

space exploration because it is "challenging" or represents "progress"; among those who are interested in meeting challenges, a good number will no doubt decide that they prefer to expend money and effort on challenges more immediately and intimately related to their own needs and those of the earth-bound human community.<sup>31/</sup>

However, certain ideas related to space activities may even now be contributing in some quarters to changing horizons. For example, under the impetus of the new but frequent claims that space exploration is a fine example of man's most worthy aspiration -- the accumulation of knowledge per se -- a public attitude favorable to scholarship in general may be generated. Acceptance of long planning periods for space activities and the possibility of international space programs may stimulate attitudes favorable to multinational cooperation and systematic planning in other areas as well. And perhaps the belief that space activities must inevitably result in broadened horizons and perspectives will encourage a pattern of responses which will produce a "self-fulfilling prophecy."<sup>32/</sup> In any case, it would be desirable to anticipate the effect of possible new perspectives or the lack of them as a prelude to planning for the effective meshing of space activities and programs with other socially important activities. This will require research:

- . . . To develop appropriate methods for measuring personal perspectives and changes in them.
- . . . To determine over time (aided by the measuring methods indicated above) the extent to which space activities are perceived as complementary or contradictory to the needs and aspirations of various significant portions of world society and especially to those of the opinion makers and pressure groups.

#### The implications of a discovery of extraterrestrial life

Recent publicity given to efforts to detect extraterrestrial messages via radio telescope has popularized -- and legitimized -- speculations about the impact of such a discovery on human values.<sup>33/</sup> It is conceivable that there is semi-intelligent life in some part of our solar system or highly intelligent life which is not technologically oriented, and many cosmologists and astronomers think it very likely that there is intelligent life in many other solar systems. While face-to-face meetings with it will not occur within the next twenty years (unless its technology is more advanced than ours, qualifying it to visit earth), artifacts left at some point in time by these life forms might possibly be



discovered through our space activities on the Moon, Mars, or Venus. If there is any contact to be made during the next twenty years it would most likely be by radio -- which would indicate that these beings had at least equaled our own technological level.

An individual's reactions to such a radio contact would in part depend on his cultural, religious, and social background, as well as on the actions of those he considered authorities and leaders, and their behavior, in turn, <sup>34/</sup> would in part depend on their cultural, social, and religious environment. The discovery would certainly be front-page news everywhere; the degree of political or social repercussion would probably depend on leadership's interpretation of (1) its own role, (2) threats to that role, and (3) national and personal opportunities to take advantage of the disruption or reinforcement of the attitudes and values of others. Since leadership itself might have great need to gauge the direction and intensity of public attitudes, to strengthen its own morale and for decision making purposes, it would be most advantageous to have more to go on than personal opinions about the opinions of the public and other leadership groups.

The knowledge that life existed in other parts of the universe might lead to a greater unity of men on earth, based on the "oneness" of man or on the age-old assumption that any stranger is threatening. Much would depend on what, if anything, was communicated between man and the other beings: since after the discovery there will be years of silence (because even the closest stars are several light years away, an exchange of radio communication would take twice the number of light years separating our sun from theirs), the fact that such beings existed might become simply one of the facts of life but probably not one calling for action. <sup>35/</sup> Whether earthmen would be inspired to all-out space efforts by such a discovery is a moot question. Anthropological files contain many examples of societies, sure of their place in the universe, which have disintegrated when they have had to associate with previously unfamiliar societies espousing different ideas and different life ways; others that survived such an experience usually did so by paying the price of changes in values and attitudes and behavior.

Since intelligent life might be discovered at any time via the radio telescope research presently under way, and since the consequences of such a discovery are presently unpredictable because of our limited knowledge of behavior under even an approximation of such dramatic circumstances, two research areas can be recommended:



- . . . Continuing studies to determine emotional and intellectual understanding and attitudes -- and successive alterations of them if any -- regarding the possibility and consequences of discovering intelligent extraterrestrial life.<sup>36/\*\*</sup>
- . . . Historical and empirical studies of the behavior of peoples and their leaders when confronted with dramatic and unfamiliar events or social pressures.<sup>37/</sup> Such studies might help to provide programs for meeting and adjusting to the implications of such a discovery. Questions one might wish to answer by such studies would include: How might such information, under what circumstances, be presented to or withheld from the public for what ends? What might be the role of the discovering scientists and other decision makers regarding release of the fact of discovery?

#### Implications of man in space

The evolving man-in-space program may already be having its impact on values and attitudes. Given the people involved and the necessary risks in the program, it is likely that there will continue to be value conflicts in various parts of the general public as well as in the groups which must make decisions about the direction and extent of future activities in this area.

The Mercury man-in-space program has already received much comment in the media, which illustrates the kind of conflicts that can be expected. There have been favorable reports, as typified by the articles on the astronauts, their families, and their training.<sup>38/</sup> There have been unfavorable statements about the "stunt" characteristics of the program and about its apparent tendency to emphasize the glamorous astronauts rather than the scientific and engineering aspects and problems of the project.<sup>39/</sup> Many commentators have remarked that wives and children are assets to astronauts, who can thus still be considered "normal" Americans; at the same time, their military status permits them to take risks which large portions of the general public might not otherwise consider appropriate for family men. A leading anthropologist who has studied this problem says the astronauts "are not models for other women's husbands -- not one little bit....Part of the feeling about space, which spreads right through the country, is women's objection to men's going there."<sup>40/</sup> The actual astronaut launching may highlight the question of a man's responsibility to family versus his willingness to risk death in space. This and similar questions will be resolved, probably not without emotional conflict, according to the particular personal and institutional values held by those involved in various aspects of the controversies.