

CALIFORNIA INSTITUTE OF TECHNOLOGY
PASADENA

GATES CHEMICAL LABORATORY

November 7, 1933

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Biology + Chemistry

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Dr. Warren Weaver,
Director, Division of Natural Sciences,
Rockefeller Foundation,
61 Broadway, New York.

Dear Dr. Weaver:

I am writing in support of the formal application being made by this Institute for the continuance for three more years of the annual grant of \$10,000 used during the past two years in developing and carrying on, under the immediate direction of Professor Pauling, of researches on the electronic structure of molecules, based mainly upon measurements of the diffraction of x-rays in crystals and of electron-streams in gases, and interpreted with the aid of quantum theory and wave mechanics.

From your talks with Professor Pauling and your inspection of his experimental set-up you are already familiar with his investigations. However, you may like to have a written statement in regard to them. I am therefore enclosing herewith a brief memorandum prepared by Professor Pauling, similar to the one he gave you.

At the risk of being classed as a "California booster," I ventured to express to you the opinions that Pauling is engaged upon the most important problem of theoretical chemistry today, and that he has a combination of training and qualities which fit him in very exceptional degree to attack this problem. These are, for whatever they are worth, my sincere, deep-seated convictions.

I will add only a few words as to the importance of continued financial support. In the molecule structure work, as you learned, Professor Pauling is being assisted mainly by six men having the status of Research Fellows of this Institute,

RF grant 5-9-32
\$40,000 toward 2 Res.
Program, one in physics &
1 in Chem, beg. July 1, 1932.

who have recently been awarded their Doctor's degree and who now receive annual salaries of \$1000 to \$1600 (or \$2000 in the case of Dr. J.H. Sturdivant), totalling this year \$8400. Moreover the character of the experimental work and of its theoretical interpretation is such that it can be adequately carried on only by men of this degree of experience. Yet the financial state of the Institute is such that, without outside assistance, it will be hardly possible to provide salaries for any men of this character (though we would try hard to retain at least one of them - Dr. Sturdivant). It is true that several able Ph.D. candidates (as well as unpaid research fellows from other institutions) are being trained in the work; but they can effectively carry it on only after about two years' training, when they naturally expect to receive moderate salaries, comparable with those of National Research Fellows. The continuance of the investigations with anything like their present effectiveness is therefore dependent on our securing funds from some outside source.

It was very nice to have you in Pasadena again after so many years' absence; and I hope that "Pasadena Revisited" may henceforth be a part of your annual program.

Yours very sincerely,

Arthur A. Noyes.

N:M