Anton Frederik Bruun

14. December 1901—13. December 1961

With the death of Anton Fr. BRUUN the sciences of marine biology and oceanography have lost one of their most ardent devotees whose name during the last decade had become known all over the world where these disciplines are studied. His sudden and completely unexpected death came as a great shock at the very moment when he, filled with enthusiasm and future prospects, was faced with new tasks, and is thus the more distressing.

Anton BRUUN, the son of a farmer, was born on 14. December 1901 at Jelling, north-west of Vejle in the southern part of Jutland. He studied at the University of Copenhagen and in 1927 graduated with a Ph.D. degree. During his student years he came under the influence of several older zoologists and marine biologists, e.g. Dr. Th. MORTEN-

SEN, Dr. A. C. JOHANSEN, Prof. Johs. SCHMIDT, Prof. O. H. OSTENFELD, and Prof. Aug. KROGH. When he was only 22 years he took part in a cruise with the research ship "Dana" and here that keen interest in working on board a research ship was established which was so very characteristic of his later activities. Under the leadership of Prof. Johs. SCHMIDT, he participated in the "Dana" Expedition Around the World in 1928–30 and later on in several "Dana" cruises to the Faroes and Iceland.

After these early years, BRUUN was, in 1927, appointed assistant to Prof. SCHMIDT's department of the Danish Commission for the Exploration of the Sea and upon the death of Prof. SCHMIDT he was engaged in the working-up of the "Dana" collections. In 1938 he became assistant curator at the Zoology Museum of the University of Copenhagen and in 1957 Senior Lecturer in oceanography there, where he worked until his death.

BRUUN's scientific production started in 1924 with a brief systematic-faunistic paper on *Chiridothea entomon* in the southern Baltic. During the following years appeared a series of partly faunistic papers dealing with various marine animals, and partly fishery-biological papers (on the 'red disease' of the eel; O- and I-group flatfish in Danish waters; analysis of cod otoliths from Iceland, etc.). His papers on oceanic fish and, first and foremost, the thesis for his doctorate (1935), "Flying fishes of the Atlantic, systematic and biological studies" are however, the most important, together with the paper "Contributions to the life histories of the deep sea eels: Synaphobranchidae", which appeared in 1937. In 1936 his paper on *Schindleria* was published together with various other papers on bathypelagic fish, and his survey of the distribution of different pelagic fishes based upon data collected on SCHMIDT's expeditions with the "Thor" and "Dana". Among BRUUN's scientific works the importance of his paper "The biology of *Spirula spirula*", published in 1943, must be especially stressed. The latter adds essentially to our knowledge of the biology of the hitherto little known pelagic squid. Furthermore, he published numerous other papers dealing with widely different subjects, i. e. Hirudinea from the Faroes and Iceland; Icelandic cephalopods; *Margaritana margaritefera* in Denmark; a blind cave fish from Iran; a new entocommensalic mussel from the Red Sea; the type of the rare marine snail *Conus gloria maris*, etc. He also assisted in publishing a series of physiological papers on the influence of hormones on the gonads of the eel.

In 1938 BRUUN undertook his first independent research voyage, investigating quantitatively the bottom fauna on the coast of Tunisia and studying the peculiar crustacean *Thermoibaena* in the hot springs.

Since his first participation in the "Dana" Expedition, BRUUN had a great desire of having a further opportunity to join another great oceanographic expedition. His hope was, for the first time, fulfilled when, in 1945, he was appointed leader of the "Atlantide" Expedition

which collected materials in the coastal waters of tropical West Africa. But when Denmark succeeded in launching the "Galathea" Expedition around the world in 1950–52 he was more than happy. BRUUN had, for several years, pondered over the possibility of this expedition and with the vast experience he had acquired through previous expeditions and much travelling, (for example, a journey around the world in 1948–49, when he lectured in New Zealand and the U.S.A.), it was quite natural that he should become its scientific leader. He carried out this task in an excellent way.

After the return of the "Galathea", BRUUN published some minor oceanographic surveys, for example, "The Phillippine Trench and its bottom fauna" in 1951 and, in 1956, "The abyssal fauna; its ecology, distribution and origin" both written for *Nature*, together with his contribution to a UNESCO symposium in Tokyo in 1955, "The ecological zonation of the deep sea" and his chapter in "Treatise on Marine Ecology and Paleoecology": "Deep-sea and abyssal depths". In these he has emphasized the special ecological conditions of the deep trenches and introduced the conception 'hadal' for this zone.

Even as a young student Anton BRUUN revealed quite a few of the qualities which were characteristic for him throughout his life, and which were brought to full development especially in his later years – a vivid interest in humanity, a passion for debating combined with charm and equanimity, an open mind and an absorbing interest in the life around him. From his early youth he gained an important position within the technical and scientific world and, particularly in his last years, in international collaboration. At international congresses, symposia and meetings in UNESCO's various unions and committees, BRUUN's exceptional faculties and special talents asserted themselves. Supported by his excellent knowledge of languages he unfolded completely in these circles, where his peculiar mixture of a certain naive optimism and enthusiasm, together with a certain measure of realism, made him a distinguished negotiator and intermediary. He attained several honorary offices in this field. In 1958 he was elected Secretary General of the International Union of Biological Sciences. He had, however, to give up this post owing to a long illness caught during his leadership of an expedition to east Asiatic waters, and which sapped his seemingly very strong health. In 1961, shortly before his death, he was elected President of the recently founded International Commission for Oceanography. BRUUN's influence on the fishery biology, the marine biology and the oceanography cannot be measured solely by his scientific publications – it depended greatly on his personal magnetism and ability as an expedition leader, and his conduct at meetings, congresses and in conversations. His loss will be deeply felt particularly by all those who came in contact with him.

R. Spärck