ponents in the water-soluble fraction of the fuel oil could ultimately cause "an enormous ecological shock." Delayed effects from the *Valdez* spill included brain lesions, reproductive failure, and genetic damage in wildlife, he says, adding that more than 13 years after that spill, only a quarter of the injured populations has fully recovered. Others argue that the bunker oil, with fewer aromatic toxicants, will prove less poisonous to sea life than the *Valdez* crude spilled in Prince William Sound. The impact offshore, offers Spaulding, "is not likely to be large." The Vigo institute's chemical analyses of the spill should help refine such predictions.

On 22 November, Spain dispatched a submarine to examine the *Prestige*'s condition and the extent of damage to the seabed. Scientists also would like to see an expedition with a remotely operated vehicle that uses sonar to create a bathymetric map of the ship and the surrounding area. "It's not cheap," says oceanographer Larry Mayer of the University of New Hampshire, Durham, "but there are important things at stake." That's a sentiment with which most Galicians would agree.

–JOHN BOHANNON, XAVIER BOSCH, AND JAY WITHGOTT

Freelance writers John Bohannon reported from Vigo, Xavier Bosch from Barcelona, and Jay Withgott from San Francisco.

ACADEMIC EARMARKS

Senators Take Aim At Texas Project

Texas A&M University found itself the villain of a political drama last week, as the U.S. Senate rushed to complete work on legislation creating the new Department of Homeland Security (DHS). It would have much preferred a backstage role.

The Senate, meeting in a lame-duck session after the 5 November election, was trying to pass a 450-page bill creating the new department. Some senators complained that the version passed by the House of Representatives was larded with favors to special interests. The worst, they said, was one shielding vaccinemakers from lawsuits. But included on their seven-item hit list was a clause setting out 15 criteria for selecting at least one university-based center to conduct security research and training.

Critics charged that the criteria, crafted last summer by Texas lawmakers allied with A&M, undermined the concept of basing government research awards on open, peer-reviewed competition (*Science*, 9 August, p. 912). For example, the clause required eligible schools to be affiliated with a U.S. Department of Agriculture "training center" and to show "demonstrated expertise" in wastewater operations and port security. Texas A&M fit the bill, but most public and private research universities do not. "This is nothing short of 'science pork,' " said Senator Joseph Lieberman (D–CT), who led efforts to delete the provision.

A&M advocates insist that the language was intended only to make sure that the center was based at a university with the proper breadth of experience in addressing security issues. They note that several potential competitors, including the University of California and the State University of New York systems, had no problem with the language. And the new department retains the right to use peer reviewers, they add. "There has been a great deal of misinformation," says Larry Meyers, a Washington-based lobbyist for the university.

To strip out the language, Lieberman needed the support of three moderate Republicans who had expressed concerns: Senators Olympia Snowe (ME), Susan Collins (ME), and Lincoln Chafee (RI). However, the trio was under heavy White House pressure not to amend, and thus delay, the DHS bill. Republican leaders won their support by pledging to alter three provisions, including the university and vaccine language, when the new Congress convenes in January.

To seal the deal, Snowe and Collins stood in a cloakroom off the Senate floor with GOP chief Trent Lott (R–MS) as he telephoned House leaders (one of them en route to Turkey) to obtain their agreement to amend the bill next year. Snowe, Collins, and Chafee then voted against Lieberman's amendment, ensuring its defeat and clearing the way for Senate approval of the entire bill.

"It was pretty amazing to see an academic earmark become a make-or-break issue on such high-profile legislation," says one university lobbyist. The A&M language, observers say, became a lightning rod for Democrats out to embarrass House Republican leader Tom DeLay, a Texan closely associated with the proposal, and for Republicans who were angry

Let's make a deal. Rep. DeLay (*left*) promised last week to alter homeland security bill next year to win the vote of Sen. Snowe.

CREDITS: (LEFT TO RIGHT) DAVID J. PHILLIP/AP; JIM EVANS/KENNEBEC JOURNAL/AP; WWW.ED.GOV

ScienceScope

Educational Overhaul? Social scientists are protesting what they say is a Bush Administration move to bury research reports that run counter to its policies. More than a dozen professional societies have written to Education Secretary Rod Paige, demanding that his department consult with researchers before deleting information from its Web site.

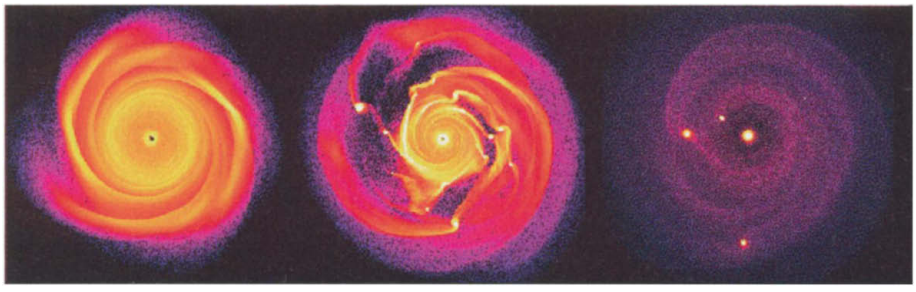
The department's site (www.ed.gov) houses more than 50,000 files, including databases widely used by social scientists, such as the National Center for Educational Statistics. In September, the department said it planned to delete up to 13,000 pages as part of an overhaul. A leaked internal memo directed officials to delete pages not "consistent with the Administration's philosophy," unless they were needed for legal, historical, or nonpolitical reasons.

