GENERAL SCIENCE

Research Comes First

Science is the building of one experience on another and although science for useful goals is important, it is basic science on which our future development depends.

➤ UNLESS SCIENCE is made understandable to the public, today's scientists are going to be looked upon as a new class of witch doctors, the President's special science and technology assistant, Dr. Donald F. Hornig, told members of the National Association of Science Writers on the 30th Anniversary of its founding.

It is up to science writers to interpret the new findings of science to readers who otherwise may view them with distrust and suspicion, he said at the Philadelphia meeting.

When people are called on to finance, through taxes, a billion dollars a year of pure science, and more than ten times that much for technological development based on science, Dr. Hornig said, they have a right to know what is valuable and what is mediocre.

Dr. Hornig said it seemed to him that the "role of creation and imagination is often missed in the conventional view of science in the 20th century.

"Science is often seen as a vast collector of useless and sometimes trivial facts," he said. Dr. Hornig pointed out that what distinguishes science from other creative activity is that it has proved possible not only to invent ideas that bring beauty, elegance and order to the world of nature but to build them one on another.

Dr. Hornig stated, "I do not mean to give the impression that science has solved all our problems or that it will ever be capable of it. What has emerged is that there is a set of intellectual frontiers which can be pushed back systematically, that ideas can be constructed in ways which constantly expand what has been done before, so that at the present time the horizons are further away than in the past and opening up further all the time.

"As our sight improves, we constantly recognize more problems still to be solved, and that is part of what makes it all so exciting.

"The importance of science in the 20th century and its interest to our people do not, of course, rest just on the understanding we have achieved or the concepts we have invented. Most people are more interested in the equally challenging task of combining the ideas and the observations of science in new ways which provide us with new energy sources, new materials, new ways to treat disease, and so on.

"It is commonplace that the power, the wealth and the health of nations in the 20th century depend on the application of advanced technology based on science, and in this country we therefore devote 15% of our federal budget to the application of science.

"It is easy for you to explain that 15%, but much harder to make clear that the 1% which supports fundamental science is a vital part of our national life—as a foundation for the future and as a central part of our intellectual and cultural progress.

"All of the big programs are relatively easy to assess and to explain to the public," Dr. Hornig said. "They are designed to meet national needs and national goals.

"It is meaningful to inquire as to the degree of need, the importance of the goal, and the adequacy of the program to meet the goal. The cost of the program can be looked at in a rational framework, and we have little difficulty in finding such programs when the needs and opportunities are evident."

Dr. Hornig said that a lack of "understanding of the scientific progress can get us into difficulty, even in big, directed programs. The most common difficulty is to suppose that if we can identify a need we can meet it by directing enough effort to it."

He said further that questions related to prescribed, useful goals are important, but a more subtle problem is how to nurture the fundamental science on which our future rests.

"It is not easy to defend in the Congress. It is not easy to show that it is worth the cost. And it is not easy to make clear to the public what constitutes excellence and what is 'busy work,' " he said. "For this the country needs your continuing help.

"But we most assuredly know that what we can practically achieve in the future will depend on the foundations we erect now."

The real problem, Dr. Hornig said is "to aid what is good in an area anywhere, in the words of the Seaborg panel of the President's Science Advisory Committee, 'The outstanding is far superior to the very good and the mediocre is worse than useless.' "

• Science News Letter, 86:226, October 10, 1964

PUBLIC HEALTH

American Public Health Association Gives Awards

➤ THE AMERICAN Public Health Association awarded three scientists the 1964 Bronfman Prizes for Public Health Achievement, the highest public health honors in the United States, at its annual meeting in New York.

The winners who have pioneered research in their fields are:

Dr. George E. Moore, director, Roswell Park Memorial Institute, Buffalo, N.Y., for his work in cancer research; Dr. Robert H. Felix, retiring director of the National Institute of Mental Health, and incoming dean of the School of Medicine, St. Louis University, for his studies on mental illness and mental retardation; and Dr. Malcolm H. Merrill, director, California State Department of Public Health, for his research on environmental health hazards.

• Science News Letter, 86:226, October 10, 1964