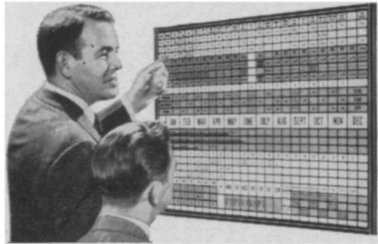


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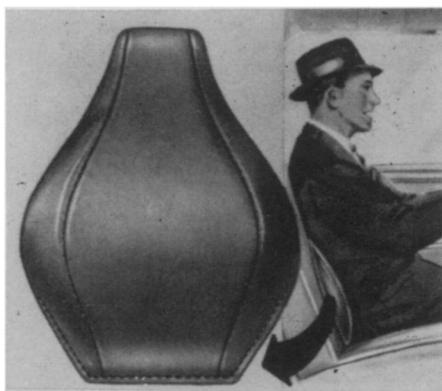
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INTERNATIONAL BIOLOGICAL PROGRAM

Biology's Grandiose Plan

Scientists hope to generate new research in areas of greatest relevance to human welfare.

by Barbara J. Culliton

After several successful worldwide scientific "years," including the International Geophysical Year and the International Year of the Quiet Sun, biologists are following suit with a frontal attack on some of the most urgent world problems—a polluted environment and a dangerous imbalance between human fertility and human resources.

The IGY, 1957-1959, turned up the Van Allen radiation belts. Scientists backing the International Biological Program hope the coordinated efforts of thousands of world biologists over the next five years will have equally spectacular results.

The U.S. IBP committee has singled out nine specific science fields, the study of which it considers urgent and important to human welfare. The IBP, which sees the identification of problems as one of its missions, wants world biologists to initiate research projects aimed at answering the questions it raises.

- Human populations vary. What, the IBP would like to know, is the exact nature of human differences? Why is one population stable and one fluctuating? What, if anything, has the difference to do with human survival? The Subcommittee on Human Adaptability hopes to come up with methods for measuring these unknowns.

- Marine biologists are attempting to generate interest among world scientists in focusing on the nature of plant and fish life in the oceans.

- Biogeographers want to study the rapidly disappearing plants and animals in the Hawaiian Islands which they see as "an outstanding laboratory for the study of evolutionary processes."

- Nutrition, man-induced changes in the atmosphere and biological control of pests are other specific challenges to the IBP.



Bureau of Indian Affairs

Stable circumpolar population and...

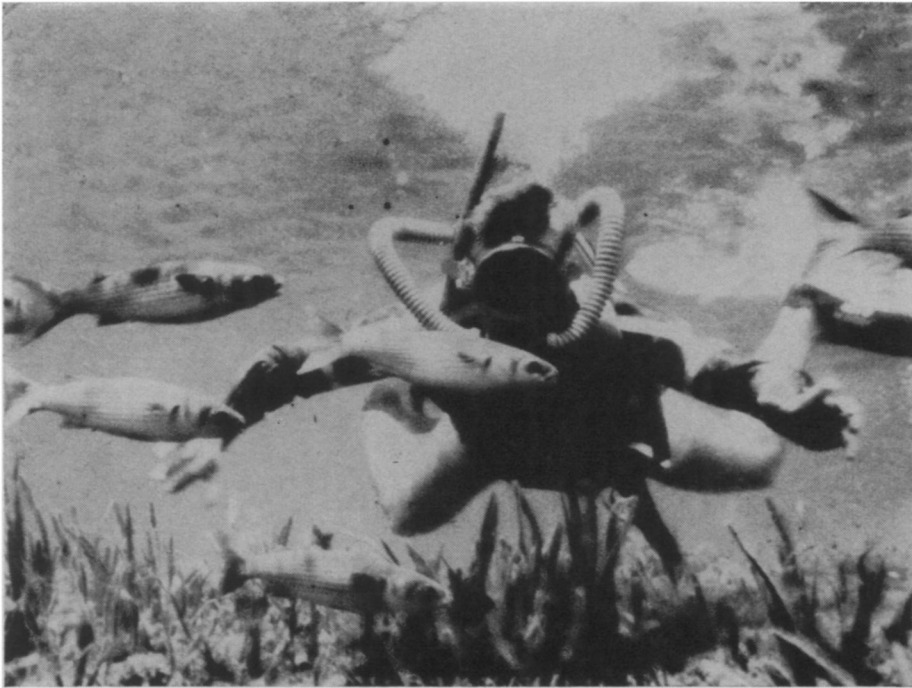
The idea of a world biology program was first considered 10 years ago by European scientists who saw immediate danger in the population explosion and depletion of world food supplies. But that was at a time wide-spread birth control measures were neither available nor broadly acceptable. However, in 1962 a planning committee headed by an Italian professor outlined a proposed IBP which was approved the following year and is now emerging from its planning stage.

It finds that organizing biological research on a worldwide scale is no easy task.

Even though in the United States the IBP has the blessings of Congress, it faces a number of obstacles as it moves into full operation.

Biologists who, it seems, like to work alone, have not been quick to answer the call for unification, though officials at the National Academy of Sciences, who are handling the program in the U.S., say response has been good in the last three months as details and goals have crystallized and been publicized. They anticipate several thousand participants. So far there are only 60.

Dr. Ivan L. Bennett Jr., deputy director of the White House Office of Science and Technology, which favors the IBP, says biologists should get over the general belief that original ideas come from people who sit alone and think intensively. "While this procedure may be extremely helpful in reaching a difficult decision or reviewing existing knowledge, I doubt that it fosters creative thoughts," he says.



. . . Marine biology are some targets of the biological program.

