

Senate to vote on Office of Technology Assessment

This month the Senate will probably be considering a bill to establish a Congressional Office of Technology Assessment. It is expected to pass. In the form approved by the House in February, the Office would be run by a director and a Technology Assessment Board containing five members from the Senate and five from the House of Representatives. The purpose of the Office, according to the bill, is "to provide an early warning of the probable impacts, positive and negative, of the applications of technology and to develop other coordinate information which may assist the Congress in determining the relative priorities of the programs before it."

As envisioned by Representative John W. Davis (D-Ga.), who introduced the bill in his role as chairman of the House subcommittee on science, research and development of the Committee on Science and Astronautics, the OTA would not carry out the technological assessments itself, but would arrange for contract studies to be done by outside groups—industrial, nonprofit, academic or ad hoc. The assessments would be initiated either by a Congressional committee or by the Board. He anticipates that the office staff would have between 50 and 100 persons.

The Office would be authorized to spend \$5 million over the next two fiscal years.

A reliable source believes that the Office would not be likely to start up before the next Congress. —GBL

Stever

continued from page 69

"It's difficult to predict how long this increased interest in applications will continue. The budget the Administration is asking for this year clearly reflects a desire to do more in research, both basic and applied, and I would guess that this will prove to be a long-term trend."

Many university people who have been doing basic research have been asking to get into applied research. This pressure within the science community to become more involved in society's problems resembles the feeling that was present during World War II, when Stever was getting out of graduate school.

"The thing that worried me when I first came to NSF was that we would be talking about an either/or situation. That isn't true. There is a complete spectrum of opinions. There are some people who do feel and probably always have felt, that basic research is

worthless—literally. But fortunately they're in a minority, and when they raise their voices they don't have great power. And I'm quite sure there are some people who feel that basic research should never be tainted at all with applications. But they don't carry the day, either."

"There are a certain fraction of people in science who get their motivation out of the pursuit of knowledge. They work best when left on their own, allowed to come up with their own ideas. Many of those ideas will push their science ahead. By pushing science ahead, we will get a practical payoff eventually. Lots of very practical people in government believe in that process of science."

"There are other scientists who get their motivation when they have a specific goal. I think our job is to tap both kinds."

"Some people are worried that the RANN (Research Applied to National Needs) program will cause some of the mission-oriented agencies to feel that it's not necessary for them to do basic research any more," we remarked. "I honestly believe they will increase their basic research rather than decrease it," Stever said. "All of the dynamics of human institutions force them to carry on." Stever pointed to the Department of Transportation, which for the first time has money to work with the universities.

"Our problem in NSF is to make sure that we don't stay in problem-oriented fields too long. If a mission agency is ready to take over, we must make sure they do and help them in the process. I don't think we should cover the entire spectrum of mission-oriented research."

Stever feels that you have to watch the situation all the time to see if you're doing too much in one area or too little. "We cannot become too enamored of applications, or even one field of science versus another. I think the problems of balance within basic science itself are just as delicate as those of balance between basic and applied science."

The new Experimental R&D Incentives Program, for which the Administration has requested \$22 million for NSF (as part of \$37.5 million to be shared with the National Bureau of Standards), is intended to explore ways to increase industrial and other non-federal investment in R&D. We told Stever that the program appears to be pushing industry towards doing basic research instead of universities. "On the contrary," he replied. "Our motivation is not to have a dropoff in universities, but to encourage industry to do more. We want better connections between universities and industry."

Half of the President's R&D budget increase, \$700 million, is for the civil-

ian sector—non-space, nondefense. Stever pointed out the growth in the sciences during and right after World War II with a very heavy component oriented toward defense. He said that many scientists didn't think they should be in defense at all, and those who did thought the association should not be exclusively with defense.

"To me this new thrust on civilian needs is a good thing for science. Some people question whether we have the institutional arrangements to do this with ease. It took us a long time to build such relationships in atomic energy and defense—we had to work on it. We would like to get the same thing going in the civilian sector."

The relationship of universities with industry declined as university researchers received more and more support from the federal government, Stever remarked. "I observed this at MIT. When I first went there after World War II, the biggest supporters of research in the universities were industrialists. By and by, the attitude of industry changed. They said the universities were selling out to defense and space, and were not helping industry in all of its needs. You can document the case that the developmental momentum of the power industry in this country suffered relatively as the physics departments and the electrical engineering departments turned away from it. So we ought to be working on institutional relationships to get us back in balance. The whole thrust of our new Experimental R&D Incentives Program is to facilitate these new relationships."

Education. Another new direction for NSF is in its education programs. Last year Congress reduced funds requested for RANN and put more money into institutional support and education support. The Administration then refused to allocate about \$30 million of this money, but over the course of the year gave some of it back. The remaining funds are being allocated in fiscal year 1973. The overall education budget for FY 1973 is about the same amount as requested for FY 1972.

Stever says there is a clearcut move within the NSF and Administration to shift the direction of the education programs. Many years ago, at the outset of these programs, a tremendous spurt of activity in upgrading science curricula occurred, starting with such pioneering efforts as that in physics led by Jerrold Zacharias. This was followed by improvements in chemistry, mathematics and biology curricula. "Then NSF set up mechanisms of getting these new curricula spread out into the educational system—into the undergraduate curricula and into the high schools."