

WHAT THE SPACE AGE HOLDS FOR YOUR CHILDREN



The new era will be complex and demanding but will offer limitless opportunities for those who prepare for it



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THE CHILDREN of some of you reading this article will explore the Moon and neighboring planets. Still others, as scientists, engineers, and technologists, will have fascinating careers in the Space Age without ever leaving Earth. But don't be discouraged if your boy or girl is resisting, let's say, arithmetic.

Dr. Wernher von Braun, German-born rocket expert, was a poor mathematics student as a boy, but he had a consuming interest in rockets. When he realized he would have to master mathematics in order to pursue space technology as a career, he buckled down and overcame his weakness.

Today, the Space Age is having the same effect on thousands of American children, and not just in mathematics. A lively sense of adventure now pervades many a biology laboratory and physics classroom which students formerly considered as dull but necessary requirements for a diploma.

A professor in New York Medical College recently advised his first-year students to learn all they could about three-stage rockets, explaining to the startled group: "What we are learning about man in the space situation will give us a better understanding of man here on Earth. For this reason, I believe medical schools will be offering courses in space medicine before long."

The professor was illustrating an important fact: that Space Age horizons are truly unlimited.

Astronomers and upper-atmosphere physicists, specialists for whom there was little economic demand only a few years ago, are now desperately needed. And as we begin to explore the planets, there will be great need for botanists, geologists, physicians, and psychologists, as well as for all kinds of engineers.

Among the first men to land on the Moon will be geologists, to determine its structure; botanists and agronomists, to find out whether plant life exists or could exist, given the proper environment; and chemical engineers to process the Moon's mineral resources.

But our children must be made to understand that careers await only those who are willing to study seriously from grade school on. The Space Age will demand varied and complex skills that are not easily acquired. In short, there will be no room for those whose formative years have been devoted largely to hot rods and rock-'n'-roll.

A case in point is NASA's team of seven Mercury Astronauts, one of whom will be the first pilot of a capsule which will be shot skyward atop a mighty Atlas missile for the flight through space at 18,000 miles an hour. As exhaustive tests have shown, each man is well-balanced, extremely intelligent, and in superb physical condition. While youngsters in school, they applied themselves to mathematics, physics, English, and history, as well as to athletics. Being military men and test pilots, they know how to accept strict discipline—yet they are capable of split-second initiative and have highly original minds. In their careers, courage is taken for granted.

WE IN AMERICA are prone to boast about our technical "know-how." I have long felt that we may have achieved this excellence at the expense of basic research. But I think the Space Age—young as it is—has already gone far toward correcting this situation. If we are to survive technologically and spiritually, we must constantly refill the reservoir of knowledge by respecting and supporting basic research.

I am not what we in Washington refer to jokingly as a "Space Cadet," that is, someone who deals in fanciful predictions of marvels to come. I am an educator, temporarily on leave from my post as president of Case Institute of Technology, and an administrator trying to see that the taxpayers' money is spent wisely in exploring this new realm and in reaping its benefits. But I will say this: the benefits of space research and development should prove as far-reaching as those stemming from atomic energy.

Some of the tangible results are already in view. Vanguard II, NASA's cloud-cover satellite, whose photo cells scanned weather patterns around the globe and reported the information by radio to ground receiving stations, has proven to our satisfaction that a weather satellite system will some day provide a worldwide, 24-hour-a-day weather lookout. Imagine what this will mean to every one of us: the housewife, the businessman, the construction worker, the farmer—those who live in hurricane, typhoon, and tornado belts.

Only about 10 percent of the Earth's surface is now covered with today's weather-forecasting devices. A weather satellite system will make weather forecasting a far more exact science.

We are hard at work on a communications satellite system which will make transoceanic television possible and speed up communications tremendously. For example, hundreds of cable messages from London to New York might be transmitted to a satellite racing overhead, then radioed to the ground minutes later as the satellite streaks over New York.

We are also learning much about the shape of the Earth and about the make-up of its atmosphere and of outer space, little of which seems to have immediate commercial application. Such research, however, is immensely valuable.

NOR DO MEN have a monopoly on careers in space. Ann Eckels, a gifted 24-year-old NASA scientist, made important contributions to the recent investigation which revealed that the Earth is shaped more like a pear than a bulging sphere. Miss Eckels is one of several women scientists in NASA.

Physicist Hans Reichenbach once said of his specialty that whoever succeeds in looking behind "this hard shell of technical terms with which it has surrounded itself" will discover "a science full of living problems, full of inner motion, full of the intense endeavor to find answers to the questions of the truth-seeking spirit."

This is just as true of space technology.

In my opinion, the space fever which appears to be sweeping our youth will be an important force in establishing U. S. leadership in science. The spirit is the important thing: the excitement of hard thinking, of developing ideas for their own sake.

This spirit was well expressed by the late Robert H. Goddard, "father of American rocketry," who said: "It is difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow."

COVER:

Cover artist Joe Petro illustrates what an exhausting business baby-sitting can be — for Grandpa, that is; for Baby, the fun has just begun.

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