And creative thoughts and new knowledge about man and his world are what the IBP is looking for. Dr. Bennett sees the IBP offering both "academic and practical advances, for understanding and for application to pressing problems."

Now, with money tight and White House pressure on for payoffs in biological research, the framework of applied science that is superimposed on what will be to a large extent a fundamental study, may increase chances of getting support dollars.

Requests ranging from \$5,000 to \$450,000 for single projects have been made to Government agencies such as the National Science Foundation and National Institutes of Health and to private groups such as the Ford and Rockefeller Foundations. So far, of the 60 biologists who have submitted plans for participation in the IBP, most are still waiting for approval. Approvals await decisions of funding agencies as well as IBP committees that will evaluate the relevance of proposals to IBP goals.

Foreign scientists will get financial support from their own governments though the amounts that will be made available for IBP research are still largely unknown.

At recent hearings of the House Subcommittee on Science, Research and Development, Harvard professor Roger Revelle, U.S. chairman of the IBP, said more research proposals might be generated if Government agencies included specific requests for money for IBP projects in their budgets. Because the

IBP has no established fiscal base, scientists are inclined to believe that IBP proposals are at a disadvantage in competing for funds, Revelle told Subcommittee Chairman Emilio D'Adario (D-Conn.).

Representative D'Adario, however, advised IBP officials to leave well enough alone. D'Adario suggests that if the IBP were put up on a line item basis in the budget, chances are it would be dealt crushing blows by budget cutters, particularly because there is not much of an on-going program as yet. Tight money and the international flavor of the program might also conspire against IBP requests, a subcommittee spokesman says. "IBP projects stand a much better chance on an individual basis."

Predictions on the future of the IBP vary. Some scientists foresee great advances in science and international understanding if an estimated 25,000 to 50,000 biologists from 38 countries including the Soviet Union are able to work together. Skeptics see it as just another enormous program with noble ambitions, though some doubters are being converted to the idea, IBP planners report.

Its aim of studying the "biological basis of productivity and human welfare" may sound ambitious, but IBP coordinators are determined to maintain working limits on the nature of research projects they approve, singling out those which "will benefit from international collaboration, and are urgent because of the rapid rate of the changes taking place in all environments throughout the world."



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government effort backing the development and commercial exploitation of computers, found nowhere else in Europe. Key projects include the financial support of her largest manufacturer, International Computers and Tabulators, support for Elliott Automation in its efforts to introduce computer control for many different industries; a large effort in numerically controlled machine tools and computer-aided design; and the setting up of a National Computing Center, opened last month.

At the opening ceremony of the Center, Prime Minister Harold Wilson remarked "In the field of computer technology we have much to offer Europe. Many of the major advances have originated in British minds. And there are, of course, clear advantages in pooling our ideas and our resources with those of our fellow Europeans. . . . Computers can be a most important element in the contribution we can make to the technological advance of Europe as a whole."

David Fishlock

FROM MEXICO

Heat Exacts a Toll

Every year children and adults die of dehydration in Mexico's spring heat waves; every year authorities promise to do something about it.

Although the federal, state and local governments involved refuse to release any figures on the number of victims of heat and water shortages, thousands of children have been hospitalized so far this year, and at least 75 babies under age three are dead.

Officials deny that there is any major problem, but reliable sources report that the government's Anti-Disaster Committee is beginning a study of the recurrent heat waves.

The heat this year struck with particular virulence in the northern Mexican cities of Monterrey and Chihuahua. There, according to unofficial estimates, more than 50 have died and some 1,500 children have been hospitalized for heat-related illness.

In Saltillo, 30 infants have died; more than 950 were hospitalized in Mexico City at the Children's Hospital. A major cause of death is dehydration resulting from improper care of children with diarrhea.

Authorities are also becoming alarmed by a spiraling suicide rate during heat spells. Within one 24-hour period recently, 10 persons killed themselves.

Many cases of dehydration can be traced to poor families without a sufficient supply of potable water. They often do not realize that children with

diarrhea need to drink more than usual.

In areas such as Monterrey where the problem is of long standing, efforts have been made in the past by health authorities to get parents of dehydrated children to bring them to hospitals. The parents are often reluctant to do this or do not realize that effective treatment is available.

Each year, and especially within the past five years when the water situation has become graver, city authorities and government have talked about bringing water from outlying watersheds. Nothing has been done with the exception of a half-hearted effort to try to get citizens not to waste water. With this failing, the recourse is to cut off water anywhere from three to four hours to 15-16 hours as they do in Cuernavaca.

The heat wave also hit the southwestern United States; temperatures of up to 110 degrees have been recorded in Texas. In Mexico City, temperatures at this time of year rarely reach 90, but in Monterrey, 100 or more is not uncommon.

Emil Zubryn

FROM BRITAIN

Computer Diagnosis

A computer at the City University, London, has been used to diagnose tumors in the human brain.

The project began 18 months ago, but the first trials—carried out on the University's ICT 1905 computer—were only recently concluded.

Two programs are prepared for the computer, one which holds information on all previous intra-cranial tumors and which is updated with each new set of data, and the other which stores the information on the tests carried out on the patient under examination.

On the first program, the information covers three basic types of tumor, each of which is broken down into sub-groups of classification. These sub-groups cover such facts as position of the tumor, kind, size and number.

The basic examinations made of the patient include X-ray, angiograms, scintillation scanning and various types of cephalographic measurements. The total number of facts obtained for the second tape is about 400.

The computer then checks each of these in turn, making comparisons against the data on the first tape. Further tests are next suggested by the machine before the final diagnosis.

The computer can assimilate numerous seemingly-unimportant facts and use them to assist in the diagnosis, something which a clinician often finds difficulty in doing.

F. C. Livingstone

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