duced last week by the chair of the House Science Committee, Representative Sherwood Boehlert (R–NY). The National Mathematics and Science Partnerships Act (HR 1858) would authorize $267 million a year in programs to strengthen teacher training and professional development. The bill would establish a new NSF grants program that would link universities and nonprofit organizations with local schools and businesses to improve math and science instruction in elementary and secondary schools. It would also provide scholarships for science and math majors or scientists wishing to become teachers, give teachers grants to do university-level research, and create four NSF-funded centers to study how children learn.

"One of the failings of our current [public education] system is that we don't take advantage of all the expertise residing in our universities and businesses," said Boehlert in a prepared statement. "My bill is an effort to do just that."

Partners aplenty. Representative Sherwood Boehlert's science and math education bill is one of many that address a new NSF program.

Slightly different versions of the Bush plan are embodied in HR 1 and S 1, the main Republican vehicles for the president's overall effort to rework federal support for elementary and secondary schools. However, those bills would funnel most of the partnership money to local and state school districts through the Department of Education.

Boehlert's bill avoids a controversial provision in a related education bill sponsored by Representative Vernon Ehlers (R–MI) that would require NSF to fund the salaries of master teachers at private as well as public schools. Ehlers says he hopes to move ahead with his bill, HR 100, which suffered a surprise defeat last fall (*Science*, 10 November 2000, p. 1068). But other observers predict that some of Ehlers's provisions will be folded into the chair's bill. Boehlert also hopes to join forces with House Democrats, who earlier this month introduced a partnerships bill, HR 1693, that places a greater emphasis on increasing the participaton of underrepresented groups and boosting educational technologies.

Boehlert's plan appears to be closely aligned with NSF's thinking on Bush's partnership program, which officials first learned about in late January. Judith Sunley, head of NSF's education directorate, expects to issue an announcement this fall on how the program will be run. "We hope that our legislation will influence what [NSF] decides to do," says Boehlert aide David Goldston, who expects the bill to be marked up by the full committee next month.

Whatever their differences, these bills simply give NSF permission to carry out specific programs. The money to run them comes from appropriators, who will shortly start carving up some $661 billion in discretionary spending for the 2002 fiscal year, which begins in October.

Political trade-offs are likely to shape NSF's overall budget, currently $4.4 billion and scheduled for a 1.3% boost. Despite widespread support for improving precollege math and science education, for instance, the 11% increase Bush has proposed for NSF's education programs might be vulnerable. On 16 May a House spending panel discussed shifting some education money into the foundation's core research programs in order to offset cuts and putting a freeze on major research facilities, as called for by the president's April budget. Comparing those cuts to a requested 13.5% increase for the National Institutes of Health, appropriations subcommittee chair James Walsh (R–NY) said after the hearing that "we may need to put more money into the physical sciences" to improve the balance of federally funded research. **–JEFFREY MERVIS**

EUROPEAN HIGHER EDUCATION

Thirty Nations Pledge To Harmonize Degrees

PRAGUE—European universities pride themselves on their unique histories and independence. But that autonomy can be a disadvantage in a world where intellectual talent is increasingly free to ignore national boundaries. Last week, the education ministers of 30 European nations agreed to bolster efforts to bring their systems of higher education closer together. They endorsed reforms that should make it easier for students and researchers to move freely among Europe's sometimes disparate universities.

Meeting here on 18 to 19 May, officials from Germany to Malta agreed to establish by 2010 a "European Higher Education Area" that would include elements such as compara-

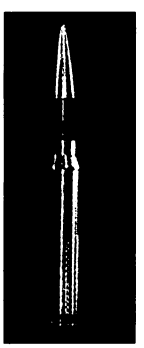
ScienceScope

War of Words Dueling press releases this week broke the bipartisan calm that has pervaded the House Science Committee since Sherwood Boehlert (R–NY) became chair earlier this year. In a 21 May statement, panel Democrat Joe Baca (CA) slammed President George W. Bush for failing to appoint a science adviser, noting that no previous president has ever waited so long (*Science*, 11 May, p. 1041). The release said that Ronald Reagan, the prior record footdragger, had appointed George Keyworth as his adviser on 19 May 1981.

The next day, however, Boehlert complained that the Democrats had their facts wrong: Reagan nominated Keyworth on 1 July—a point the Democrats concede. "We used the wrong word," says a Democratic staffer, explaining that Reagan "named" Keyworth as his pick in May but didn't file the official paperwork until later. Either way, says the staffer, the flap "only calls more attention to the fact that this White House isn't getting scientific advice on important issues."

As if to highlight the vacancy, a House appropriations committee this week cancelled a budget hearing on the White House's Office of Science and Technology Policy (OSTP), which the science adviser traditionally leads. According to a committee aide, OSTP said it was so short-staffed it didn't have anyone available to testify.

Debate Not Depleted A new report from the U.K.'s Royal Society isn't likely to end the debate over whether soldiers have been sickened by radiation from depleted uranium (DU) munitions.



