are extremely bad for those seeking new research funding. At the neurology institute, there is a temporary hold on funding any new grants at all until the 1990 fiscal year funding becomes clearer. Grants are being renewed on a competitive basis, but only those that fall in the top 12% in ratings by the study sections are likely to be funded. At NCI, that cutoff is 15% and at the National Institute of General Medical Sciences it's somewhere between 10 and 15%. It's hard to compare these numbers with traditional cutoffs because of a change in NIH accounting procedures, but they are clearly the worst ever for the institutes. It is also hard to compare these numbers with year-end totals, since the overall percentage funded will include many grants that will receive poorer scores than the nominal cutoff. But that's little solace to the neuroscientist who has to wait for news about whether a grant application that gets a 13.5 percentile score from the neurology institute will be funded.

While those paylines are likely to improve somewhat if the across-the-board cuts imposed under the Gramm-Rudman formula are ended, they won't improve by more than a few percentage points.

"I think it is sickening to have talented investigators looking at 11% or 9% or 13% award rates," says Korn. "Grant proposals that by any criterion are absolutely first class aren't going to get funded because there isn't enough money. I think that's terrible."

"It is going to affect in a drastic way the way science is going to be done," says Vincent Pirotta, a geneticist at Baylor College of Medicine and a member of the genetics study section. "It will affect the way that junior people are going to shape their careers, the way graduate students are going to be drawn into research labs."

In NCI administrator Kimes's opinion, matters have already reached a crisis point: "I don't think we can expect the biological research establishment to stay strong for very long under these conditions."

Although study sections are not supposed to take funding questions into account when they judge applications on their scientific merits, molecular biologist Elizabeth H. Blackburn of the University of California at Berkeley says the dismal funding picture inevitably influences the way the panels view projects. Reviewers become more conservative in their decisions, leaning toward projects that appear to have a greater chance of success, she says. Blackburn worries that Nobel Prize– quality work, like that done by Thomas Cech who used *Tetrahymena* to discover that RNA could act as a catalyst, might well be passed over. "If his grant had gone into a study section in the current funding situation, a study section would say: 'Look, there's a strong chancy element in this; he's using an obscure system to study something; why bother studying something in this system?' Then you would never have happened upon what he happened upon, which is basically a revolution in biology."

Study sections are also put in the impossible position of having to make absurdly fine distinctions between competing applications. "We've reached a point where we are substantially beyond the sensitivity of the peer-review system to be able to really discriminate high-quality science," says Keith K. Yamamoto of the University of California at San Francisco and chairman of the molecular biology study section. Choosing which grants fall in the top third of those approved is not that difficult, he points out, but determining which fall in the 15th percentile and which in the 20th is virtually impossible. Says Yamamoto: "It becomes a quite subjective decision, and I think for investigators that are stuck on the wrong side of that subjective decision the message is one that is extremely frustrating."

The funding situation for new applications will improve once the bulge of grants made a few years ago passes through the system—once the elephant passes through the python—but some believe there remains a problem of chronic underfunding of biomedical research in the United States.

"To me it comes down to a lack of adequate dollars," says Lowell Weicker, former senator from Connecticut and now president of Research! America, an organization attempting to encourage grass-roots support for medical research. "If the Congress did anything to Social Security or cost-of-living adjustments, the whole damn country would be in an uproar," he says. "That same Congress doesn't have to care one iota about the National Institute on Aging, which is responsible for all the research on diseases of the aging. That gives an idea of what has and hasn't been sold to the American people. What the hell good does it do to have a Social Security check if you're either dead or not in a condition to spend it." ■ **JOSEPH PALCA**

House Trims off Academic Pork

As Thanksgiving approached, it became harder for members of Congress to slice a little ham for the universities back home. Following what is by now a common formula, members of the House and Senate appropriations committees slipped $62 million into the mammoth defense appropriations bill for science facilities at seven specific universities. This year, the move immediately drew the wrath of two powerful senators, Sam Nunn (D–GA) and Jack Danforth (R–MO), and the funding was quietly excised when the bill reached the House floor.

But the fact that the funds got into the bill at all is testimony to the political appeal of pork barrel science. Last year, in an effort to prevent their colleagues from stuffing university projects into the defense budget, the same senators sponsored legislation requiring that the contracts for such projects be awarded on a competitive basis. No more sweetheart deals for specific institutions.

The restrictions seemed to be working. Neither the House nor the Senate versions of the defense appropriations bill contained any funds for individual university facilities. But when the conference committee, which is supposed merely to iron out differences in the bills passed by the House and Senate, produced a final version of the legislation, the following items were included:

- $15 million for the National Center for Industrial Innovation at Lehigh University;
- $6 million for the Center for Technology Management at Auburn University;
- $12 million for a supercomputer system at the Minnesota Supercomputer Center;
- $13 million for the University of Scranton Technology Center;
- $5.2 million for the proposed Center for Environmental Medicine at the Medical College of Ohio;
- $8 million for the proposed Center for Commerce and Industrial Expansion at Loyola University of Chicago; and
- $2 million for the Pilot Program for Combat Casualty Care Management and Research at the Martin Luther King, Jr., General Hospital/Charles R. Drew University of Medicine and Science in Los Angeles.

To make certain the bill would bring home the bacon to their favorite "charities," the sponsors actually wrote in a provision specifically exempting the projects from the competition requirement and directing the Pentagon to come up with the cash within 60 days.

Nunn and Danforth promptly served notice that they would seek to knock the projects out of the bill when it reached the Senate floor. But in the event, they didn't have to. The bill went first to the House, where Representative Steve Bartlett (R–TX) raised a point of order on the grounds that the items were not germane to the defense budget. The bill's sponsors quietly conceded, and the funds were excised—for this year, at least. ■ **COLIN NORMAN**