ness, are already sensitive to criticisms from Congress and consumer groups that they give too little attention to preventive medicine. In this atmosphere, the suggestion by a government scientist that smoking might be "tolerable" was not well received by health officials who were afraid it would undermine their antismoking efforts.

In addition, the suggestion that people might smoke small quantities of cigarettes without apparent harm touches on the threshold issue, which is both highly controversial and loaded with regulatory implications. You could even call it a burning issue. The essence of the controversy is whether or not there is some low concentration—the threshold—below which a cancer-causing agent has no effect. If there is such a threshold, then low concentrations of the agent might be permitted in food, for example. If there is no threshold, as many cancer researchers now think, then no concentration, however low, would be "tolerable." Thus, the threshold controversy gives health officials another reason to be

Briefing

Clash in Congress over the Honourable Schoolboy

Reacting to disclosures of unseemly behavior by agents of the Central Intelligence Agency (CIA) and the Federal Bureau of Investigation (FBI), the Senate Select Committee on Intelligence last February introduced a 263-page national intelligence act, S. 2525, establishing FBI and CIA charters that expressly outline the agencies' permitted activities. As the result of disclosures that academic instructors and researchers had been used by the CIA, both wittingly and unwittingly, in the conduct of covert operations, the bill contains provisions that would limit contacts between the CIA and the academic community beyond the spy agency's preference.

At a recent hearing of the subcommittee, however, three representatives of the academic community attacked the provisions from the opposite direction—they feel the bill does not go far enough. All agreed with the testimony of the first witness, Morton Baratz, general secretary of the American Association of University Professors (AAUP), that "S. 2525, if enacted as presently drafted, will leave the door open to unacceptable intrusion by the intelligence agencies in colleges and universities throughout America."

As now structured, the bill would prevent the purchase of information from U.S. citizens who travel to foreign countries with U.S. support or sponsorship as part of an effort to promote education, arts, humanities, or cultural activities; it would not, however, prevent a citizen from providing information gathered on such a trip without being remunerated. The bill would prevent the use of U.S. citizens for covert operational assistance in foreign countries if their travel is supported by an academic institution; exceptions would be made, however, if "appropriate senior officials" of the institution are informed. It would prevent the use of anyone without his or her knowledge and prevent the agency from covertly placing its employees in academic institutions, the U.S. news media, U.S. religious organizations, or international government programs. But the agency would not be constrained from recruiting operatives covertly from among foreign and American students at U.S. universities, perhaps the most frequent reason for contact between the agency and academic instructors. At a recent AAUP convention, CIA Director Stansfield Turner acknowledged that the CIA continues to recruit foreign students on campuses here.

One reason the bill does not go any further is the concern expressed in an earlier Senate intelligence report that restrictive legislation would itself be an intrusion into academic affairs. Another of the witnesses, Harvard President Derek Bok, suggested, however, that more constraints on the CIA may be necessary because the agency has refused to abide by the guidelines for contacts drawn up independently by Harvard. "[Letters], as well as direct discussions with the CIA, make it clear that the CIA plans to ignore . . . central elements of our guidelines," Bok said. Specifically, Harvard wants Turner to agree to make all contracts with the university public, to provide notification to administrators of ties to any individual professor, to engage in recruiting investigations only after notifying the student targeted, and to stop using academic employees in covert intelligence activities. In such instances, Bok said, "put most simply, the academic enterprise provides a cover for intelligence work. This . . . should not, in our opinion, continue."

Similarly, Baratz suggested that the committee place a prohibition on covert operational assistance by academics as well as a complete ban on covert recruiting. Richard Abrams, chairman of the University of California's Committee on Academic Freedom, went even further, urging that all CIA-academic contacts—with schools, employees, and students—be required to be publicly disclosed. The comments will be considered when the entire hearing record is reviewed later this fall.

We Wanted to Cut and, Well, um, There It Was

As expected, the 1979 budget of the National Science Foundation (NSF) fell prey on 7 August to the desire of the U.S. Senate to heed the overwhelming victory of California's austerity-forcing Proposition 13.

Following some complex parliamentary maneuvers with several proposals to trim the mammoth Housing and Urban Development bill that contains the NSF money, the Senate approved an amendment that would fix the science agency's budget at a level $17 million below President Carter's request. Instead of an 8.4 percent increase over the current fiscal year, NSF will have to get by with an increase of between 6.4 and 3.7 percent, the levels now passed by the Senate and House, respectively.

Earlier, the appropriation had survived more drastic cutback attempts, emerging from subcommittee with only $7 million taken from research and overseas activities. After seeing a survey that showed 8 percent of all academic scientists to be receiving higher salaries—with the help of NSF funds—than the maximum civil service rate given to government scientists ($47,500), the subcommittee also tacked on a provision preventing the use of NSF funds for salaries in such cases. Cogitatively, the members noted in their report the "questionable propriety of decreasing the relative attractiveness of scientific positions in the Government and the questionable need to further aug-

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concerned about public understanding—or misunderstanding—of Gori's work. The scientist, incidentally, says he never implied there is a threshold. At least in his scientific papers, he is quite clear about the possibility of those few cigarettes increasing a smoker's risk by as much as 100 percent.

