



FERRIS

said, but "\$300 million per year is a hell of a big communication link."

Although section 203 had no legal impact on other mission-oriented agencies, relevance is being used as the standard for implementing general budget cuts, and Mansfield is being used as the scapegoat, he complained.

Meanwhile the resources of the National Science Foundation are growing and will have doubled in three years, he noted. In a year or two, the NSF budget might reach \$1 billion, he feels. Such a momentum is already developing. "If NSF demonstrates that it can effectively dispense large funds, and if you change the psychology of the OMB (Office of Management and Budget), Administration and Congress, the research community will be much healthier. There's no one in Congress who has the time to develop a really independent interest in science policy. It's not your

sexiest political issue. If an Administration makes a request, no one around here knows enough or has sufficient time or inclination to contest that judgment."

What of the hardships scientists are experiencing during the transition period? "Change never occurs without difficulties," he said. "We never intended that the research projects *per se* would be transferred. By directly changing sponsorship to civilian agencies, we hoped that the resources would be shifted and that projects would have to meet the criteria of the civilian agency and thus have to be assessed anew." Ferris said that graduate students follow the money, that "maybe we generated too many physicists whose specialties were too narrowly adapted to DOD needs. If we're trying to change the direction, maybe the current mix of scientists should be changed." —GBL

Materials research

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goals. With the National Accelerator Laboratory and the Los Alamos Meson Physics Facility beginning operation shortly, "we have tremendously strong arguments for putting more money into high-energy physics." More NSF money is going into this field to pick up the work being dropped by other agencies. "That's the crouch for the runner to get ready to go, I believe. But it isn't going to come fast. This is going to be a hard year."

The new materials division will be a mix of pure and applied research, being a combination of engineering and scientifically oriented work. Creutz

has been concerned about the widely held opinion that materials have to be "dirty, grubby things that only forgeshop managers worry about." He feels we must change the attitude that materials work is all automatically applied. The division will concern itself with pure research with no thought of an application. In addition it will deal with applications such as welding and corrosion resistance. "If we can get these thought of as exciting scientific problems, learning what the actual mechanisms are, and get more good scientists to work on them, then we'll have made some progress."

Some physicists are concerned that certain areas of pure solid-state physics will not be supported at all under

the reorganization. Paxton said he guessed that was a reasonable worry, but he believes there are mechanisms in NSF to avoid most such "falling between chairs." "We think we've covered all the corners so that when a proposal comes in, the thing will, by no later than the second stop on somebody's desk, find a home." —GBL

McElroy leaving NSF to become San Diego chancellor

William D. McElroy is resigning as director of the National Science Foundation to become chancellor of the University of California at San Diego. Herbert F. York, formerly Director of Defense Research and Engineering, has been acting chancellor there. McElroy said he would stay on at the Foundation until the completion of the budget process.

Biologist McElroy, who came from Johns Hopkins University, took over at NSF in July, 1969 from long-time director Leland Haworth. Earlier, a storm of controversy had arisen over President Nixon's decision not to appoint Franklin A. Long of Cornell University as director, when he learned of Long's outspoken opposition to the ABM.

Under McElroy, who is known for his good relationship with Congress, the Foundation's budget has risen rapidly while research support has been dwindling in other Federal agencies. Besides its traditional support of basic research, the Foundation is now moving into more concentrated, problem-oriented areas, most notably in its new program, Research Applied to National Needs.

Seaborg replacement at AEC is an economist from OMB

After ten years as chairman of the Atomic Energy Commission, Glenn T. Seaborg has resigned and is returning to his professorship at the University of California in Berkeley. His replacement, James R. Schlesinger, an economist, is Assistant Director of the Office of Management and Budget. To fill the vacancy in the Commission left by physicist Theos J. Thompson, who died in a plane crash (*physics today*, February 1971, page 69), the President named William O. Doub, a lawyer.

The other commissioners are Clarence E. Larson, who has a PhD in biochemistry, James T. Ramey, a lawyer, and Wilfrid E. Johnson, an engineer.

Schlesinger, known as an environmentalist, will be taking over the AEC at a time when the Commission has been criticized for insensitivity to environmental problems. It is also a time when the urgency of the energy crisis in the US has become increasingly apparent.



SCHLESINGER

Before joining the Administration in 1969, Schlesinger was Director of Strategic Studies at the RAND Corp, where he worked on the role of systems analysis in political decision making. While there he served as consultant to the old Bureau of the Budget on atomic energy and directed a study on the control of nuclear proliferation. He received a PhD in economics from Harvard in 1956.

Doub, who practiced corporate law in Baltimore, has served on the President's Air Quality Advisory Board and the Maryland Public Service Commission.

