they should be in the hands of the permanent secretary before December 1 following the award of the grant. When a project is completed a final report should be sent in. Blanks for reports may be obtained from the permanent secretary's office.

The membership of the Committee on Grants for Research for 1928 is as follows. The number in parenthesis shows the calendar year at the end of which the member's term of office expires.

Walter S. Adams (1931) (for astronomy), Mt. Wilson Observatory, Pasadena, California; Karl F. Kellerman (1931) (for botany), Bureau of Plant Industry, Washington, D. C.; W. Lash Miller (1930) (for chemistry), 8 Hawthorne Ave., Toronto, Ont., Canada; Oswald Veblen (1930) (for mathematics), Princeton University, Princeton, N. J.; L. G. Hoxton (1929) *Chairman* (for physics), University of Virginia, University, Va.; Vernon Kellogg (1929) (for zoology), National Research Council, Washington, D. C.; Joseph Erlanger (1928) (for physiology), Washington University School of Medicine, St. Louis, Mo.; Nevin M. Fenneman (1928) (for geology), University of Cincinnati, Cincinnati, Ohio.

Applicants should feel free to make inquiries of any member of the committee and suggestions or recommendations from without its membership relative to applications that come before it are welcomed by the committee.

General and detailed information about these grants may be found in the last volume of the *Summarized Proceedings* of the American Association for the Advancement of Science and in two articles in SCIENCE for October 7, 1927 (pp. 319–320) and for November 18, 1927 (pp. 491–492). Applications for grants and requests for blanks on which applications are to be made should be addressed to Burton E. Livingston, permanent secretary, Smithsonian Institution Building, Washington, D. C.

L. G. HOXTON,
Chairman of the Committee on Grants
UNIVERSITY OF VIRGINIA

THE SECRETARIES' CONFERENCE

THE Secretaries' Conference is a special committee of the American Association, organized at the Nashville meeting. It aims to furnish facilities for the section and society secretaries to become better acquainted with one another and with the affairs of the association, and for exchange of thought on questions of mutual interest. Its membership consists of the secretaries of the affiliated societies, the secretaries of the association sections, the general officers of the association and the members of the executive committee of the council. The conference aims to bridge a gap between the section organizations and the affiliated societies, on the one hand, and the legislative and executive organization of the association, on the other hand. The secretary of the conference corresponds throughout the year with its members on topics of importance and mutual interest, summarizes the results of this correspondence and prepares a program for the annual session of the conference at the annual meeting of the association. He is chairman of that session, at the opening of which the next secretary is elected.

Both by correspondence and by free discussion at the annual session, suggestions are considered for improvement in the relations between the affiliated societies and the association and recommendations may be made to the council from the conference. General aims as well as details of routine procedure may be taken up in a preliminary way by this special committee in a much more satisfactory manner than