be especially given to the accuracy with which the position of the sounding has been determined. It should be borne in mind that a sounding is three-dimensional; in other words, it is of actual value as a vertical measurement with respect to the ocean bed only if the accurate geographical position of such sounding can reasonably be relied upon. Modern science presents great resources and numerous methods to help the hydrographer in the art of drawing up surveys. The geologist, on the other hand, should accept for his physiographic studies only data obtained by applying modern methods and scientific technique. Modern hydrographic surveys present a fairly high scientific aspect, and the geologist should accept with the greatest circumspection those data which are not based on these modern principles and which do not answer necessities corresponding to the possibilities offered by science.

DEEP SEA DIVES WITH THE BATHYSPHERE.

(Extract from the *Bulletin of the New York Zoological Society*, Nov.-Dec. 1934, and *The National Geographic Magazine*, Washington, Dec. 1934).

Dr. William BEEBE's deep sea dives with the Bathysphere have already been mentioned in *The Hydrographic Review*, Vol. VIII, No. 1, May 1931, page 245.

During 1934, the oceanographic work undertaken by the New York Zoological Society was resumed at Nonsuch, Bermuda, and the opportunity occurred to perform a series of dives down to 3028 feet with the Bathysphere, which has been much improved within the last few years. During a noteworthy dive, which lasted three hours, the occupants were able to note some extremely interesting data concerning fish in the very heart of their element. A report on the various dives effected and the results obtained has been published by the New York Zoological Society in its November-December 1934 Bulletin, as also in an article by Dr. William BEEBE in the December 1934 issue of *The National Geographic Magazine*, which includes a particularly striking series of coloured photographs relative to the dives.

GREAT SEA WAVES.

by

LIEUTENANT-COMMANDER R. P. WHITEMARSH, U. S. NAVY.

(Extract from the *United States Naval Institute Proceedings*, Menasha, Wisconsin, August 1934. p. 1097).

The fascinating study of sea conditions, in great vogue over fifty years ago, has, with the advent of steam and its detracting activities, come into a measure of neglect. It is significant that authorities of to-day in their treatment of the sea find it necessary to refer to theories developed in 1888, 1890, 1900, and 1904 for their latest data. Some of the best work was accomplished by the German scientists von HELMHOLTZ, BORGEN, and ZIMMERMANN many years ago in studies of the North Sea.

The extreme height of storm waves is one phase of the subject on which there is no evident agreement. Waves of seismical origin are not considered in this discussion, except that one may serve as an example of a wave of extreme height. In August, 1883, there was an earthquake central near the Island of Krakatoa, Sunda Strait. One of the resulting seismical waves measured 135 feet (41.1 m.) in height, which figure is generally accepted because of the thorough investigation which followed.