

ing held level or cut back, and this closes off what has been a thriving market for the talents of scientists and engineers. The Centre National de la Recherche Scientifique (CNRS), the principal source of funds for basic research, also has funding problems which have sharply curtailed its rate of growth.

In spite of these strains, it is hardly accurate to suggest that the government has abandoned science. As Hubert Curien, director general of CNRS, noted in an interview, the CNRS budget was increased 18 percent in 1972. Pay increases, however, took about two-

thirds of the increase. Not only is the cost of living rising rapidly, but, since CNRS scientists are not finding jobs outside the organization at the rate of previous years, the average age and pay grade of staff members is rising. CNRS, unlike the American National Science Foundation which it resembles, operates its own laboratories. CNRS expanded very rapidly in the middle 1960's and now employs about 20,000 persons, of whom some 6000 to 7000 are professionals. In normal times, about 300 to 400 researchers were expected to leave CNRS each year, most-

ly those who had completed the demanding state doctorate and took posts in the universities or industry. Now such posts are increasingly more scarce, there is little turnover in CNRS staff.

The heaviest pressures are building, however, in those disciplines in which the greatest numerical increases in students have occurred, in letters and the social and behavioral sciences (which the French call human sciences).

Traditionally, the student in the *faculté des lettres* in France prepared for a career in teaching. To those who completed a "second-cycle" degree, roughly

UNISIST and SIE: Promise and Fulfillment in Informatics

UNISIST is the Intergovernmental Conference for the Establishment of a World Information System. It is UNESCO's plan for exchanging scientific and technical information in all languages between all nations of the world.

SIE stands for the Science Information Exchange, a 20-year-old program run by the Smithsonian Institution in Washington, D.C. The purpose of SIE is to exchange scientific information between the agencies of the U.S. government.

Last October, a UNISIST conference was held in Paris. The U.S. delegation included the head of the National Science Foundation, the foreign secretary of the National Academy of Sciences, and many other important personages.

While the distinguished delegates were meeting in Paris, the clerks of the General Accounting Office were looking over the operations of SIE. Last month they issued a report.*

W. D. McElroy, as chairman of the U.S. delegation, declaimed to the UNISIST conference on 4 October: "It is clear that scientists everywhere have the same outlook about the necessity for the benefits to be derived from the sharing of scientific and technical knowledge. . . . We hope that thoughtful men and women everywhere will dedicate themselves to UNISIST ideals." It had long been U.S. policy to promote the unimpeded flow of information, McElroy said, through channels such as SIE.

W. D. McElroy, then director of the National Science Foundation, wrote on 21 October to the General Accounting Office, explaining that the NSF did not itself use SIE for planning purposes because its information was out of date. (Up until June 1971, SIE was funded by the NSF, which also determined its operating policy.)

The UNISIST delegates, from some 83 nations of UNESCO, concurred that scientific advance depends upon the dissemination of scientific information, emphasized that a world scientific and technical information system is feasible and indeed desirable, and invited the director-general of UNESCO to provide enough money for them all to meet again and discuss the matter further.

The General Accounting Office ascertained that gov-

ernment agencies are not bothering to provide SIE with full information about their research and development programs; that, as a result, the information possessed by SIE is "incomplete and obsolete"; and for this reason government agencies make little use of SIE's services.

At the inaugural session of the UNISIST meeting, the Romanian delegates stated their conviction that the Chinese, South Vietnamese, and Cambodian delegates were not legitimate representatives of the countries concerned. The Soviet delegates opined that it was not possible to discuss a "world" system of information exchange in the absence of representatives from North Korea. The Cuban delegation pointed out that the inadequacy of scientific information exchange in the developing countries was an obvious consequence of their exploitation by "certain powerful countries," a situation that could "only be remedied by structural changes."

The General Accounting Office asked federal agencies how useful they found SIE's services and learned as follows. The Department of Justice stated it had never heard of SIE. The Department of Labor considered SIE useless for its own purposes. The Bureau of Mines said that when requesting information from SIE it frequently received only the information the bureau had itself submitted previously. The Department of Transportation preferred to exchange information directly with other agencies, thus cutting out the SIE, and recommended that everyone else do likewise. The Office of Science and Technology, which is supposed to coordinate federal science information, said it did not have authority to make agencies submit information to the SIE. The Office of Management and Budget, which does have such authority, said it believed the present system was all right. And the Department of Commerce said that SIE should be transferred to Commerce and consolidated with the department's own information exchange service.

The UNISIST delegates focused their minds on "the need to study the integration of thesauri, the relation between standardization in the field of thesauri terminology and classification, and the compatibility of scientific terminologies with information languages."

The General Accounting Office noted that, after SIE had started making a charge for its services, previously given free, there had been a 91 percent decline in its use.—NICHOLAS WADE

* Effectiveness of Smithsonian Science Information Exchange Hampered by Lack of Complete, Current Research Information (General Accounting Office, Washington, D.C. 20548).