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THIS WEEK

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COVER: Color is the latest addition to a computer graphics program designed to give chemists a look at three-dimensional models of molecules. Colors can code for the surfaces of (green) carbon, (blue) nitrogen, (red) oxygen and (yellow) phosphorous atoms on DNA helix models (top left and lower right), or they can help illustrate the lock-and-key interaction of the (green) pancreatic-juice enzyme trypsin with its (red) inhibitor (top right and lower left). See story page 140. (Photos: Langridge, UCSF/SCIENCE)

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SCIENCE NEWS OF THE WEEK

Reordering Research Priorities

"The merit of research and development is without question. However, in times of fiscal austerity even some promising investments in science and technology must be restrained and new undertakings postponed." With those words the Reagan administration summed up its policy toward science for fiscal year 1982. Budget documents released last week describe the first installment of 83 budget cuts that will be proposed to Congress on March 10. More than 300 more are still to come.

President Ronald Reagan will operate under the premise that "federal support must now be restricted to programs of fundamental national priority." And according to administration budget director David Stockman, the National Institutes of Health and National Aeronautics and Space Administration are among the nation's "non-priority programs."

As proposals by the administration's budget drafters had indicated (SN: 2/21/81, p. 116), the engineering and natural-science disciplines would fare best. At the National Science Foundation, for example, there would be no cuts from the previous administration's proposed levels of funding for basic and applied research in mathematics, physics, engineering, astronomy and earth, atmospheric and ocean sciences. They won their reprieve from the budgetary ax because the new administration feels "research in the natural sciences and engineering is of relatively high importance to future technological advancement and the long-term economic health of the nation."

Deemed "less critical" to NSF's goals and objectives, programs will be slashed in science and engineering education, the behavioral, social and economic sciences, small-business innovation research and international science.

There are, however, many special-interest groups who challenge this assessment of national funding priorities. Robert Lowman, who heads scientific affairs for the American Psychological Association, for instance, is "concerned" that we get the message across to the administration that when they're talking about increases in productivity, cost effectiveness, safety, prevention of disease and so forth, they're talking behavioral science. And he says that if a rumored 50 percent cut in NSF's funding of social and behavioral science were to materialize, "One could envision a system where there would be almost no new starts for behavioral and social sciences for 18 months."

For some of the smaller programs, the real impact of proposed retrenchment will be symbolic. An NSF program that would have begun implementing the Women In Science legislation passed last December offers one example; it will be nipped in the bud if Reagan has his way. Also "targeted for axing" are all of NSF's funds that had been slated for promoting greater participation by minorities in science, notes Shirley Malcom of the Opportunities in Science program at the American Association for the Advancement of Science. "You can easily get the feeling you're being picked on," she says, when the administration can find and categorically cut these symbolically important but fiscally minute programs from NSF's $1 billion budget.

At the National Aeronautics and Space Administration, officials are far from joyous about the administration's proposed cuts, but the agency did succeed in having the ax wielded with somewhat less abandon than had previously been implied by recommendations from the Office of Management and Budget. The Galileo orbiter and probe of Jupiter—the only U.S. planetary mission now in the works — would have been canceled under the OMB plan but survives on the administration's list, which also bypasses OMB proposals to delay production of the fourth space shuttle by six months and eliminate long-lead procurement items for a fifth.

But the cuts are there. The Venus Orbiting Imaging Radar mission, listed as an FY 1982 "new start" by the outgoing Carter administration, has been deferred, delaying its launch from 1986 until at least 1988. The same fate is in store for the earth-orbiting Gamma Ray Observatory satellite, which was the only new start in the science section of the Carter NASA budget for FY 1981. Canceled is funding for development of the Solar Electric Propulsion System, needed for a variety of deep-space missions. No mention at all is made of a U.S. mission to fly by comet Halley, and according to one NASA official, "Halley's comet is off." The administration list also reduces funding for the U.S. portion of the International Solar Polar Mission, in which NASA and the European Space Agency would each build a spacecraft to be sent around Jupiter and back in to pass over the sun's poles. The likeliest result of the cut would be to kill the U.S. spacecraft entirely, with NASA merely providing a launch, tracking and possibly some scientific instruments for the ESA probe. Other cuts would reduce the frequency and scientific content of some missions of the ESA Spacelab research module for the shuttle.

Except for slight increases at NIH (which would not keep pace with inflation), the administration has yet to announce which programs would increase under the new budget. Among rumored beneficiaries of the President's reordering of priorities are programs involving nuclear power and weapons development. □