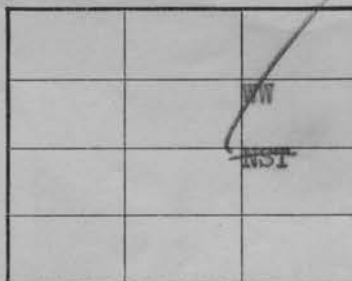


Nov 29, 1933

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CIT
Biology + Chemistry

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FOR OFFICERS' CONFERENCE - CALIFORNIA INSTITUTE OF TECHNOLOGY
(Chemistry)

It is recommended that an appropriation of \$10,000 be made to the California Institute of Technology for the research work in chemistry of Professor Linus Pauling, for use during the academic year 1934-35.

1. At a meeting of the Foundation held December 10, 1930, an appropriation of \$500,000 toward a sum of \$4,000,000 for the development of the natural sciences at the California Institute of Technology was made. The date fixed for the collection of pledges was a five-year period beginning February 2, 1931.

At a meeting of the Foundation held May 9, 1932, an appropriation of \$40,000 towards the expenses of two research programs, one in physics and one in chemistry, during a period of two years beginning July 1, 1932, payments to be made at a rate not to exceed \$20,000 a year, was made.

2. The program of research in chemistry under the above grant has been carried out with great success under the direction of Dr. Linus Pauling. This work extends the technique of wave mechanics to the study of complex inorganic and organic molecules. A quantitative theory of the chemical bond results. Such research falls in the borderline where mathematics, chemistry and physics meet.
3. The general plan of the research to be continued under this grant involves an experimental and theoretical attack on important problems of structural chemistry and the use of recent developments in physics. The experimental methods principally used are X-ray diffraction by crystals and electron diffraction by gas molecules. The theoretical work involves the application of quantum mechanics to complex molecules.
4. In theoretical chemistry, Dr. Pauling is preeminent. He has a speculative mind of the first order, great analytical ability, and the genius to keep in close touch with experimental work. So fundamental is the nature of the problems under investigation by Professor Pauling that they necessarily underlie in a most significant manner the vital processes which constitute the present major interest of the Natural Sciences. The electron-diffraction method and the theoretical techniques have, in fact, now advanced to the point where it is possible to study the structure of chlorophyll, hemoglobin, and other substances of basic biological importance.