

more than shake hands with the new members. The academy carried out its customary business of having scientific meetings in Rome every 2 years and the proceedings of these meetings were published by the Vatican Press, but the scientists were mainly speaking to themselves. In contrast, says Weisskopf,

"This Pope [John Paul] showed a great interest in us from the beginning. He came to the academy and gave a speech in the summer of 1979 in which he expressed a special interest in science."

Weisskopf remarks that he has had a great deal of contact with Pope John Paul and thinks highly of him. "The Pope is a

real intellectual, very widely read. I'm very much impressed by his intelligence," Weisskopf says. The Pope currently is continuing to seek out advice from the academy on nuclear war and has also expressed an interest in recombinant DNA technology and parasitic diseases.—GINA KOLATA

Budget Tailors Education to Reagan Pattern

Critics charge that paring federal role would break commitment to assuring access to higher education

As a presidential candidate, Ronald Reagan made it clear he thought that the federal role in education should be sharply reduced. The budget President Reagan sent to Congress on 8 February amply illustrates what he had in mind.

In education, the new budget calls for cuts of about 20 percent overall. Aid for students in higher education would be reduced by a third compared to the current academic year. The budget also spells out the Administration's plan for breaking up the Department of Education (ED). Demotion of ED from Cabinet status was a Reagan campaign promise.

By comparison with education, federal R & D spending was accorded generous treatment (*Science*, 19 February, p. 944). However, the general effect of the education cuts on individuals and institutions, if they are accepted by Congress, seems likely at least indirectly to put a drag on science and technology. And the plan to make graduate students ineligible for government-guaranteed loans at interest below market rates could, in the words of Senator Claiborne Pell (D-R.I.), "have a devastating effect on graduate education."

Pell, ranking minority member of the Senate education subcommittee, said in a speech on 10 February that if the Reagan cuts go through, "thousands and thousands of students will face a crisis of the first order," and said he foresaw a "tragedy of national proportions."

Spokesmen for higher education organizations have reacted strongly to what they see as sharp change in educational policy. J. W. Peltason, president of the American Council on Education (ACE), said of the cuts, "It means that this administration is advocating the abandonment of a bipartisan, 25-year-old commitment that college will not be denied to any person because of the financial condition of his or her family."

The Administration rationale for its budget proposal was expressed in a statement on the budget by Secretary of Education Terrel Bell:

"Over the years, Federal intervention in education has become increasingly intrusive, has imposed unnecessary administrative and paperwork burdens on recipients of Federal grants, and has supported too large a bureaucracy for the limited role the Federal Government should play. We intend to reverse that trend, and to return decisions about how and what to teach back where they belong—to teachers, parents, State and local officials and educational institutions."

The big question, of course, is whether Congress will go along with the Administration requests for budget cuts and reorganization. Bell himself acknowledged at a budget briefing that the proposal to dismantle ED funds faced strong opposition in Congress, but "said legislation to effect the change would soon be sent to Capitol Hill. And misgivings about Administration budget policy have been voiced not only by Pell and other Democrats, but by Republicans like Senator Robert Stafford of Vermont, chairman of the Senate education, arts, and humanities subcommittee. In a speech to college officials delivered after the budget was released Stafford raised the issue of the "federal commitment to access," and asked "do we return to a situation in which higher education is available to a privileged few?" The impression in Congress is that the Administration faces tough sledding in gaining further deep cuts in education. But in view both of the Administration's past successes in winning budget battles and the prospect of a highly unpredictable legislative climate this year the education lobby is girding for a hard campaign.

Overall, the Administration is request-

ing \$8.8 billion for education, down from \$12.9 billion in fiscal year (FY) 1981 and \$11.2 billion in the current year. The figures represent current dollars and do not reflect the effects of inflation.

In the higher education sector, student aid programs aimed at low-income students would be cut to \$1.8 billion in FY 1983 compared to \$3.5 billion in FY 1981. Eligibility rules for direct grants would be changed so that students from families with incomes over \$14,000 a year would be cut out, affecting more than a million students in the largest of the student aid programs.

Also targeted for trimming is the guaranteed student loan (GSL) program that has helped many middle-income families meet rising college costs since family income limitations were relaxed during the Carter Administration. Under the Reagan budget proposals, the Administration would halt the growth of the highly popular and rapidly expanding program by requesting \$2.5 billion for it for FY 1983, some \$267 million lower than provided for the current year. To be eligible middle-income families would have to pass what in effect is a stiff need test. Other changes would include requiring borrowers to pay market interest rates starting 2 years after leaving college, making the loans substantially more costly.

Graduate students who are now eligible for GSL's would be denied them entirely. They could qualify for so-called Auxiliary Loans to Assist Students (ALAS), an ironically apt acronym since the loans carry a 14 percent interest rate compared to the 9 percent for GSL's and have repayment terms that would be difficult for most graduate students to meet. According to an ACE analysis of the budget, some 600,000 graduate students, over half of those enrolled, depend on GSL's to finance their studies.

