Westex 5 - C February 19, 1959

Subject: Communication from Aaron Novick

Norm Horowitz' memo and letter of February 6 regarding the problems of back contamination and the goals of exobiological research demand comment. Since I will be unable to attend the coming Westex meeting, I would like to communicate my reactions to you.

The principal fault I find with Norm's statement is that he considers as a scientific problem a problem which is properly the concern of all. The decisions regarding what risks should be run in the face of the threat of back contamination are decisions not to be made by the scientific community alone but are decisions that must be made by the public at large. To act otherwise is to be irresponsible.

In the case of the problem of contaminating other planets with earth life, most people apparently believe that this is largely a scientific problem. Contaminating a planet would be a scientific catastrophe and would otherwise not affect mankind. Back contamination as we agree poses a threat to everyone. Admittedly the probability of back contamination with catastrophic consequences is very small indeed, but quite possibly the product of this small probability times the measure of all possible catastrophes is finite.

Certainly one of the early goals of exobiology is to analyze the materials on the surfaces of the nearby planets. But when Norm speaks of subordinating all other aspects of the program to this objective, he confuses me. There are many other ways of getting information about the nature of the surfaces of the planets which must be considered. All of these programs must be examined in the light of the restrictions which face us. These restrictions are not only technical; our society necessarily places restrictions upon us, if only to protect its own welfare.

Our duty is to acquaint the public as well as we can with our knowledge and our opinions so that a democratic decision can be made. Society weighs the gains from our program versus the costs, expressed in risks as well as in dollars. Hence, a primary objective of exobiological research is to develop the facts regarding the possibilities of back contamination.

We must make as imaginative a study as possible of the hazards and search for the information necessary for the public to have a responsible basis for a desision. An immediate order of business is the planning of such a study, leading to the design of specific experiments.

The analogy to Columbus, like most analogies, only creates confusion. Perhaps I enlarge upon this confusion, but it is not inconceivable -- witness the myxoma virus in the rabbit population in Australia -- that syphilis might have erased pretty much all of the population of Europe. Had this occurred, it would be agreed that restraint of Columbus would have been a good idea. A few experiments might have led to a successful scheme for excluding the disease. Alternatively, it might have been worthwhile to wait until Fleming's discovery of penicillin.