24 February 1967, Volume 155, Number 3765 **SCIENCE**



# International Biological Program

In our times of unprecedented change, biologists tend to be conservative. They are well aware of the rapidly growing abilities of their fellow human beings to alter the face of the earth through the enormous physical power of technology. But they are equally aware that the physical alterations produced by technology can bring about unknown, far-spreading, and often destructive changes in the web of life that is stretched so thinly over the surface of our planet. Our technology has outpaced our understanding; our cleverness is growing faster than our wisdom.

Our goal should be, not to overcome the natural world, but to live in harmony with it. To attain this goal we must learn how to control not only the external environment but ourselves. Especially we need to learn how to avoid irreversible change if we are going to be able to assure for future generations the opportunity to choose the kind of world in which they want to live. Biologists realize they understand too little about the complex interrelationships among living things to be able to predict the effects of technical change or to help the technologists in conserving the values and utilizing the abundance of the world of life. They believe greater understanding will make it possible for man to respond to opportunity as well as to react to need. To gain such understanding is the underlying purpose of the International Biological Program.

This Program has three related objectives: human welfare, scientific advance, and the development of international scientific cooperation. These three objectives cannot be separated. Biologists can contribute uniquely to human welfare only by advancing scientific understanding, and the basic premise of the International Biological Program is that the growth of understanding will be accelerated by international cooperation among the world's biologists.

To be effective, the program must have a certain concentration. It should focus on those aspects of human welfare that will most benefit from international cooperation in biological research. Our scientific objectives are similarly limited. Our basic interest is the development of scientific ecology in its broadest sense, with special emphasis on the genetics and dynamics of populations; the factors that control biological productivity; the ways in which plants and animals, and especially men, adapt to their environment; and the changing distribution of living things in the sea and the air, and on the land.

If scientific opportunities are to be created for the future, scientists of different countries will need to cooperate in the conservation of natural areas as well as in research. New research methods must be developed and old ones greatly extended. In the past, ecologists have studied particular limited communities; now, work on a few large-scale systems is needed to test and extend our understanding. New approaches to worldwide biological surveys are needed to improve the level of description of the biosphere. If the United States is to play its part, individual American biologists, working by themselves or with groups of colleagues, must take the lead. The chief purpose of this editorial is to call attention to some of the opportunities and to encourage American biologists to think of others.—ROGER REVELLE, *Chairman, U.S. National Committee for the International Biological Program*