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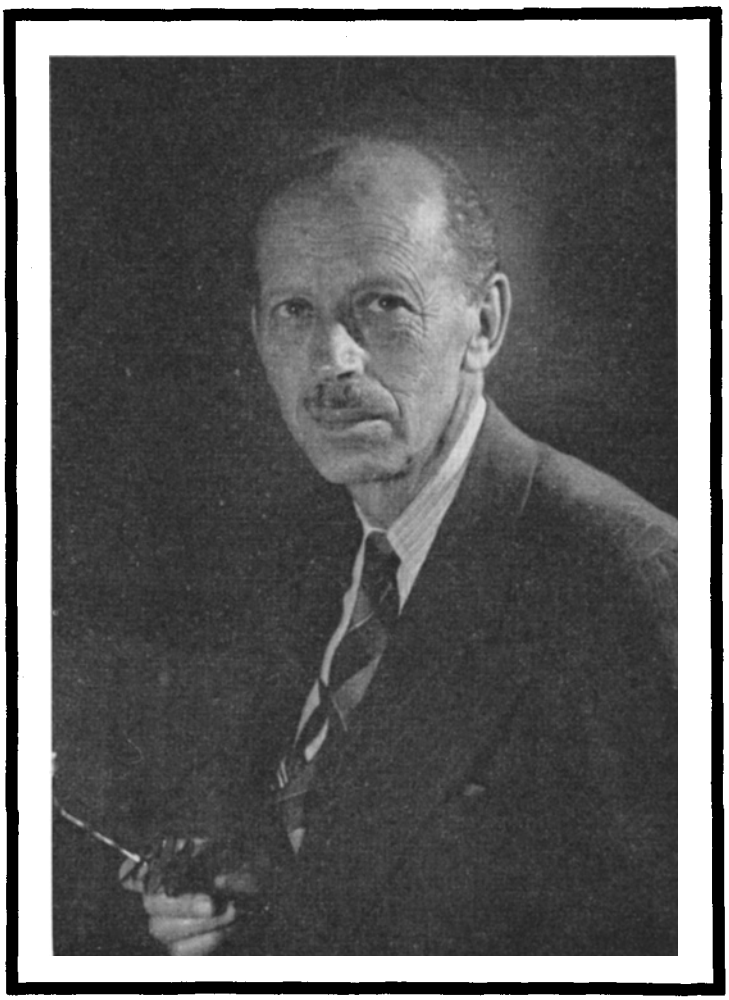
HARALD ULRIK SVERDRUP



1888—1957

The death of professor H. U. SVERDRUP has removed from the ranks of geophysicists one of the leading personalities within oceanography and meteorology. Fully active to the very last, he died suddenly on the 21st of August 1957, not yet 69 years old. His death means a serious loss to geophysical research in Norway as well as abroad.

HARALD ULRIK SVERDRUP was born on the 15th of November 1888 at Sogndal in Western Norway. A student from 1906 he entered the Academy of War for one year and finished his university studies as cand. real. in 1914. He had then been the assistant of VILHELM BJERKNES 1911—12 and continued in the same capacity at Leipzig 1913—17. During these early years he published a number of papers, mainly on meteorological problems, but also, together with TH. HESSELBERG, the "Beitrag zur Berechnung der Druck- und Massenverteilung im Meere", a paper widely used until recent years. His doctoral dissertation "Der Nordatlantische Passat" finished this period of his life, when in 1917 he took charge of the scientific work on the ROAL AMUNDSEN's North Polar Expedition with the "Maud" 1917—25.

The years of theoretical training in an inspiring group were now followed by a period of concentrated practical activity onboard the drifting Arctic observatory. It is amazing how this small group could carry through the comprehensive programme, under conditions of great physical and mental strain. SVERDRUP seems to have been in his proper element; remote from the distracting civilization his scientific mind ripened in the company of the eminent colleagues represented in the limited library of the "Maud". Together with ODD DAHL he improved and invented recording instruments; and for the study of the Chukchi natives of northeastern Siberia, he spent more than half a year ashore, sharing their primitive nomadic life. In 1922 and in 1926, for studies of the magnetic observations from the expedition, he visited the Carnegie Institution of Washington, and then returned to his country.

