en the definition of the types of injuries that a victim could be compensated for, set up a federal reinsurance program in which the government would back up either the vaccine manufacturers or insurance companies, and restrict the time period in which individuals can choose between the courts or the compensation program. He said that he may propose to limit the retroactivity of the bill to 5 years, but the parents' group has resisted this proposal.

Even with these changes, one observer says, the bill would probably be unattractive to the Administration because the program would still be expensive. "I don't think the government wants to get into the insurance process," he says, adding that the real problem is not with the insurance process but broader problems with the court system that require a much more comprehensive review. "Congress should draft very narrow legislation limited just to problems linked with the whooping cough vaccine. When you're talking about kids and public health problems, it's best to legislate quickly and narrowly. Put tight limits on compensation for medical expenses, lawyers' fees, and eliminate all provisions for punitive damages."

Alternative solutions have also been raised. Alan Hinman, director of CDC's immunization division, cited several possible ways of averting a future shortage of whooping cough vaccine at the recent meeting of the agency's advisory committee on vaccines, but the group did not arrive at any recommendations. Hinman said that whooping cough vaccine could be purchased from overseas companies, or from Michigan or Massachusetts, which manufacture the vaccine for distribution within their borders. Hinman noted, however, that the state officials are also concerned about potential liability. Alternatively, the federal government could start up its own production facilities, but it would take several years to build the factories.

For the moment, attention is likely to focus on the revised bills planned by Hawkins and Waxman. Frustrated parents of injured children are vocal and the issue of compensation for their children is emotionally charged. A Hawkins aide said they are trying to get a bill out as soon as possible. The aide noted, "We're afraid that if we don't have legislation by July, Congress may overreact" and pass legislation that takes manufacturers off the hook completely.

—MARJORIE SUN

Next week: The search for an improved DPT vaccine.

Scientists Object to Loss of NSF Ethics Program

Protests have been trickling into Washington from scientists dismayed at plans to eliminate the Ethics and Values in Science and Technology (EVIST) program from the budget of the National Science Foundation.

The $1-million program, founded in 1976, has engendered a variety of studies on professional conduct and on the incorporation of research and development into policy-making. Presidential budget-makers have repeatedly sought to ax it, but it has been rescued in the past through the efforts of former NSF head John B. Slaughter and Senator Orrin Hatch (R–Utah), who chairs the committee that authorizes the foundation's budget. However, the new director, Erich Bloch, is said to endorse the decision.

The EVIST advisory committee, which was only set up a year ago, was not consulted in the decision. Its chairman, Clifford Grobstein of the University of California at La Jolla, says NSF is dodging its responsibilities and should actually be devoting far more money to ethical questions "to counteract concern that science and technology plunges mindlessly ahead regardless of fundamental values."

Gerald Holton of Harvard emphasizes that the establishment of EVIST "responded to the clear recognition that such issues should be researched by serious and qualified scholars." He says its elimination will pull the rug out from under this field just when it is coming to fruition. "Zeroing out EVIST is a signal in precisely the wrong direction" and will discourage universities from contributing to such studies, he says. And "I see absolutely no alternative sources forthcoming."

Although social sciences are no longer under wholesale attack at NSF—indeed, the budget contains a healthy boost for quantitative studies in economics—this clearly does not represent a major shift in thinking. In addition to knocking out EVIST, the budget proposal would pare down the Office of Policy Research and Analysis from $4.7 million to $2 million, which means no more research would be funded in such areas as risk analysis and technology assessment.

—CONSTANCE HOLDEN

Comings and Goings

Joseph A. Cannon, one of the few top Environmental Protection Agency (EPA) officials to be kept on after the departure of Anne Burford, has resigned to practice environmental law. His post, assistant administrator in charge of air pollution and radiation programs, will be filled on an acting basis by **Charles L. Elkins**, who has been with EPA since its creation in 1970 and is currently head of the acid rain policy staff.

Harrison Brown, a geochemist and author of several books on world problems, has been named editor in chief of the *Bulletin of Atomic Scientists*. Brown, who worked on plutonium chemistry for the Manhattan Project, succeeds Bernard Feld.

College Curricula in Disarray, Study Says

The Association of American Colleges has added a strong voice to the swelling chorus of concern about the plight of undergraduate education in the United States. In a report that minces few words, the association contends that American colleges and universities "are more confident about the length of college education than its content and purpose."*

The report, the result of a 3-year effort by a committee of academics from 18 colleges and universities, argues that undergraduate curricula have become so fragmented that they lack coherence and purpose. "The curriculum has given way to a marketplace philosophy: it is a supermarket where students are shoppers and professors are merchants of learning. Fads and fashions, the demands of popularity and success, enter where wisdom and experience should prevail," the report contends. "Evidence of decline and devaluation is everywhere," it adds.

This trend is exacerbated by the way college teachers are trained and by the academic reward system, which gives prominence to research and short shrift to teaching, the report

**Integrity in the College Curriculum* (Association of American Colleges, 1818 R Street, NW, Washington, D.C. 20009; $3).

complains. "In the long run nothing less than the reconstruction of the training of college teachers and a revision of the prevailing standards in the recruitment of faculty will liberate the curriculum and the professors themselves from a misguided overemphasis on research and a corresponding neglect of teaching."

