

work. The initial board consists of George P. Ahern, former chief forester of the Philippines, J. T. Crawley, former director of Cuban and Porto Rican Experiment Stations, V. M. Cutter of the United Fruit Co., Dr. William Crocker, director of the Thompson Institute, Dr. R. A. Harper, National Research Council, Dr. L. R. Jones, head of the department of plant pathology at the University of Wisconsin, H. C. Larkin, president of the Cuba Railway company, Dr. S. C. Prescott of the Massachusetts Institute of Technology, and Dr. D. L. Van Dine of the American Society of Economic Entomologists. The scientific director and general manager will be Dr. W. A. Orton, now with the Bureau of Plant Industry of the U. S. Department of Agriculture.

Dr. Jones will be the first president of the Foundation, and Dr. Harper will be vice-president. The administrative headquarters will be in Washington. Much of the laboratory work will be done at the Thompson Institute, Yonkers, N. Y., and field laboratories will be established in the tropics as needed.

NEW SOUNDING METHOD IMPROVED BY COAST SURVEY

Accurate determinations of the velocity of sound in sea water, which will make possible the further development of the sonic depth finder in marine survey work, have been made by the U. S. Coast and Geodetic Survey. The speed of the sound waves under water has been found to vary so greatly with the temperature, pressure, and salinity that unless these are known the sonic method of sounding the depths of the sea is apt to be inaccurate. The problem has been to work out some sort of theoretical velocity which might be safely used in this work.

The oceanographic cruise last fall of the Coast and Geodetic Survey steamer Guide from the east to the west coast by way of Porto Rico and the Panama Canal, and the subsequent work of that vessel on the Pacific Coast led to results which went far toward a solution of this problem. Wire soundings were taken at many places ranging in depth up to more than five miles. Sonic soundings were taken at the same time, and the temperature of the water and its salinity measured or calculated for various depths.

As a result, it has been found possible to deduce a theoretical velocity for the sound waves at many places, and under differing conditions which when used for computing depths by the sonic method and compared with those obtained by wire soundings, showed very slight errors.

The sonic depth finder was developed by Dr. H. C. Hayes of the Naval Research Laboratory, Bellevue, D. C. It measures the time taken for sound to travel to the bottom of the ocean and back again and has been used for deep sea soundings by Navy vessels in various parts of the ocean, especially off the Southern California coast. Sound travels in sea water at a speed of from 4800 to 5000 feet a second, and the importance of determining this velocity accurately if accurate soundings are to be made, is evident.

READING REFERENCE - Murray, John. The Ocean. New York, Henry Holt and Co. 1913.
