



Perspective

The Scientist's Responsibility for Interpretation

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IN TODAY'S WORLD there is great popular respect for the scientist as a technician dealing with nutrition and food supplies, with remedial drugs and health, with increased efficiency in transportation and communication, with mechanical marvels and wonder-working calculating devices. Even the new and truly revolutionary weapons of modern warfare, for which he is responsible, are applauded by many grateful citizens.

But there is great popular skepticism concerning the ability of the scientist in the areas of economics, politics, and social organization. His willingness to appraise, as objectively as possible, all proposals and suggestions from whatever source is bad enough. His readiness to try experiments that might challenge long-established, time-hallowed procedures is even worse. And when one comes to international affairs, the scientist's deeply embedded sense of fraternity among those who seek knowledge in the same field of investigation, regardless of their nationality, is almost certain to expose him to the charge that he is "soft" in his thinking about the United States *vis-a-vis* other nations.

This low appraisal of the scientist-as-citizen is an important aspect of the anti-intellectualism that today appears all too commonly in the climate of public opinion. It has been encouraged and strengthened by conservative politicians and demagogues who say to the scientist, in effect: "Continue your research. Improve the machinery. Design new gadgets. Create more powerful weapons. But stick to your laboratories. We will determine how, and for what purposes, all these things shall be used in practical, everyday life" . . .

To respond victoriously to the challenge implicit in the contemporary ebb of confidence in science and scientists, it is necessary for the scientist to interpret his work to the layman in terms of concepts and mental constructs, rather than in terms of gadgets and applied techniques. This interpretation, however, must be something more than an inculcation of knowledge concerning the new concepts of each new stage in the forward march of science. It is the process of conceptual

thinking that must be explained, the scientific habit of mind that must be made attractive. . . .

Scientists are handicapped in their endeavor to share fundamental concepts with the layman because they have not yet succeeded in sharing fundamental concepts with one another. The process of conceptual thinking is, however, universally acclaimed by every research scientist, and its power and virtue are known to all who have made effective use of it. Its nature can therefore be proclaimed with a unanimous voice, a voice that will carry across the chasm and make at least some impact on the attitudes of those within range.

It will, however, be necessary for scientists to seek concepts that unite not only the sciences with one another, but also the sciences with the arts and the humanities. That such concepts can be found is a part of the faith of many modern men. It is in fact a faith that is held implicitly if not explicitly by every man who seeks a truly satisfying philosophy of life, who really believes that life has meaning. When found, such ineffably basic concepts should be proclaimed to all the world. . . .

Much progress has already been made in the search for the basic concepts that will integrate the many segments of knowledge and of life that now seem fragmented and unrelated. Many men, working in widely varied disciplines of thought, are actively concerned with this search. . . . Too much of our so-called "general education" is concerned with the acquisition of factual data culled from a broad array of sources. It is conceptual thinking that should be stressed; integrative concepts that should be made known.

Here then is the contribution that scientists may make toward the ordering of our chaotic world. More widespread understanding of the scientific approach to knowledge may yet save that world from disintegration.

(Excerpts from an address before the AAAS symposium "The Individual Scientist in Today's World," December 1953. Reproduced from Science, March 5, 1954, by permission.)