

1155 East 57th Street
Chicago 37, Illinois

January 20, 1959

Dr. Norris E. Bradbury
The Los Alamos Scientific Laboratory
Los Alamos, New Mexico

Dear Dr. Bradbury:

Attached you will find a memorandum containing some observations concerning the possibility of Los Alamos taking an interest in molecular biology.

I have greatly enjoyed my stay at Los Alamos and wish to take this opportunity to thank you for the hospitality extended to me on the occasion of my visit.

Sincerely yours,

LS:er
Encl.

Leo Szilard

P. S. In case there should be any need for you to contact me, it would be easiest for you to place a person-to-person call to me c/o Mrs. Noreen Mann, Extension 2549, Midway 3-0800, Chicago. In my absence from Chicago, Mrs. Mann acts as my secretary at the University of Chicago and I always keep her informed where I can be reached. Thus she should be in a position to transfer your phone call or to tell you where I may be reached.

January 20, 1959

MEMORANDUM

FROM: Leo Szilard

TO: Norris E. Bradbury

Is Los Alamos capable of taking up molecular biology?

If Los Alamos wants to take up molecular biology as a field of research, it will have to do this under conditions in which it can successfully compete with the leading universities for the spirited chemists, physicists and M.D.-s who have recently moved into this field or who are about to change over into this field. A few years ago this would have presented no problem. At that time men of this class were working mostly under the protection of physics departments of various universities. It is only in the last few years that the doors of the biology departments of the leading universities were opened to them. Right now, however, there is keen competition for able men in this field.

If and when Los Alamos is ready to move into this field, it might invite for a visit a group consisting of perhaps three senior and three junior men in this field and propose to them that they team up and work at Los Alamos. This would presume that Los Alamos may be willing to make available 5000 square feet laboratory space and a salary budget of \$120,000 a year, with the understanding that in the course of the following five years the space would be expanded to 10,000 square feet and the salary budget would be increased to \$200,000. As far as I can see today, this might be a permanent ceiling for the budget and the space

allotted for molecular biology at Los Alamos. The initial outlay would be about \$100,000 for specialized equipment and another \$100,000 might be expended for specialized equipment in the course of the following five years.

It is conceivable that on this basis a first-class group might be gathered at Los Alamos. Los Alamos offers several attractions to young men who work in the field of molecular biology. At Los Alamos they would be free of teaching duties and could devote all of their time to research problems in a semi-academic atmosphere. In addition, the general setting of Los Alamos offers attractions to young married couples with children because such centers of research as New York or Boston present almost insoluble problems to them. If they settle in the suburbs of such cities, the man has to commute to his place of work.

If in addition to these attractions Los Alamos were to offer an opportunity of working in a well blended congenial group, it is conceivable that Los Alamos could successfully compete for "talent" with the present major research centers in molecular biology.

Reasons why Los Alamos ought to take an interest in molecular biology and above all astrophysics.

I am assuming that Los Alamos ought to remain mainly a development laboratory. In that case its success might well depend in the long run on being able to attract and to hold a moderate number of imaginative scientists of the type that are usually attracted by academic life rather than by industrial positions. Before the war, at the time of the discovery of fission, the major industrial laboratories, such as for instance those of

the General Electric Company, Westinghouse, DuPont, etc., lacked men of this sort. This is the reason why they failed to participate in the pioneer work in atomic energy.

The two fields which are at present attracting imaginative scientists more than any other, are astrophysics and molecular biology. Accordingly, I suggest that Los Alamos move into both of these fields. It would seem that astrophysics ought to be given priority over molecular biology in this regard.

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~~In the case of astrophysics~~ An imaginative theoretical physicist who graduates these days would be well advised to go into astrophysics, which appears to offer a greater scope to imaginative physicists today than any other field of physics. This field should be attractive to many of those who have a broad interest in physics. It is my guess that many more young physicists would take up astrophysics these days, if it were not for the fact that the prospects for a university career in this field are at present far from good.

On the one hand there is great interest today on the part of the government and the public in astronautics, and on the other hand there are no adequate positions open at universities for astrophysicists. Because of this discrepancy Los Alamos could render a public service by moving into this field on an appropriate scale and today it would have an opportunity to attract the most imaginative young physicists.

Similarly molecular biology offers a great attraction today to physicists, physical chemists, chemists and M.D.-s who are interested in fundamental scientific problems. One finds among these men, who have made

the change to molecular biology or are contemplating such a change, many spirited, imaginative scientists. Even though many universities are now competing for these men and new departments of biophysics are being created, Los Alamos would be rendering a service if it were to offer a setting which is more attractive to some of these men than any of the existing settings.

Later on Los Alamos might perhaps go one step further and hold in the summer time specialized laboratory courses in various branches of molecular biology for about 20 to 25 participants. This could give an added impetus to the development of molecular biology because it would enable men trained in physics, physical chemistry, chemistry or medicine to acquire the specialized knowledge, that they must have in order to change over into this field. Such summer courses would give Los Alamos an opportunity to find talented young men and to get them to look upon Los Alamos as a desirable place to work.

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Should, however, any of the molecular biologists want to take an interest in the problems of aging and radiation exposure, and should they, therefore, want to go into animal experimentation on a large scale, it

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cc: Darol K. Froman
J. M. B. Kellogg
James L. Tuck
Carson Mark
Conrad L. Longaire

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