

## SPIRITUAL IMPACTS OF THE SPACE PROGRAM ON THE WORLD

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Discussions of the space program and its benefits tend to concentrate on specific technological advances, on weather reporting systems, earth resources surveys, use of miniaturization, and so on. Those advancements are important indeed, but this paper is about less concrete, but no less important contributions that the space program has made to the human spirit, and to the ability of man to live in the world and with his fellow man.

Since 1945, and the devastation of Hiroshima, man's hope has deteriorated; man has lacked faith in his ability to control the forces of this horrible weapon. He has lacked faith in his ability to control his future and, indeed, to survive. There has been a desperate feeling that we somehow are careening toward disaster and that there is nothing else that we can do about it. We have all looked on hopelessly as riots have spread throughout our cities, as important political figures have been assassinated, as the war in Vietnam takes the lives of our young men despite our public protest, and as our cities have become more crowded, and even less livable.

Then suddenly and recently came the dramatic words, crackling through space, that people have landed on the moon. Nearly all the world was stunned by this dramatic announcement as we suddenly realized that, in the midst of all our difficulties, man had conquered a problem so complex that it was inconceivable to the individual. We realized, by devoting sufficient resources and talent, difficult problems could be solved, and it gave us hope; hope that we could accomplish other seemingly impossible tasks here on earth. As Astronaut Collins said, as he addressed the joint session of our Congress, following the first walk on the moon, "We cannot launch our planetary probes from a springboard of poverty and discrimination or unrest." Through that statement and through statements like that, we came to realize that the same kind of intensive national effort might solve these problems.

Is it not interesting that since the first moon walk, much of the discontentment and unrest has died down, and we are now not faced with summers of riots in our major cities? There is no obvious

cause-and-effect relationship; however, I am convinced that there is some connection. The hope which inspired the space program and was inspired by that program has given us a new hope here on our planet, earth.

Equally significant has been the phenomenon that as man reached toward the stars, he suddenly gave a new perspective of himself and the world he lives in. In the words of Dr. Wernher von Braun, Apollo furthermore has altered the concepts we had of ourselves, of our earth, and of man's capabilities to guide events, if only slightly, to a new future, on a scale never thought possible before. The significance of these concepts is that they are not merely national in scope; they embrace all humanity. As such, they tend to knit together man's mind and aspirations toward common goals for the benefit of all; not just to the advantage of some.

The view from another planet, the moon, brought hope to us that earth is the abode of all men, that it is unique in the solar system, and that we depend for existence on its slender resources of air, water, minerals, and plant life. To see earth as a complete and closed ecological system, in the black of space, was an emotional shock which shook us free of long-established purely parochial concerns. We suddenly realized how fragile and tenuous is our hold on life; not only human life but all life. For all we know, as of this moment, earth is the only habitat of living things in the universe, no matter how we may speculate the chances that are we are not alone and life exists elsewhere.

As I recall, Astronaut Bill Anders of Apollo VIII, in the midst of the first circumlunar voyage, talked about his home planet as a small blue-green ball, about the size of a Christmas tree ornament. Of course, Colonel Worden made a similar comment before a joint session of Congress, during his official welcome home after Apollo XV, when he commented on the oneness of the earth that we do not see from the ground; deep in space there are no visible boundaries nor can any differences be seen in race or religion or political beliefs. His point was that he and his fellow astronauts were a team of three, living in the spacecraft, Endeavor; a situation very similar

to the billions of people living and working on the spacecraft, earth. His point was, just as our astronauts were required to work together to survive, we, here on earth, are faced with a similar struggle. I must say that I wish we earth-bound representatives were approaching our task with the same training, skill, knowledge, and cooperation of our spaceborne counterparts.

Let us just take stock, for a moment, of that spaceship, earth. Projections of the world population, growth, food and water supplies, power generation requirements, environmental pollution trends, and usage of the earth's resources, land and sea, indicate that within the next 100 years we will reach a point where the immediate survival of our planet will depend upon the careful and complete management of

its environmental control system. Perhaps this frank and brutal assessment was an outgrowth of those comments by our astronauts. More important, and a vital contribution of their activity, will be to establish a technical base by which we can enter into this era of a man-dominated closed-loop environmental system with confidence in human survival. My point is that the goals of man's spaceflight, and for that matter, Apollo XV, were not directed toward idealistic or emotional objectives. Indeed, the goals of man's spaceflight are firmly tied to a critical national and world objective: our quality of life on this earth and survival itself. With that vision and with that confidence, which the space program has given us, mankind indeed can survive.