Little of this is new. What makes this report particularly interesting, however, is that the Association of American Colleges is essentially telling its 560 member institutions that they have only themselves to blame and that remedies for the apparent ills of undergraduate education lie largely in the institutions' own hands.

The report exhorts college and university administrators to take a hard look at the undergraduate curriculum and confront the obstacles to reform that are deeply ingrained in academic practice. It suggests, for example, that faculty curriculum committees, which usually "suffer from chronic paralysis," should be given more authority to mold curricula and give them coherence rather than just approve individual courses. It also argues for an overhaul of the reward system so that teaching is as highly valued as research in tenure, promotions, and salary decisions.

It outlines nine elements that should be part of undergraduate education and embedded in all curricula. The idea, says the report, is to move away from programs that offer "too much knowledge with too little attention to how that knowledge has been created and what methods and styles of inquiry have led to its creation."

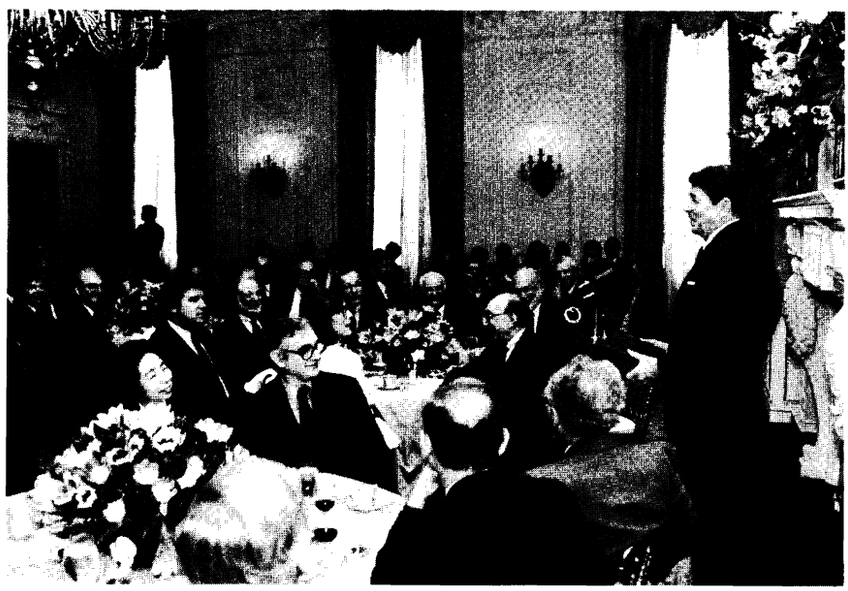
The nine elements are:

- *Inquiry, abstract thinking, logical analysis.* These skills, notes the report, "grow out of wise instruction, experience, encouragement, correction, and constant use."
- *Literacy.* Students should be "taught how to read actively, arguing along the way with every word and assertion."
- *Understanding numerical data.* This should include such concepts as "degree of risk, scatter, uncertainty, orders of magnitude, rates of change, confidence levels and acceptability, and the interpretation of graphs as they are manifest in numbers."
- *Historical consciousness.* "The more refined our historical understanding, the better prepared we are to recognize complexity, ambiguity, and uncertainty as intractable conditions of human society."
- *Science.* "A student can best take possession of science and its methods not in a broad course about science but in a course where the subject matter is highly circumscribed, even narrow." The report argues that education in science should include developing an understanding of the way scientific concepts are developed, the limitations of science, and the "human, social, and political implications of scientific research."
- *Values.* "There is no place in the course of study where the capacity to make informed and responsible moral choice cannot appropriately be nurtured."
- *Art.* Without some knowledge and experience of the arts, students are "denied the knowledge of disciplined creativity and its meaning as a bulwark of freedom and of social cohesion."
- *International and multicultural experiences.* "Colleges must create a curriculum in which the insights and understandings, the lives and aspirations of the distant and the foreign, the different and the neglected, are more widely comprehended by their graduates."
- *Study in depth.* "Today's majors are not so much experiences in depth as they are bureaucratic conveniences: they allow the professors to indulge their professional preoccupations and they allow deans to control the flow of student traffic," the report contends. Instead, study in depth should involve an understanding of a discipline's central core of method and theory, its analytical tools, and its complexity.—**COLIN NORMAN**

Scientists at the White House

Early in February, some 100 of the nation's leading scientists and engineers received a telegram inviting them to have lunch with the President on 12 February. About 75, including 22 Nobel prizewinners, showed up, most of them mystified about the reasons for the occasion. According to one White House official, the reason was straightforward: the President wanted to have lunch with some of the nation's leading scientists and engineers.

The lunch, which was attended not only by President Reagan but also by Vice President George Bush and the entire top echelon of the White House staff, provided an opportunity for a few private grumps about cutbacks in biomedical research support and some postprandial tributes from Reagan for the "transforming discoveries and achievements you and your colleagues are making every day." He also urged the assembled scientists to treat with "vision and hope" his strategic defense initiative. The President declined to accept questions and left immediately after his remarks.—**COLIN NORMAN**



Bill Fitz-Patrick, the White House