Some U.S. and European soldiers say their cancers are a result of DU exposure during the 1991 Gulf War and the 1999 Kosovo conflicts. But a study released this week concludes that health risks from DU radiation are "for the most part low." There are possible exceptions, however, including a likely higher risk of lung cancer in tank crew members who inhale the "impact aerosol" created when a DU shell pierces their vehicle's armor. But panel chair Brian Spratt, a microbiologist at London's Imperial College, says that more study is needed to pinpoint the risks from such close encounters.

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ble degrees and transferable credits (see table). In addition, the parties aim to develop a European joint degree program that would be based on courses taken at two or three institutions in different countries. Lowering these and other administrative barriers should help slow or reverse a brain drain from European to U.S. institutions, they believe.

"We have made strides toward the goals of stimulating mobility and encouraging more reforms in higher education that already are taking place in much of Europe," says Sweden's education and science minister, Thomas Östros. He co-chaired the meeting with Eduard Zeman, education minister of the Czech Republic, who believes that the integration of Europe's universities into the mainstream will accelerate the overall process of European unity. "Today's universities are tomorrow's Europe," he says.

The movement toward a common set of administrative practices began at a small Paris meeting in 1998 and was fleshed out the next year at Bologna. There ministers from two dozen countries called for replacing the complex, confusing, and sometimes nontransferable degree systems in many European countries with "easily readable and comparable degrees." That would include the use of bachelor's and master's degrees in most fields. Other goals include a strengthened accreditation system, often called "quality assurance," and a freer flow of students and researchers across national borders.

Although there has been progress, some obstacles won't be easy to remove. "There are still great differences in the systems of quality assurance for higher education in European countries," says Jacob Henricson, a Swedish student who chairs the National Union of Students in Europe. And some officials warn that going too far could cause an unwanted homogenization of higher education. France's education minister, Jack Lang, for example, argued strongly for the importance of maintaining diversity—especially in languages and curricula—in the midst of harmonizing degree and credit systems. Others defended the value of keeping the typical European degree system for medicine, engineering, and law, in which students begin their specialized studies right after secondary school and do not earn a bachelor's degree along the way.

The U.K.'s education minister, Tessa Blackstone, said that she would oppose any effort to interfere with a particular university's curricula and independence. But she welcomes better coordination to combat "huge competition from U.S. universities." These and other issues will be discussed at the next meeting of ministers, set for Berlin in spring 2003. –ROBERT KOENIG

A WISH LIST FOR EUROPEAN UNIVERSITIES

- Comparable degrees
- Undergraduate and graduate programs
- Transfer of course credits
- Greater mobility
- Institutional accreditation
- Joint degrees

Open minded. Historically isolated, prominent universities such as Oxford are taking steps to become more accessible to students and faculty members from other countries.

HUMAN EXPERIMENTATION

Bioethics Panel Urges Broader Oversight

The U.S. government should create a single office to monitor both public and private research involving human volunteers, says a new report by a presidential commission. The report, 5 years in the making, concludes that major changes are needed in the oversight of clinical research. But it's not clear if the new occupant of the White House is listening.

The National Bioethics Advisory Commission (NBAC) adopted its findings on 15 May and will publish a complete report in late summer.* What NBAC cannot do, however, is ensure that the government pays attention to these long-debated conclusions. The president who sought this advice—Bill Clinton—is gone, and the new Administration is far from attuned to these concerns, with no science adviser and a skeletal scientific staff.

> **The findings "reflect a dual commitment to the protection of ... volunteers while supporting the advance of science."**
>
> —NBAC report

The new NBAC report is the broadest of several the panel has issued since 1996. Chaired by Princeton University president Harold Shapiro, the panel has tackled a variety of focused issues, from how to obtain consent from people with impaired judgment to the ethics of running tissue collections. The recommendations issued last week, which represent its cumulative investigations, "reflect a dual commitment to ensuring the protection of those who volunteer for research while supporting the continued advance of science."

The commission did not find evidence of widespread problems in either public or private human subjects research, says its executive director, Eric Meslin. But it "felt that the principle of respect for participants in human research is one that extends to all participants, regardless of funding source." At present, privately funded research comes under government review only if it is part of a government-funded project or is being used to support drugs under review by the Food and Drug Administration.

The new office, which the panel labeled the National Office for Human Research Oversight, would set policy, issue and enforce regulations, oversee research, and disseminate information. It would not fall under the jurisdiction of the Department of Health and Human Services (HHS), parent to the 1-year-old Office for Human Research Protections (OHRP), the current overseer of federally funded clinical research. But Robert Rich of Emory University in Atlanta, Georgia, president-elect of the Federation of American Societies for Experimental Biology (FASEB), doesn't see the need for such a change. The existing OHRP "has all the tools it needs" to oversee human subjects research, he says, and a panel housed outside HHS would be subject to greater political pressures.

NBAC also seeks to clarify the definition of human subjects research and cover a broader swath of activities. The government, it says, should keep tabs on any "systematic collection or analysis of data [involving human subjects] with the intent to generate new knowledge." The policy would also apply to medical databases and tissue collections. All studies of more than minimal risk should be approved by an independent review board, NBAC says, and at least 25% of the members of such panels should be "unaffiliated with the institution" and focus on "nonscientific areas."

Although most of NBAC's recommendations are designed to close loopholes in the current system of research monitoring, some are designed to remove excessive paperwork. For example, the panel says that reviews of

* www.bioethics.gov

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