Whether you consider the kinds of increases Gori is talking about as "tolerable" depends on your point of view, however. On the one hand, Levy and Upton justifiably say they "cannot find an activity that increases the actual risk of death from cancer or from heart disease by 100 percent or more to be tolerable." On the other hand, and with equal justification, Gori points out that the average smoker's risk of dying of lung cancer is now ten times greater than that of the nonsmoker. Reducing the relative risk from ten to two would mean fewer than 20,000 new cases of lung cancer every year, not the current 100,000. Such a reduction could even be hailed as an advance in the "War on Cancer," if anyone is still using that phrase.

Briefing

ment the powerful nonmonetary incentives for academic scientists to obtain NSF research grants."

When the bill reached the Senate floor, a proposal by Senators William Proxmire (D–Wis.) and Charles Mathias (R–Md.) to impose widespread cuts averaging 1.2 percent was narrowly defeated. The intent of the proposal, Proxmire said, was "to show the American taxpayer that we have gotten the message loud and clear. It will serve as an acid test of whether Congress is willing to take Proposition 13 seriously and cut this budget, or whether it will be more spending as usual in fiscal 1979." Included in the cuts was $10 million allocated for basic and applied research at NSF, for no more reason, according to a Proxmire aide, than the fact that "it was one of the biggest line items in that part of the bill." The vote against was 44 to 43.

Subsequently, two senators departed from the chamber.Then the bill survived by a wider margin (55 to 30) a motion by Senator William Roth (R–Del.) to impose a larger, 2 percent across-the-board cut. Three more senators arrived on the scene, and a motion to reconsider the Proxmire-Mathias amendment passed by a vote of 47 to 41. As the amendment came up once again, six senators decided to switch from their earlier positions, two members who had been what the Senate calls "necessarily absent" suddenly showed up, and two members who had voted before suddenly decided not to. When the dust settled, the Proxmire amendment had passed, 45 to 42. Estimates from Senate aides on the proportion of senators who had no idea what they were voting on range from one-quarter to one-half. "It was terribly intricate," said one.

As a result of all this, the agency will either have to curtail its operations—yielding to the pressures of an inflation rate in basic research that has varied in recent years from 6 to 9 percent—or maintain the status quo. The next move will be in the House-Senate conference.

Waiting for the Other Plate to Drop in California

Rather unscientifically, people have speculated that one reason Californians so frenetically pursue pleasure and wealth is the knowledge that any day now an earthquake could sever portions of the state from the mainland and sink them in the Pacific. Although these fears are undoubtedly exaggerated, on 13 August, a sunny Sunday afternoon, the state had a tremor of what may be ahead. A quake, measuring between 5 and 6 on the Richter scale, occurred 6 miles offshore of Santa Barbara.

About three-quarters of the damage, which was estimated at around $15 million, was sustained at the University of California campus at Santa Barbara, much of it in laboratories. There is a small irony here, because last June, a respected geophysicist at the university's Berkeley campus challenged a recent prediction by the National Aeronautics and Space Administration (NASA) that a California quake was likely to occur sooner than had been expected.

The prediction came from NASA's Goddard Space Flight Center in Greenbelt, Maryland, where several scientists computed shifts in the distance between a site on Otay Mountain, near San Diego, and Quincy, north of Sacramento, with laser beams bounced off of a Beacon Explorer satellite. The model for their computation is complex and subject to error, according to one of the Goddard scientists, David Smith. Nevertheless, the measurements they took in 1972, 1974, and 1976 indicate that the distance between the two sites—which straddle the San Andreas fault—has been decreasing at an average rate of 9 centimeters per year, with a standard deviation of 3 centimeters.

If precise, such a rate is significant because movement across the fault—the result of relative shifts in the North American and Pacific tectonic plates—was thought to have been occurring at a rate of 6 centimeters per year. On the basis of that rate, geophysicists had predicted that a major quake is due in California sometime before 2025, because the last big quake, near San Francisco in 1906, occurred after 20 feet of strain had built up in the fault. If the rate of movement has been 6 centimeters per year, 20 feet of strain will once again have accumulated by 2025; if it has been 9 centimeters per year, the big one is due any day now.

Smith stresses that no one really knows whether or not extrapolation of the present rate into the past is valid. But, he says, "The increased strain, at 9 centimeters per year instead of 6, could imply that an earthquake of the same magnitude [as in 1906] will occur sooner. It could also imply increased overall seismicity for the region—more quakes."

Bruce Bolt, director of the University of California's seismographic research station, challenged this conclusion last June, noting that his own research with sites much nearer the San Andreas fault than Goddard's had shown the rate of movement to be 6 centimeters per year. Smith states, however, that he is not necessarily at odds with Bolt, because the additional 3 centimeters could be manifested in any of the faults in the region, and the total movement across the San Andreas will eventually equal the total movement between the two Goddard sites. The quake on 13 August, he said, is an indication of overall tension in the region.

Bolt described this as "so broad-brush as not to be very helpful. Readjustment of movement between points distant from the San Andreas could occur in faults parallel to it.

Meanwhile, Californians continue to react to each shaking of the earth as did Jim Braly, a resident of Santa Barbara, during the last one: "My God," he said, jumping off the couch in his home. "This is the Big One."

R. Jeffrey Smith