

H. Burr Steinbach is an experimental zoologist and general physiologist who took his Ph.D. degree under Heilbrunn at the University of Pennsylvania in 1933. He conducted postdoctoral research at the University of Chicago and at the University of Rochester as a National Research Council fellow; then, between 1935 and 1946, he taught at the University of Minnesota, Columbia University, and Washington University, St. Louis. In 1947 he returned to Minnesota as full professor and remained there for 10 years, with a sabbatical as a Guggenheim fellow in England and at the University of London in 1956. In 1957 he returned to the University of Chicago as chairman of the department of zoology.

For many years he has spent the summer at Woods Hole, Mass., where he has devoted himself to research at the Marine Biological Laboratory. He has been as intimately connected with the Woods Hole laboratory as with any institution at which he has taught during the academic year, and he is a trustee of the laboratory and a member of the corporation.

Steinbach has fulfilled several significant special assignments. In 1953-54 he took a year's leave from the University of Minnesota to serve as assistant director for biological and medical sciences at the National Science Foundation in Washington. He has been editor of the *Biological Bulletin* and president of the Society of General Physiologists. He is now president of the American Society of Zoologists. Further, he is chairman of the Division of Biology and Agriculture of the National Academy of Sciences-National Research Council, where his term expires on 30 June 1960. He is not a newcomer to this division, having played an important role in the

organization of the American Institute of Biological Sciences, which originally was a part of the division. At present he is also a member of the National Science Foundation's Divisional Committee for Biological and Medical Sciences.

His research papers have ranged from studies on the ontogeny of enzyme systems and intracellular localization of enzymes through acclimatization phenomena in fish to active transport of ions across cell boundaries and the origin of bioelectric potentials. His recent interests are concerned with the general biochemistry and ecology of the alkali metals and their compounds. He has also written on some aspects of the history of science.

The varied interests and activities of these two men, coupled with their editorial experience, make them valuable additions to the Board.

Dupont Grants

Grants totaling nearly \$1.2 million have been awarded to 139 universities and colleges in the Du Pont Company's annual program of aid to education. The entire program is for fundamental research by universities and for strengthening the teaching of science and related liberal arts in the 1959-60 academic year.

Du Pont nearly doubled its grants for unrestricted research in the physical sciences because of the growing need for this type of work, which the company has been supporting since 1949, and because of the flexibility of this form of support. These funds may be used for fundamental research in any way the institutions wish, including the support of graduate students that the company has previously aided through a separate series of postgraduate fellowships started in 1918. The universities determine the research to be undertaken and are free to publish the results.

For this work, the company gave \$450,000 to 36 universities in grants ranging from \$5000 to \$20,000 for fundamental research in chemistry, chemical engineering, physics, mechanical engineering, and metallurgy. An additional \$27,000 was awarded for 18 summer research grants of \$1500 each. The purpose is to enable individual staff members of 17 universities to undertake research of their own choosing in chemistry and engineering during the summer.

As has been the case in recent years, the largest part of Du Pont's program is to help strengthen the education of scientists and engineers. Grants totaling \$696,000 were awarded to more than 100 colleges and universities to support the teaching of science and mathematics

as well as other subjects. These awards include:

1) \$4000 each to 76 colleges to help maintain their records of strength in chemical or technical education. Each grant provides \$2500 for chemistry teaching and \$1500 for advancing the teaching of other subjects.

2) \$4000 each to 23 major universities to help strengthen undergraduate teaching of courses that contribute to scientific and engineering education.

3) \$3000 each to 12 medical schools to support education and research in biochemistry.

4) \$184,000 for 46 postgraduate teaching assistantships, chiefly in chemistry, shared by 42 universities.

5) \$80,000 for fellowships and scholarships for prospective high school teachers of science and mathematics. This includes 26 postgraduate fellowships at seven universities and 54 summer scholarships for undergraduates at six colleges.

Grants for other university work round out the total program. The total increase over the grants for the present academic year is about \$45,000.

Space Handbook

A 250 page document, titled *Space Handbook: Astronautics and Its Applications*, has been made available by the House-Senate Committee on Astronautics and Space Exploration. The booklet, in its four parts and 29 chapters, covers in outline the history of thinking and work in regard to space activities, scientific and technical considerations in regard to current work in this country and others, and possible future uses for space vehicles operating at and beyond the periphery of the earth's gravitational field. The work was done by the Rand Corporation of Santa Monica, Calif., a private, nonprofit research organization specializing in study and evaluation of matters affecting national security. John W. McCormack, chairman of the committee and representative from Massachusetts, requested the study to aid the new Congress, the new congressional Committee on Science and Astronautics which succeeds his committee, and the public in gaining the best possible appreciation of the state of astronautics and the future trends.

In addition to an introduction, the document has sections on technology (covering such subjects as vehicles, propulsion systems, power sources, communication), on applications (presenting the use of satellites for observation, meteorology, navigation, and exploration), and on astronautics in the United Kingdom and the People's Republic of China.



H. Burr Steinbach