

News and views

SCIENCE AND UNESCO

THE FIRST FOUR YEARS

"As to science," Director General Jaime Torres Bodet of the United Nations Educational, Scientific, and Cultural Organization remarked a while back, "it is true that research has blossomed impressively in certain lands and brought them a plenitude of wellbeing and power. But it is far from having developed equally everywhere. There are other lands in which all that is known of modern science is the havoc which its wrongful use can cause. The task is therefore in the first place to spread the benefits of science everywhere, and still more to foster the desire for science everywhere, to nurture the scientific spirit, to build the foundations of science everywhere."

Although the word "science" might be supplanted here by either "education" or "culture" without doing serious damage to the director general's meaning, it has been a matter of some complaint that the program of Unesco's natural science division has been in competition with the programs of the education, humanities, and social science divisions. In actual fact there has been a merging, in most of Unesco's efforts to improve means of communication and cooperation among nations, of the three ingredients mentioned in the organization's title. Thus in its program of grants in aid to international scientific groups, which is as specialized a project as any, it is difficult to label the results as being particularly of either educational, scientific, or cultural benefit, but rather a blending of these.

A little more than four years ago, the First General Conference of Unesco was convened in Paris with the task of attempting to save modern civilization from self-destruction—a task that was to be accomplished by furthering the global diffusion of truth and ideas and knowledge. It is not surprising under the circumstances to find that there is no direct way in which the achievements of Unesco to date may adequately be evaluated. There has been little in the way of self-examination by Unesco, perhaps partly because no yard sticks exist against which it might be measured, partly because of its loosely organized staff structure and the relative independence of its particular projects. The product of many minds, Unesco has followed simultaneously about as many paths. While these have led to nothing spectacular in the headline sense of the word, Unesco has nevertheless established itself in the minds of people in widely separated parts of the world as a vitally active and producing organization.

In the natural sciences, a number of projects have been pressed more or less equally, of which probably the most immediately valuable has been that having to do with grants in aid. Since 1947, Unesco's budget for this purpose has averaged about a quarter of a million dollars annually, which is about three percent of the organization's total budget. Most of the grants in aid funds have gone to defray the expenses of publications and of transportation to and from international meetings. Among the international scientific organizations given financial help under the pro-

gram have been the International Council of Scientific Unions and the groups it federates. These unions have for many years actively practised the kind of cooperative international relations which Unesco is now attempting to encourage and to extend, and it is clear that both Unesco's aims and those of the ICSU are furthered by the relationship. The national representatives of the international unions have in a sense functioned unofficially on the scientific level much as have the diplomatic representatives of governments on the political level; but the unions, it is evident, have created far more good will among nations through communicating ideas and encouraging creative efforts in the sciences than has usually been accomplished politically through traditional diplomatic channels. Recognition of the importance of this kind of effort by the United States Department of State has been indicated in the Department's report "Science and Foreign Relations" and may well turn out to be an important step towards a very much revised concept of international relations. It is encouraging to note that both Unesco and the ICSU have had the full support of the State Department in these activities, and presumably will also receive considerable backing from the National Science Foundation upon its emergence as a functioning agency. Certainly Unesco's participation in programs for the exchange among nations of students and teachers will be of as great interest to the Foundation as it now is to the State Department.

A large share of Unesco's efforts has been directed towards helping in the development of scientifically backward regions. The plan of technical assistance to underdeveloped areas has mainly revolved about the scientific information services and the few and scattered field science cooperation offices which were established as pilot experiments and which reportedly have given highly encouraging results in terms of helping people in underdeveloped regions to help themselves.

Unesco has also chipped away wherever possible at the barriers to the free flow of information among nations, and in at least one instance has successfully driven in an opening wedge. Under its book coupon system, inaugurated in September 1948, Unesco has set up a hard-currency reserve with which to redeem coupons sent by individuals and institutions in soft-currency nations for the purchase of books, films, and scientific equipment from hard-currency areas. The organization is now seeking further hard-currency reserves, aside from those available through the annual budget, with which to expand the system. Eighteen countries now participate in the coupon scheme. A further move towards increasing the flow of science equipment, books, and films was made at the Fifth General Conference of Unesco in Florence last June, when a convention was approved to permit the duty-free entry of these materials when they are intended for educational or research purposes. An earlier Unesco-sponsored international agreement is designed to abolish duties, quotas, and licences hindering the movement of films, recordings, and other audio-visual aids to education. Both agreements are subject to ratification by member nations, but from the response to date it is expected that no serious difficulties will be encountered in this. Together with CARE (Cooperative for American Remittances to Europe, Inc.), Unesco has helped still further in supplying much-needed technical books to underdeveloped regions by participating in a book fund program whereby cash donations have been used to buy new English language text and reference books for distribution to universities, schools, and libraries in Europe and Asia.

