

July 14, 1925

THE SCRIPPS INSTITUTION FOR BIOLOGICAL RESEARCH, LA JOLLA, CALIFORNIA

(Doctor T. Wayland Vaughan, Director)

1. The Scripps Institution was founded some years ago by the Scripps family. In addition to the original sums contributed to the enterprise, the members of the Scripps family have from time to time made contributions to its work. These funds have never been adequate for the purposes for which the Institution was founded. In course of time the University of California took the Institution over and now controls it. The University also contributes somewhat toward its support. Its present funds from all sources are not at all adequate for the work which Doctor Vaughan would like to see the Institution undertake.
2. It has seemed to Doctor Vaughan that the Institution would be more serviceable by limiting its efforts to the field of oceanography. This is the present policy. This policy was decided upon for two reasons: first, the United States has a very large interest in fisheries. This interest covers practically the entire Atlantic, Gulf and Pacific Coasts. Much money and effort are being expended in scientific studies of specific fisheries problems. In Doctor Vaughan's judgment these problems cannot be solved without that background of knowledge which physical oceanography alone can give. Second, very little is being done in the United States in the field of physical oceanography. Doctor Henry B. Bigelow of Harvard has been doing valuable work in the Gulf of Maine. Some valuable studies were carried out some years ago off the Coast of Florida. More or less miscellaneous information in the field of physical oceanography has been collected as an incident to studies of special fisheries problems. No scheme has ever been matured for a thorough-going study of any part of the ocean off our own coasts.
3. Under this policy the Scripps Institution is now carrying out certain special studies. Most emphasis for the present is being placed on studies of plankton. Analysis is being made of the various organisms composing plankton of a given region. Doctor Vaughan recognizes that these studies are highly specialized and that they are not being properly backed up by studies that would show the sources of food for the plankton or the habits of the higher organisms which feed upon plankton. In other words, the work being carried on by the Institution is in a sense partial and scrappy. It cannot be as fruitful as it should be until a more comprehensive scheme in physical oceanography has been matured and undertaken.
4. Doctor Vaughan considers the maturing of a comprehensive scheme in physical oceanography for that part of the Pacific Ocean bordering the United States and Canada as the most important next step in the field of fisheries, both for the United States and Canada. Such scheme in his judgment should first map that portion of the Pacific to be studied. The region should then be divided into logical and practical working units. For each of these working units the scheme should be matured in detail showing just the kind of information to be acquired, the scheme to include such matters as study of tides, temperatures, salinity, with cross-sections here and there of life in certain restricted regions with its chemical and

July 14, 1925 (Continued)

THE SCRIPPS INSTITUTION (Cont.)

physical conditions. To mature such plan would involve the cooperation of a number of fundamental scientists in the fields of geology, physics, chemistry and biology. Until such a scheme has been matured all the work on the Pacific Coast must be partial and scrappy.

5. If such plan were once matured and adopted, it would be possible without great difficulty to bring into the field many cooperating agencies. These would include state and national governments, with such agencies as the Geodetic Survey, the Navy, commercial shipping interests, Weather Bureaus - all the agencies now engaged in special scientific studies in the region.

6. Doctor Vaughan has in mind that if such a scheme could be matured for the Pacific Ocean this would make it relatively easy to mature a similar scheme in physical oceanography for the Atlantic and the Gulf regions.

7. In the meantime Doctor Vaughan expressed the hope that an agency such as the International Education Board might be interested to the extent of giving aid to such special studies as that proposed by Doctor Ernst Johannes Schmidt, Director of the Carlsberg Laboratory in Copenhagen. Doctor Schmidt he regards as an eminent scientist who has achieved much in the field of marine biology. He is the man, for example, who worked out the spectacular story of the breeding of the eel. Since the War he has been without means to carry on his work. Doctor Vaughan emphasized the importance of aiding men and work of this character until such work may be fitted into the larger scheme to which he referred above.

In the second place such an agency as the I.E.B. could be serviceable by contributing toward such oceanographic expeditions as may be undertaken until these, in turn, may be fitted into the larger scheme. In this connection Doctor Vaughan referred to such work as that being done by Doctor Henry B. Bigelow in the Gulf of Maine and such work as his own Institution is undertaking.

In the third place, valuable service could be rendered by contributing toward the investigation of specific problems. This Doctor Vaughan illustrated by referring to a study of the ooze at the bottom of the sea. In this ooze one finds geology in the making. While the bottom of the sea is being formed, the chemical and biological processes going on are throwing off by-products which determine the character of the water and therefore the food supply of the plankton and the higher forms of life which in turn feed upon the plankton. Such a study is highly technical and calls for cooperation of geologists, physicists, chemists and biologists. Such studies Doctor Vaughan regards as fundamental in any comprehensive scheme of oceanography. Such specialized studies might be undertaken at any time and would in the end fit into any larger scheme that might be matured.