Minority students and women who depend on a cluster of federal programs that provide fellowships for them in graduate and professional schools may have to look elsewhere for support since the programs would be terminated.

The chief issue raised by the budget cuts is the Administration's bid to redefine and, in the process, diminish the federal role in education. Leaving aside the GI Bill, the expansion of the federal role began effectively with passage of the National Defense Education Act in 1958 in response to the Soviets' launching of sputnik. The NDEA contained a mixture of programs to foster science, mathematics, and foreign languages teaching in both schools and higher education. Attempts to broaden education aid during the Kennedy Administration were stymied by the church-state issue and by fears that federal aid would bring federal control. The impasse was broken shortly after Kennedy's death with passage of the first higher education bill which mut-

ed controversy by providing only funds for construction of facilities. Congress was increasingly receptive because of pressure on the whole educational system exerted by the postwar baby boom and a school aid bill was soon enacted. In the spirit of other Johnson Great Society legislation at the time the school bill focused on aid to the educationally disadvantaged. The 1960's bills set the pattern for education legislation. Attempts were made by liberals in Congress to provide general aid for schools and institutional aid for colleges and universities, but these attempts were turned back. The Vietnam war and the effects of the oil embargo in the 1970's limited the funding for education and other social programs, but existing education programs claimed solid bipartisan support.

Critics of the new Administration budget are claiming that the Administration is, in effect, pulling the federal rug out from under education. The Administration attitude is that the federal role is too

large and pervasive. In explaining proposed cuts in student aid, for example, it was noted in budget documents that "without these reforms" about half of all undergraduates would be receiving federal assistance of some kind in paying their college bills. "As part of the President's program to reduce federal spending, students, parents, States and institutions are expected to contribute more to financing post-secondary education."

A practical question now is how families and educational institutions, in many cases struggling to preserve a delicate financial balance, would manage without the federal help on which they now rely. No one has come up with a convincing assessment of the consequences of the Reagan cuts. Pell says that "Many will find a college education beyond their reach. Others will face the harsh reality of leaving the institutions they originally chose in order to attend one that costs less."

Higher education organizations have stressed the potential effects of the budget cuts on individual students rather than on institutions. These latter would vary from institution to institution according to the composition of their student bodies and the students' sources of financing. Urban institutions with large numbers of low-income students relying on federal grants, work-study funds, and loans would obviously be hit hard. But Charles Saunders, vice president for government relations of ACE, notes that high percentages of students in small selective private colleges depend on federal GSL's. And research universities would be affected not only by a potential plunge in undergraduate enrollment, but by the wholesale disappearance of graduate students unable to make up for the loss of funds from GSL's which they would be denied under the new budget.

Academic scientists are accustomed to watching the ups and downs of the federal science budget as a barometer of the state of science. The education budget now deserves attention because of the implications of the cuts affecting graduate students. But broader interests may well be involved. The cuts could also further reduce the ability of the public schools to teach science and math properly and put at risk the tacit federal guarantee of equal opportunity to access to college. The attitude prevailing in organizations that represent higher education in Washington is reflected in the reply of one official asked if he would estimate the effect on university scientists if the proposed cuts go through. "Sure," he said, "they won't have any students."—JOHN WALSH

Blueprint for New Foundation

A major assumption of the Administration's education budget is that a new Foundation for Education Assistance will be created to administer it. Such a foundation is the solution favored by Education Secretary Terrel Bell to the problem of downgrading his domain to comply with President Reagan's wishes.

Although the proposed foundation would perform research and statistical functions, it would not be mainly a grant-making agency like the National Science Foundation or the National Foundation on the Arts and the Humanities. The bulk of its responsibilities would lie in administering student aid and other assistance programs, overseeing civil rights matters in education, and supervising the dispatch of block grants to the states if many education programs are consolidated, as the Administration proposes.

For elementary and secondary education the Administration plans major reductions in the two categories of programs that account for most of the budget in that sector. These are compensatory education programs for the handicapped and disadvantaged and categorical programs intended to improve the quality of education for children in both public and private schools. Legislation will be introduced to lump funds for 27 programs in the latter group into block grants, which the states will have greater discretion in using. Total funding for elementary, secondary, and vocational education under the proposed foundation mandate would be \$4.4 billion in FY 1983, down from \$5.2 billion in FY 1982 and \$6.7 billion in FY 1981.

The National Institute of Education (NIE) would survive more or less intact as the research arm of the foundation. Bell is widely credited with interceding successfully with the Office of Management and Budget to save NIE from extinction. Funding of education research has hardly been a favorite with the Reagan Administration, but in comparison to what has transpired in other areas of discretionary spending, research came through only moderately scathed. Estimates of the funding of education research in general indicated that it was cut from about \$147.5 million in FY 1981 to \$85 million this year, then rebounded modestly to \$91 million for FY 1983. A problem facing NIE and its research community is to find ways within existing programs and institutions living on reduced rations to finance new initiatives.—J.W.