

Sedov in 1930: Hydrology and Meteorology". The expedition covered the eastern part of the Barents Sea and the northern part of the Kara Sea, with extensive surface observations and 25 oceanographic stations, the latter being taken in the northern Kara Sea. The arrangement of the stations permitted a ready evaluation of the collected data by two latitudinal and two meridional profiles of several hundred miles each, extending approximately between the parallels of 76° N. and 81° N. and between the meridians of 60° E. and 90° E.

Surface temperatures and surface-water samples were taken every hour, or practically every 10 sea miles, during the entire trip, so that a complete picture of surface conditions could be constructed. The oceanographic data included temperature, salinity, dissolved oxygen, alkalinity, and hydrogen-ion concentration; in addition, a full chemical analysis of the sampled water was made.

Professor W. J. WIESE, assisted by A. F. LAKTIONOV, presents an exhaustive discussion of the tabulated material together with some 47 profiles and surface maps. Ice conditions are described and interpreted in a special chapter containing one general and four special ice charts. Some 202 soundings and a continuous meteorological record amplify the elaborate program.

While not revealing any really new Arctic phenomena, the findings of the *Sedov* have added considerably to a more precise knowledge of the circulation of Arctic waters, especially of the rôle played by river water and melting ice. The advance of Atlantic water from the polar basin into the north-western part of the Kara Sea is clearly exhibited by a middle layer of higher temperature and salinity, while nothing seems to indicate a penetration of cooler water from the depth of the polar basin. Summer conditions, in contrast with the homogeneity of winter, are characterized by several minohaline tongues (between 10 and 25 meters) of southern origin, clearly outlined by the trend of surface isohalines and remarkably well exhibited in the vertical distribution of salinity. The westernmost of these minohaline areas, known as the "Ob and Yenisei Current", had been recognized before; the second, pointing to 60 miles north of Novaya Zemlya, was first observed by the *Sedov* Expedition of 1929 ("Sedov Current"); a central area of diminished salinity has its apex in the region of the newly discovered Wiese Island ("St. Anna Current"); while the easternmost minohaline tongue, extending almost to Schmidt Island, has its source in a northward surface current, to which the name "Eclipse Current" has been given.

Since many of the oceanographic stations were established in or at the edge of extended ice areas, definite conclusions could be drawn as to the striking increase of alkalinity by the melting of ice in summer. When one considers the as yet problematic stage of ice forecast for the Barents and Kara seas (N. N. ZUBOV: *The Circumnavigation of Franz Josef Land, Geographical Review* Vol. 23, 1933, pp. 394-401), the practical importance of the ice survey as made by the *Sedov* Expedition needs no further comment.

SUBMARINE VALLEYS

(Extract from *Nature* - London, 9th June 1934, p. 877).

The submarine valleys of continental margins have generally been explained as having originated during a period of emergence and having retained their form for one reason or another during subsequent submergence. This origin, at least in relation to the submarine valleys of the coast of southern California, is questioned by the late Prof. W. M. DAVIS in the *Geographical Review* for April 1934. Several of these valleys are continued to depths of 200-300 fathoms, which is considerably lower than DALY's estimate of the glacial lowering of sea-level. Nor is there any evidence of upheaval or subsidence by that measure of height. Further, ordinary depositional processes which are building up the shallow sea-floor ought to have obliterated at least the inner part of these valleys, but the reverse is true: some process is keeping these valleys open. Prof. DAVIS termed these valleys submarine mock valleys, since he does not believe they are due to subaerial erosion. He throws out the suggestion that the real explanation lies in a slow progress of submarine erosion in rock disintegrated by a sea-floor current

due to some peculiarity of coastal configuration and accelerated no doubt during stormy weather. This submarine erosion, or "marosion" as Prof. DAVIS termed it, might create a valley in the course of time and meanwhile of course no sedimentation would occur in it but only on either side. Monterey mock valley, seventy miles south of the Golden Gate, is cited as a typical example.

BIBLIOGRAPHIA OCEANOGRAPHICA

(Edidit Johannes Magrini - Sumptibus Collegii Thalassographici Italici.

Ex typis C. Ferraris, Venetiis).

The *Bibliographia Oceanographica* for 1931 has now appeared; this completes its fourth volume.

Since its first appearance in 1928 as an *Essai de Bibliographie* it has been perfected and made more complete annually with regard to both quality and quantity of the material, as well as in the uniformity of its wording and typographic form.

Thus, the Bibliography satisfies all the aims at internationalization for which it is intended; besides, taking into consideration the subjects dealt with, it is the only Bibliography of its kind in the world.

The title of each work is given in the original language and is followed by an explanatory translation in Latin; the abstracts are written in one of the principal languages, viz. in English, French, German, Italian or Spanish.

The material included in this Bibliography is arranged in such a way as to enable the reader immediately to find the argument that is of interest to him. Research is further facilitated by means of indexes according to Authors and Subjects.

The first two volumes (1928 and 1929) included the mention of some works concerning fresh water as well as naval construction and plant, which, however, are not dealt with in the later volumes.

Thus, at present, the subjects dealt with in the Bibliography are the following:

Navigation: Marine works: Literature.

Physical Oceanography. General: Geology of the sea: Geography of the sea: Chemistry and Physics of sea water: Dynamics of the sea: Geophysics.

Biological Oceanography. General, Methods: Physics and Chemistry of organic cells: Cytology and Histology: Anatomy and Physiology: Reproduction: Development and Growth: Pathology and Teratology: Ecology: Biogeography: Descriptive Biology: Paleobiology.

Fishery. Economy and Legislation: Biology, Hydrology, Research applied to fishery Ports and Fishing Grounds: Vessels and materials concerned: Statistics: Industry and Commerce: Edible and commercial species.

Each chapter is divided into a suitable number of paragraphs.

The Bibliography composed of one annual volume is distributed, in the form of pamphlets, immediately on their publication to all the Institutes, Laboratories, Societies, Museums, and Editors occupied in the study of the above mentioned subjects or which publish works of this kind which are sent to the Bibliography on the basis of exchange.

Volumes V and VI (1932 and 1933) are in the press.

A very great number of publications is consulted in drawing up this Bibliography.
