

D R A F T
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INTRODUCTION
Notes by J. Lederberg

"The search for extra-terrestrial life" has perhaps the widest base of appreciation of any space science program. As the exploration of Mars, it is also the most ambitious. Paradoxically, the very breadth of scientific interest here may blur its apparent support. Other scientific projects tend to attract a limited circle of enthusiasts who become uniquely expert on their implementation and will devote their full time energies to them. In exobiology, a much wider range of scientific interests is necessarily represented. Many of its proponents will share their preoccupations in exobiology with interests closer at hand in terrestrial science over the very long time involved in operational plans in space science. The interval is, after all, a significant fraction of a scientific career. The same scientists are also acutely aware of their responsibilities as citizens to contribute to the best allocation of natural resources. In these circumstances it is understandable that there has been considerable debate concerning the relative value of biological exploration compared to other efforts that we might make as national enterprises.

Most of this discussion, it should be stressed, centers on the larger issue of the National Space program taken as a whole. It is well recognized that scientific investigation has played a definite but not the primary part among the motifs of the entire program. There has been considerable criticism of the relative allocation of

our national effort to space, compared to education, natural resources, domestic welfare, foreign aid or budgetary retrenchment. The participants in the present study represent a wide range of views on this question. The most forceful criticism of investment in the exploration of space is negative, fairly directed at our failures elsewhere, and at the frustration of reasonable opportunities to make explicit choices among well-planned alternatives. On the other hand, many participants are highly enthusiastic, as are many other citizens, even about the extra-scientific aspects of the national space program. A brief consensus of such a range of views is difficult, and we have provided for any individual statements that might be volunteered for varying points of view.

As a body we have not been charged with, nor do we attempt such a broad over-view. We predicate our conclusions on the continued vigor of a national space program. In that context we conclude that the vigorous prosecution of exobiology must accompany the overall effort, and at a pace consistent with it. Our charge is not to attempt to justify entirely on scientific grounds the very large cost of development of the Saturn booster systems. This is already firmly committed. We have addressed the question whether the application of such a system to exobiology can answer well-framed and important scientific questions justifying a high priority within the space program.

In this study, we have developed the theme that our aim in the search for life is tantamount to the evolutionary history of a sister

July 26, 1964
Page 3

planet. We reassert* that this is the preeminent scientific opportunity of the exploration of space. The booster developments have given us a realistic opportunity to answer some of the most fundamental questions in the theory of life, for the understanding of our own evolution, and to lay the essential scientific groundwork for the future course of exploration. A balanced effort in our national space program will only be effected if this search takes its part in the total effort at a pace commensurate with it.

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* ref. Iowa Study