

Director

BRIEF ADDRESS IN CONNECTION WITH CHARTER DAY CELEBRATION, 1947

by

H. U. Sverdrup
Director, S I O

History of SIO goes back 54 years to the summer of 1893 when Assistant Professor Ritter conducted a summer school in marine biology at Santa Catalina Island. After working at San Pedro in 1900-02 a seaside laboratory was established at Coronado in 1903. At that time the S. D. Marine Biological Association was organized with the purpose:

"To carry on a biological and hydrographic survey of the waters of the Pacific Ocean adjacent to the coast of southern California; to build and maintain a public aquarium and museum; and to prosecute such kindred undertakings as the Board of Trustees may from time to time deem it wise to enter upon."

In 1908 the land of the present campus was bought by E. W. Scripps at a nominal price and in 1909 the first building was put up at that site. At that time Professor Ritter moved to La Jolla as scientific director of the Marine Biological Station.

As of July 1, 1912, all the assets of the Marine Biological Association were transferred to the University and at the same time the name was changed to Scripps Institution of Biological Research.

The word marine was dropped in order to give the station the utmost freedom for research within the vast domain of biology, and the word research was added to emphasize that the primary effort of the institution should be devoted to research.

At the same time a program was laid out, and it is interesting to observe that this program can be briefly described as a correlated attack on problems in marine ecology. Ritter wrote:

"To learn more than we know about the laws that prevail in the wealth of life of the great oceans seems to me an object of great importance for the highest welfare of mankind. So relatively slight is our knowledge in this domain ... that all of us, professional biologists and the generally informed alike, look out upon the expanse of the sea with an impression concerning its inhabitants (so far as we think of them at all) that is very vague and therefore meaningless and uninteresting. We conceive this vast wealth of life en masse, as one may say; that is, our knowledge and thoughts about it are indifferentiated and chaotic. We take for granted in a hazy fashion that some sort of order prevails. Such knowledge has little power for good, either practical or theoretical. Knowledge as to what this order is, must be explicit before it can be very significant and interesting. It is just this kind of definite information that the San Diego Station is striving after."

The non-program work is also described by Ritter and it appears that he has considered work in taxonomy and in experimental biology as work which could be carried out legitimately at the institution but which should not be considered part of its program.

It is also of great interest to observe that although Ritter placed emphasis on research, he was very cognizant of the applications of results. In his report for 1915 there is a paragraph which is as true today as it was 32 years ago:

"The rapidly growing and already important fisheries on the coast of southern California, particularly that of canning the long-finned tuna, is raising many problems that call loudly for scientific treatment. I have repeatedly joined my voice with those of the fishermen in urging upon the Bureau of Fisheries of the Federal Government and other officials, national and state, the desirability of giving real attention to the situation growing up on this quarter, so far without much effect. Attention is called to the possibility even the probability, of the development here, before many years, of a fishery nearly if not quite as valuable as the salmon industry of Alaska; and it is obvious to all familiar with the situation that questions of both scientific and economic importance are coming on. The wisdom of meeting such questions in their incipiency rather than waiting till, by a drifting policy, complications have arisen that might easily have been avoided, would seem obvious enough."

Problems of practical importance came even more into the foreground during the first world war. Again I quote from Dr. Ritter's report of July 1, 1917:

"In recognition of the present national emergency, this year's report is written more with reference to the possible usefulness of this Institution in the immediate future than as a narrative of work during the last twelve months. The time has come to apply the results of our research to the solution of the practical problems which confront us. It is undoubtedly incumbent upon the Institution to do its utmost to solve such problems as fall within the scope of its activities.

"The Pacific Ocean, adjacent to the continent of North America, is very rich in plant and animal life. Until recently, however, the only commercial

industry of large proportion comprised the salmon fisheries of the north-western coast. The last few years have witnessed a rapid development of fishing industries. Whaling has been recommended now for human food instead of merely for oil. The long-finned albacore, Thunnus alalunga, canned and sold under the trade name of tuna, has become an important product. The California sardine, Sardinella ceruleus, constitutes as large a portion of the total pack as the albacore. At present there are twenty canneries on the coast of California. Nearly 600 boats are engaged in the fishing, and the value of the product of the last year exceeds \$4,000,000. A recent increase in the production of fresh fish could also be noted."

I have selected these examples from its early history to bring out that our line of thinking regarding the function of the Scripps Institution has changed very little during the entire period of its existence.

The change of name to Scripps Institution of Oceanography which was decided upon shortly before Dr. Ritter's retirement in 1923, did not imply any major change in the character of the Institution because it was quite in line with Dr. Ritter's "program."

There have indeed been gratifying changes in the facilities of the Institution. The most important of these are represented by the addition of Ritter Hall in 1931, and the acquisition of the research vessel, the "E.W. Scripps" in 1937; but if we look back we may well ask to what extent the Institution has been able to "carry on biological and hydrographic surveys of the waters of the Pacific Ocean adjacent to the coast of southern California," expressed in

1903 as the purpose of the Marine Biological Station; to what extent the program of studying the ecology of these waters as outlined by Ritter, to what extent it has contributed to the economic problems in connection with fisheries; and finally, to what extent has the Institution been able to contribute during the last great national emergency. I believe that if we take these questions before us, we have humbly to admit that progress has been slow. The reason is not lack of devotion and enthusiasm of the staff, but much more, lack of financial support for undertaking a program of the sort visualized by Ritter.

Occasionally one can get very discouraged and there are times when one needs a great deal of faith and optimism in order to keep on plodding with Ritter's program in mind. It is so very tempting to follow the road of least resistance, to let the station deteriorate into a marine biological shore station, the work of which can be based on collections above the lowest low-tide and on studies in the laboratory.

During the year just before the war, we made a conscious effort to push the work out to sea, but since we were cut off from undertaking any work at sea during the many years of the war, we have now to develop that program again nearly from scratch, and we have again to make a large part of the activity at this Institution truly oceanographic.

During the war the staff of the SIO made noteworthy contributions towards applying oceanographic knowledge to war problems. Many of our former staff became attached to other organizations and did the work there. Still, the name of the Institution became more widely known than previously and this is a matter upon which we have now to capitalize.

But this is not enough. I am convinced that we can never expect to fulfill our function unless we also obtain financial support. This again will not be forthcoming until the industries which harvest the products of the ocean realize that it is in their interest to know the order in the oceanic domain about which Ritter wrote in 1913. Unfortunately, such support will not be forthcoming until complications have arisen which might easily have been avoided, to use Ritter's phrase of 1915. It appears that something of this sort is happening now and that perhaps the Institution may obtain the needed funds.

It is with such application of oceanographic knowledge in mind and with application to numerous other problems the possibility of which have been demonstrated during the war, that we are optimistic enough to encourage young men to take up the study of oceanography, hoping that they will carry the torch when we have to lay it down.