As professor of meteorology at the Geophysical Institute, Bergen Museum, from 1926 to 1931, and as a member of the Chr. Michelsen Institute, Bergen, from 1931 to 1936, he devoted his energy and ability first of all to the treatment of the data from the "Maud". In 1933 he had finished his two-thirds of the more than 2,000 pages of results. He dealt with magnetism, atmospheric electricity and aurora borealis, with tides and their theory, with currents and water masses, with all the aspects of polar meteorology with which the observations were concerned, with the sea-ice and its wind-drift as well as with marine geology, gravity, astronomical observations and even zoology. During this period he demonstrated an extraordinary ability to get the innumerable data "out of hand", as he used to express it. He also took up problems of the Pacific Ocean in connection with the seventh cruise of the "Carnegie", Antarctic problems in connection with the "Discovery" data, the wind-drift of the ice in the Weddell Sea, and the recaptured data from the tragic Arctic balloon flight of ANDRÉE in 1897. In 1931 he participated in the Arctic submarine expedition in the "Nautilus" and in 1934 together with H. W:SON AHLMANN studied the energy exchange on a glacier in Spitsbergen. Articles for the intelligent layman and two popular books from his expeditions brought the number of his publications up to nearly a hundred.

In 1936 SVERDRUP accepted, for a limited period, the directorship of the Scripps Institution of Oceanography of the University of California; this period was stretched out over 12 years. The glaciological-meteorological expedition to Spitsbergen had directed his interest toward the turbulent processes in the lower layer of the atmosphere, and in La Jolla similar studies of the interaction between the sea-surface and the air were continued. Californian expeditions again brought him into the study of Pacific problems. After the outbreak of the war he devoted much time to problems in underwater sound, current charts and prediction of sea and swell. The activities of the La Jolla institute stimulated his interest for biological problems and, especially, the problems common to marine biologists and physical oceanographers. For years he had compiled material for a textbook in oceanography; in 1942 appeared the first edition of the comprehensive hand-book "The Oceans, their Physics, Chemistry and General Biology", the result of a collaboration with MARTIN W. JOHNSON and RICHARD H. FLEMING. This work does not only reflect his remarkable memory and his vast knowledge of the problems of the sea, but also his mastership in combining knowledge and interpreting data. Parts of the book were used for a separate publication, the "Oceanography for Meteorologists".

In 1948 SVERDRUP returned to Norway to assume the directorship of the Norwegian Polar Institute, Oslo, and in 1949 he was also appointed professor of geophysics at the Uni-

versity of Oslo. He was the head of the Norwegian-British-Swedish Antarctic Expedition 1949—52 and of the Norwegian Antarctic Expedition in the Geophysical Year. He lectured regularly at the University, with skill and enthusiasm. The differences between American and Norwegian academic instruction inspired him to propose a radical change of the teaching scheme; this proposal is still under consideration. As a Dean of the Faculty of Sciences he had a great influence in many questions of University policy.

For many years he had taken part in the activities of international scientific bodies, as president of the International Association of Physical Oceanography, vice-president of the American Geophysical Union, president of the International Commission on Polar Meteorology and others. His interest for several aspects of the marine sciences made him an active and welcome participant on the meetings of the International Council for the Exploration of the Sea; on his death he was the president of this organization.

Of later years his interests went still wider, beyond the scope of scientific investigations as such. He was the active leader of the American Summer School at the University of Oslo and president of the Norwegian project of aid to underdeveloped countries.

For his scientific work SVERDRUP had received a dozen of distinguished medals as well as honorary degrees and other signs of high appreciation. But his only satisfaction: the successful accomplishment of every task he had taken on, could not be granted him in full, as he was torn away while still in full activity. His death will be strongly felt in many active groups and in different fields; for many years to come will he be missed and remembered by his family and by his numerous friends in several countries. But the results of his life's work, as documented in his 200 publications, will never be forgotten.

H. Mosby.