

Goals in Understanding Science

Our lives are better for understanding science and the knowledge that the earth is but a tiny speck in a vast universe

Excerpts of remarks by Dr. Glenn T. Seaborg, Chairman, U.S. Atomic Energy Commission at the Arches of Science Award Banquet, Pacific Science Center, Seattle, Oct. 19. (See SN, 90:292, 1966.)

Why should it be so important that our people understand something about science? Why should people know what a scientist does, what motivates him, and the implications of scientific results? What are our goals?

In my opinion, there are two major, interrelated goals. The first is philosophical, involving the quality and the dignity of human life and the fullest use by man of his capacities; in sum, the increase in man's significance. The evolution of cultures from the primitive to the sophisticated, from intellectual poverty to intellectual riches, from needless fears and superstitions to the relative security of relative understanding; these forward movements have been paced by the painstaking ascent of the mountain of knowledge.

Our lives are better for knowing the sources of lightning and earthquakes, and for understanding that the earth, far from being the center of the universe, is but a tiny speck in a pageant of immense grandeur.

Knowledge Enriches

We are enriched by knowing why a tree is green and how it captures and stores the energy of the sun, and thereby grows.

To know that we inherit our individual characteristics from a lovely, orderly strand of molecules and to comprehend the arrangement of those molecules seems to me to be a triumph for the human spirit, entirely apart from the future practical nature of this knowledge.

All of this knowledge, it seems to me, increases and in no way diminishes man. For me, the beauty of a starry night or a forest or a rainbow is enhanced by an understanding of them. Nor does scientific knowledge, in my opinion, reduce appreciation of a poet's sonnet, a musician's theme or a painter's canvas.

A second major goal, not unrelated to the first, is concerned with the continuation of freedom and of the most effective functioning of democratic government in a period of revolutionary social change. This revolution is well-named "The Scientific Revolution," since the engines that drive it are science and technology. In the

last three decades, science, once a peripheral preoccupation of a few intellectuals, has emerged as a central force in domestic and world affairs. . . .

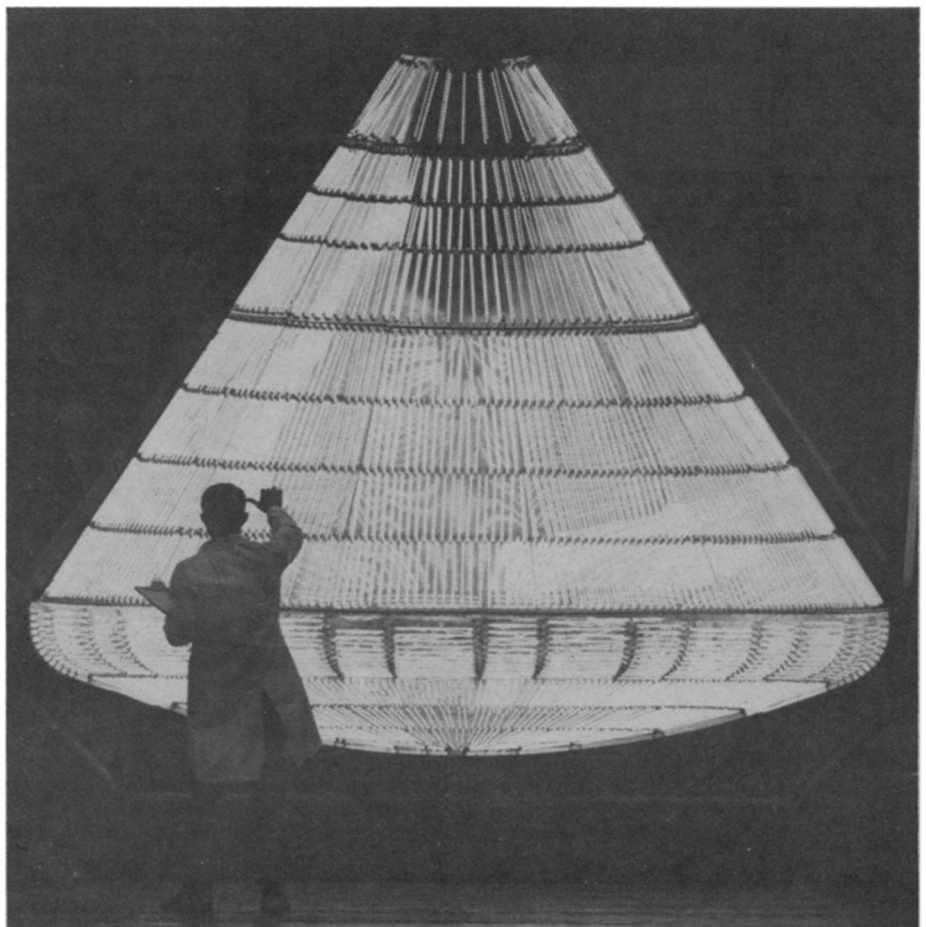
Today, flourishing industries, employing thousands of people, are based on knowledge that did not exist a decade ago. We use science and technology as instruments for improving the material quality of human life, both in our own country and abroad.

Moreover, we are dependent upon science and an aggressively exploitative technology for the continuation of the kind of society in which we now live. And we must redouble these efforts if we are to realize present, and perhaps better, living conditions

for immensely larger populations in the world of the future.

All of this means, of course, that some of the most important decisions affecting our lives and those of millions of people around the world revolve around science and technology. Our form of government is flexible enough so that we have, I believe, an excellent cross section of representation in making these decisions in the executive and legislative branches of the government. This representation is similar in kind to that employed in technical decisions in finance, foreign affairs, agriculture, and other fields.

Yet, the heart of freedom and its agency, democracy, is widespread, in-



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