Seaborg and Edwin M. McMillan shared the 1951 Nobel Prize for chemistry. Between 1940 and 1958 Seaborg and his collaborators discovered the transuranic elements with Z between 94 and 102. He is also known for his development, in 1944, of the actinide concept for placing the heaviest elements in the periodic table. Before his appointment to the AEC by President John F. Kennedy, Seaborg had served as Chancellor at the Berkeley campus for three years.

NSF survey shows 3.9% of physicists are unemployed

The current unemployment rate for US physicists is 3.9%, according to the results of a recent survey by the National Science Foundation. In the spring of 1970, only 2.3% of the US physicists were unemployed. The current unemployment rate for scientists in all disciplines is 2.6%; it was 1.5% in spring 1970. However, over one-half of the unemployed scientists are physicists or chemists. Because those scientists who were underemployed were consid-

ered employed, the unemployment figure is a minimum one. The survey does not deal with the special difficulties experienced scientists are having in finding employment (*physics today*, May, page 61).

Survey postcards were sent to 313 000 scientists, including 36 000 physicists. All those contacted were respondents to the 1970 National Register of Technical Personnel. Eighty-five percent of those contacted in the postcard survey responded, representing about half of all US scientists.

As one would expect, much of the unemployment is due to the funding recession in research and development in the physical sciences: three-fifths of the unemployed in the new survey and two-fifths of those reported to be unemployed in the spring 1970 survey were last employed in research and development-related activities. Of the unemployed scientists, 37% were previously employed by educational institutions; 38% reported industry as their last employer. The recession in the sciences goes much further than just the fields of space and defense. Although 45% of the unemployed reported that they received some form of Federal support in their last position, only 11% had been previously employed in defense-related work and 4% in the space program.

Women, scientists with the master's degree and noncitizens seem to be faring particularly badly in the current job market. 5.2% of the women scientists are unemployed, while only 2.3% of their male counterparts are currently out of work. At present the unemployment rate for scientists with the master's degree is 3.7%; 1.4% of the PhD holders and 3.5% of those who have the bachelor's degree are unemployed. The unemployment rate for noncitizen scientists is 4.2%; 2.5% of the US citizens responding are unemployed.

Young scientists, particularly those under 30, are also having a bad time of it. Because this group is underrepresented in the survey, the 5.3% unemployment rate reported for it should be treated as a minimum.

Many of the unemployed scientists have been out of work for a considerable time: as of 1 June, the average period of unemployment was seven months. A substantial fraction (5.6%) of the employed scientists are engaged in non-science-related activities, but only 1.6% of the employed scientists have accepted positions of this type since March 1970.

About 42% of the unemployed scientists were located in California, Massachusetts, New Jersey, New York and Pennsylvania. Unemployment rates of 3% or higher were reported for scientists in Arizona, California, Connecticut, Massachusetts, Nevada, Rhode Island and Washington.

In response to the job crisis among scientists, engineers and technicians, the US Department of Labor has designated 14 areas as being severely affected by the situation. Unemployment rates for scientists in these areas range from 1.7 to 5.7%.

Questionnaires for the survey were mailed on 1 April and the survey response closed for tabulation purposes on 25 May. The data are available, in preliminary form, as NSF 71-26, from the National Science Foundation, Washington, D. C. 20550. A full report containing more detailed data on respondents to this survey is to be issued later this year.

AAAS to run Chautauqua-type courses for science teachers

Eleven Chautauqua-type short courses in the sciences will be conducted for college science teachers by the American Association for the Advancement of Science, with support from the National Science Foundation, during the 1971-72 academic year. Twelve regional centers have been established for the program. The courses will be organized into two two-day classroom sessions, separated by three months of individual work. Among the courses of special interest to physicists are: Air Pollution; Mathematical Modeling and Computing in the Physical, Biological and Social Sciences; Operations Research; Radiation and Society, and Thermodynamics. The NSF grant provides for lodging of 20 participants in each class on a double-occupancy basis. Additional information can be obtained from Howard Foncannon, American Association for the Advancement of Science, 1515 Massachusetts Avenue, N. W., Washington, D. C. 20007.

in brief

Nominations for the 1972 Ernest Orlando Lawrence Memorial Award are now being solicited. The award, which is given in recognition of meritorious contributions in atomic energy science or engineering, is given to no more than five people annually. The maximum award to each individual is \$5000. Nominations should be sent to the Chairman, General Advisory Committee, US Atomic Energy Commission, Washington, D. C. 20545, before 1 November.

Science Education—The Task Ahead for the National Science Foundation, has been published by the National Science Foundation as Report NSF 71-13.