Another phase of the communications problem in the sciences approached by Unesco has had to do with abstracting scientific literature. In June of 1949 Unesco called an international conference to review science abstracting services and to consider what steps might be taken to coordinate their efforts and to extend their usefulness. Among the results of this conference was a recommendation that thought be given to the creating of a single international physics abstract journal. A special Unesco committee of physicists was appointed to look into the matter, and although the idea of a single multilingual journal had to be discarded as impractical, definite recommendations were made for the establishment of an international physics abstracting service to coordinate the efforts of existing abstracting journals and to help them to become part of a single international plan. Both the International Council of Scientific Unions and the committee of management of *Science Abstracts* were well represented on the Unesco physics abstracting committee, and the International Union of Pure and Applied Physics was approached for comment. It was recommended that the proposed physics abstracting service be sponsored by either the ICSU or IUPAP, since it is not the intent of Unesco to sponsor programs which might better be carried out by other agencies, national or international.

Paralleling Unesco's other projects is a program aimed at popularizing science and at raising the level of science teaching throughout the world. Although embryonic, this endeavor is fundamental to Unesco's long-term objectives and during recent months a number of documents bearing on the subject of popularizing science have been prepared and distributed. In this vein also, Unesco has sponsored an impressive list of exhibits on science aimed at explaining basic facts simply and understandably in order "to develop an attitude of mind and an understanding of the effects of applying science to modern conditions and to the development of human society".

It will be seen from these examples that Unesco's own involvement in international science has generally been held to a broad and unspecial level. The greatest emphasis has been placed upon cooperative efforts with other groups in encouraging all activities which Unesco feels to be properly oriented towards the fundamental aim of world wide understanding among people. The experimental nature of Unesco's projects has very nearly been dictated by its limited budget, the goal in each case being primarily to demonstrate that the idea itself is practical. It has been Unesco's often expressed hope that such pump-priming efforts might lead to expanded projects, based upon Unesco's prototypes, but organized and financed and carried out by the nations or groups concerned. Recent emphasis upon the establishment of Unesco-sponsored international scientific laboratories of a more specialized nature underlines the need for increased efforts to develop cooperative research activities among nations and to stimulate work in the sciences on broad and apolitical levels; but it remains to be seen how far Unesco will be able to go in aiding such projects and at the same time continue working effectively towards its very much broader objectives.

The proposal of the American delegation to the Florence Conference that an international nuclear physics institute be established in Europe with the cooperation of Unesco has much to recommend it. Physicists on the Continent have few opportunities to work with modern high-voltage equipment, and certainly in comparison with the laboratories of this country theirs provide little enough in the way of luxury equipment or in many cases of almost essen-

tial research instruments. If Unesco can provide the stimulus for the creation of an adequately equipped laboratory for the use of European physicists without at the same time sacrificing other and broader projects designed to benefit a larger segment of humanity than specialists in physics, then science and presumably the world will have profited greatly. It will be remembered that Dr. Rabi, who presented the American proposal, emphasized the importance of having the laboratory constructed and maintained under the joint financing of those nations participating in the project rather than by Unesco itself.

This attitude has deeper roots than simply the requirement that Unesco's available energies be distributed uniformly and thinly over a wide variety of deserving projects. It has its origins in much of the early thoughts of those who planned Unesco as an international service and information agency. In 1947, Julian Huxley, then director general, stated the case plainly and simply. "Unesco," he said, "cannot be highbrow and confine itself solely to 'pure' science and 'fine' art. It cannot do so, because it must concern itself with the whole of humanity, not only with the specialists, the highly educated élite, or the privileged few, and is expressly charged with advancing the ideals of equality of educational opportunity; and this is not possible if Unesco's concern with science and art is confined to the encouragement of the scientist and the artist and to the learned study of their achievements. It cannot do so for another reason—because its Constitution lays upon it the duty of advancing the common welfare of mankind . . . Unesco must therefore concern itself with the widest extension and the fullest application both of the sciences and the arts."

NATIONAL SCIENCE FOUNDATION

24 BOARD MEMBERS NAMED

Another step in the direction of an activated National Science Foundation was taken on November 2 when President Truman appointed twenty-four scientists, educators, and industrialists to the National Science Board in accordance with the terms of Public Law 507 of the 81st Congress, which established the Foundation as an independent agency in the executive branch of the government. This Act specified that persons named as Board members must be eminent in the fields of the basic sciences, medical science, engineering, agriculture, education, or public affairs and that they be selected solely in terms of their individual records. The Act asks further that the members be so chosen as to provide representation of the views of scientific leaders in all areas of the Nation.

Members named by the President come from sixteen states and the District of Columbia. Seven are presidents of universities, three are college deans, three head college departments, two are directors of research projects, and four others are professors. The remainder represent industry and public affairs foundations. Of the scientists on the board, two are physicists, one is a biophysicist, one is a mathematician, four are chemists, and ten represent variously the engineering, biological, medical, or agricultural sciences. The new Board members are listed below:

Sophie D. Aberle, special research director, University of New Mexico, Albuquerque, N. M.

Robert Percy Barnes, head of the department of chemistry, Howard University, Washington, D. C.

Chester I. Barnard, president of the Rockefeller Foundation, New York City.