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An initial assignment for the President's Science Advisory Committee, which was formed in the aftermath of the launches of Sputnik 1 and 2, was to assess the appropriate direction and pace for the U.S. space program. PSAC focused heavily on the scientific aspects of the space program. With the president's endorsement, on March 26, 1958, it released a report outlining the importance of space activities, but recommended a cautiously measured pace.

STATEMENT BY THE PRESIDENT

In connection with a study of space science and technology made at my request, the President's Science Advisory Committee, of which Dr. James R. Killian is Chairman, has prepared a brief "Introduction to Outer Space" for the nontechnical reader.

This is not science fiction. This is a sober, realistic presentation prepared by leading scientists. I have found this statement so informative and interesting that I wish to share it with all the people of America, and indeed with all the people of the earth. I hope that it can be widely disseminated by all news media for it clarifies many aspects of space and space technology in a way which can be helpful to all people as the United States proceeds with its peaceful program in space science and exploration. Every person has the opportunity to share through understanding in the adventures which lie ahead.

This statement of the Science Advisory Committee makes clear the opportunities which a developing space technology can provide to extend man's knowledge of the earth, the solar system, and the universe. These opportunities reinforce my conviction that we and other nations have a great responsibility to promote the peaceful use of space and to utilize the new knowledge obtainable from space science and technology for the benefit of all mankind.

[Signed]

Dwight D. Eisenhower

[1] **INTRODUCTION TO OUTER SPACE**

What are the principal reasons for undertaking a national space program? What can we expect to gain from space science and exploration? What are the scientific laws and facts and the technological means which it would be helpful to know and understand in reaching sound policy decisions for a United States space program and its management by the Federal Government? This statement seeks to provide brief and introductory answers to these questions.

It is useful to distinguish among four factors which give importance, urgency, and inevitability to the advancement of space technology. The first of these factors is the compelling urge of man to explore and to discover, the thrust of curiosity that leads men to try to go where no one has gone before. Most of the surface of the earth has now been explored and men now turn to the exploration of outer space as their next objective.

Second, there is the defense objective for the development of space technology. We wish to be sure that space is not used to endanger our security. If space is to be used for military purposes, we must be prepared to use space to defend ourselves.

Third, there is the factor of national prestige. To be strong and bold in space technology will enhance the prestige of the United States among the peoples of the world and create added confidence in our scientific, technological, industrial, and

military strength.

Fourth, space technology affords new opportunities for scientific observation and experiment [2] which will add to our knowledge and understanding of the earth, the solar system, and the universe.

The determination of what our space program should be must take into consideration all four of these objectives. While this statement deals mainly with the use of space for scientific inquiry, we fully recognize the importance of the other three objectives.

In fact it has been the military quest for ultra long-range rockets that has provided man with new machinery so powerful that it can readily put satellites in orbit and, before long, send instruments out to explore the moon and nearby planets. In this way, what was at first a purely military enterprise has opened up an exciting era of exploration that few men, even a decade ago, dreamed would come in this century. . . .

[6] **WILL THE RESULTS JUSTIFY THE COSTS?**

Since the rocket power plants for space exploration are already in existence or being developed for military need, the cost of additional scientific research, using these rockets, need not be exorbitant. Still, the cost will not be small, either. This raises an important question that scientists and the general public (who will pay the bill) both must face: Since there are still so many unanswered scientific questions and problems all around us on earth, why should we start asking new questions and seeking out new problems in space? How can the results possibly justify the cost?

Scientific research, of course, has never been amenable to rigorous cost accounting in advance. Nor, for that matter, has exploration of any sort. But if we have learned one lesson, it is that research and exploration have a remarkable way of paying off--quite apart from the fact that they demonstrate that man is alive and insatiably curious. And we all feel richer for knowing what explorers and scientists have learned about the universe in which we live.

It is in these terms that we must measure the value of launching satellites and sending rockets into space. . . .

[13] the scientific opportunities are so numerous and so inviting that scientists from many countries will certainly want to participate. Perhaps the International Geophysical Year will suggest a model for the international exploration of space in the years and decades to come.

The timetable . . . suggests the approximate order in which some of the scientific and technical objectives mentioned in this review may be attained.

The timetable is not broken down into years, since there is yet too much uncertainty about the scale of the effort that will be made. The timetable simply lists various types of space investigations and goals under three broad headings: Early, Later, Still Later. . . .

[14] EARLY

1. Physics

2. Geophysics

3. Meteorology

4. Minimal Moon Contact

5. Experimental Communications

6. Space Physiology

LATER

1. Astronomy

2. Extensive Communications

3. Biology

4. Scientific Lunar Investigation

5. Minimal Planetary Contact

6. Human Flight in Orbit

STILL LATER

1. Automated Lunar Exploration

2. Automated Planetary Exploration

3. Human Lunar Exploration and Return

AND MUCH LATER STILL

Human Planetary Exploration

[15] In conclusion, we venture two observations. Research in outer space affords new opportunities in science, but it does not diminish the importance of science on earth. Many of the secrets of the universe will be fathomed in laboratories on earth, and the progress of our science and technology and the welfare of the Nation require that our regular scientific programs go forward without loss of pace, in fact at an increased pace. It would not be in the national interest to exploit space science at the cost of weakening our efforts in other scientific endeavors. This need not happen if we plan our national program for space science and technology as part of a balanced national effort in all science and technology.

Our second observation is prompted by technical considerations. For the present, the rocketry and other equipment used in space technology must usually be employed at the very limit of its capacity. This means that failures of equipment and uncertainties of schedule are to be expected. It therefore appears wise to be cautious and modest in our predictions and pronouncements about future space activities--and quietly bold in our execution. . . .

Back