

It was, on motion,
RESOLVED that the sum of Thirty-five thousand one hundred dollars
RF 52059 (\$35,100), or as much thereof as may be necessary, be,
and it hereby is, appropriated to the UNIVERSITY OF
CALIFORNIA for research on the biochemistry of marine
microorganisms under the direction of Professor Claude E.
ZoBell, of the Scripps Institution of Oceanography, during
the three-year period beginning July 1, 1952, not more than
\$13,000 to be available in any one year.

The following considerations were presented:

Natural Sciences and Agriculture: Agriculture - Microbiology

Previous Interest: Since 1930 the Scripps Institution of Oceanography has received \$81,000 from The Rockefeller Foundation of which \$30,000 was for laboratory facilities and the balance for specific research programs. A current grant of \$29,000 for research in the biochemistry of marine organisms under D. L. Fox expires June 30, 1953.

Professor Claude ZoBell was awarded a special fellowship in 1947 for a year's study in Europe and the United States.

General Description: As part of the Foundation's new emphasis on agriculture, and in addition to support of operating programs and of research clearly and closely related to agriculture, it is planned to aid basic research which, from a long-range point of view, is related to the broad problems of man's future food supply. It is an obvious fact that, at the present time, man obtains practically all of his food supply through exploitation of photosynthesis which occurs on the land masses. On the other hand, slightly over 70% of the surface of the earth is water. This indicates the desirability that man eventually learn how to make effective use of the solar energy which falls upon the sea. It seems clear, moreover, that photosynthesis occurring in the microorganisms of the sea will form a necessary step in any future program for more effective exploitation of the seas as a source of human food.

It is against this general background that a grant is recommended to enable Dr. ZoBell to carry out a study of the factors that affect the biochemical activities of microorganisms in the sea. Dr. ZoBell is one of the few competent scientists interested in such problems. For several

years he has been particularly interested in the effects of hydrostatic pressure, and the Research Committee of the University of California has been granting him (and presumably will continue to grant him) funds for the purchase and development of high pressure apparatus necessary for such studies.

UNIVERSITY OF
CALIFORNIA -
MICROBIOLOGY
(Continued)

Dr. ZoBell's recent findings include preliminary information indicating that there is a definite relationship between the temperature tolerance of bacteria, viruses, enzymes, etc., and the pressures to which they are subjected. He has also observed that pressure seems to affect the reproduction or cell division of certain organisms much more than it affects growth itself.

Professor ZoBell's work has in the past received substantial assistance from the American Petroleum Institute, which would like to go on buying a considerable fraction of his time. The Institute wishes his research to be directed toward certain practical problems. Professor ZoBell, however, is much more interested in doing fundamental research.

Finances: The proposed grant of \$35,100 for a three-year period would be used annually approximately as follows:

Stipends of two half-time research assistants	\$ 4,000
Salary of one full-time research associate	5,400
Travel, collecting and communication expense	950
Laboratory supplies and expendable equipment	<u>1,350</u>
Total	\$11,700

Future Implications: It is possible that the officers may wish to recommend further assistance for this work.