"This is public information, and it shouldn't be removed at the whim of political appointees," says spokesperson Patrice McDermott of the American Library Association in Washington, D.C., one of the protesting groups. But department spokesperson Dan Langan says not to worry: "At the end of the day, the information will still be available in a Web-based format."

Space Thrust The U.S. government lacks "a space imperative" and needs an "audacious vision" for its space program, concludes a 12-member team led by former House Science Committee chair Robert Walker (R–PA). The blue-ribbon panel was formed last year at the request of the White House to look at the overall aerospace sector. But its actual findings, released last week (www.aerospacecommission.gov), are anything but audacious.

The report stops well short of proposing any dramatic new mission for NASA, such as a human visit to Mars or a base on the moon. Instead, the panel suggests a more mundane path, such as fixing up NASA's deteriorating facilities, accomplishing full monitoring of Earth by 2010, and encouraging more cooperation between the space agency and the Department of Defense in developing new propulsion and power technologies. Mundane, perhaps, but more politically salable: The White House and Congress have so far received the report with praise.

forming—perhaps through random fluctuations—that is massive enough to pull in more gas, which could then pull in even more gas, leading to a runaway collapse into a planet. Such a gravitational instability mechanism had long appeared to require a disk 10 times as massive as expected. In 1998, astrophysicist Alan Boss of the Carnegie Institution of Washington revived gravitational instability by simulating gas clumping in a disk of reasonable mass, but he couldn't show that the growing clumps would survive to become planets.



Easy birthing. In a simulation, gas collapses on itself in less than 1000 years to form planets.

Astrophysicists Lucio Mayer and Thomas Quinn of the University of Washington, Seattle, and their colleagues decided to throw more computing power at the gravitational instability problem. Using a model that they had previously built to study galaxy formation, they simulated a swirling gas disk with a million particles—10 times the number used in earlier efforts—orbiting a protosun. Run for several weeks on a massively parallel supercomputer, the model achieves an extra margin of realism, thanks to its inherent ability to automatically increase resolution where it counts the most: where mass is concentrating to form planets.

After just 1000 years of simulated time, the runaway process had produced planets: The model's disk had clumped, clumps had merged, and two or three planets had emerged that bore some resemblance to the 100-plus gas giants found so far around other stars. The simulated planets had masses of two to 12 times that of Jupiter, orbited at between three and 20 times Earth's distance from the sun, and moved in elongated orbits. But the model's planets showed little sign of moving inward, as many extrasolar planets have presumably done. Nor does the model help explain the rounded orbits found in one solar system—our own.

The new modeling "is a very important step forward for the disk-instability mechanism," says Boss. "It shows that it is plausible that clumps could survive long enough to become gas giant protoplanets." But not even Boss thinks that disk instability is home free. "One has to be a little cautious," notes Durisen. Properly accounting for all the forces that work against gravity—including internal heating—must await future modeling, he says. Starting simulations with a realistic amount of instability is difficult, adds dynamicist Jack J. Lissauer of NASA's Ames Research Center in Mountain View, California; he thinks these runs started with far too much. And these simulations are "like a lab experiment that needs confirmation," says Durisen. It seems the gas giants will be glaring down a while longer.

–RICHARD A. KERR

CREDITS: (TOP) L. MAYER ET AL.

CANADA

Universities Promise More Tech Transfer

TORONTO—Canadian university administrators hope they haven't struck a Faustian bargain. In return for a promise by the government to double research funding and create a permanent fund to pay the overhead costs of conducting federally funded research, universities have agreed to do a better job of turning academic research into commercial products. The deal gives each side something it badly wants, at a price both sides appear willing to pay.

The terms of the quid pro quo were announced here last week, at the National Summit on Innovation and Learning. The event, held despite a nationwide snowstorm, gave more than 500 members of Canada's academic, business, and financial elite a chance to offer final comments on the government's ever-evolving blueprint for doubling federal research spending (*Science*, 15 February, p. 1211). The doubling would raise the R&D budget to $9.2 billion by 2010.

Industry Minister Alan Rock says that the tradeoff, part of a proposed Framework Agreement on Federally Funded Research, marks the first time that academia has formally acknowledged its responsibility to generate economic wealth. "I wanted to commit them [academic institutions] in principle to a link between public funding and economic outcomes," he says.

At the core of the deal lies a government promise to roll a "one-time" allocation this year of $125 million for overhead costs associated with publicly funded research into

ScienceScope

To the Rescue French archaeologists are once again vowing to defend laws requiring digs prior to construction projects. Jean-Paul Demoule, president of INRAP, France's institute of "rescue archaeology," called on the group's 1500 members to go on strike this week to protest changes proposed by Parliament.

In 1997, the archaeologists took to the streets to successfully campaign for stricter enforcement of rescue archaeology laws and better funding from developers (*Science*, 7 February 1997, p. 746). Under the current rules, which require builders to negotiate dig payments on a case-by-case basis, archaeologists conducted about 4000 surveys this year. But lawmakers in the National Assembly and the Senate have recently added amendments to two bills that would loosen the requirements. If passed, Demoule says, the changes "would create chaos ... and throw a number of specialists out of work."

The Chirac administration opposes the amendments, saying it wants to complete a planned review next year before proposing any changes. Parliament must act on the matter by year's end.

Pulling Rank The National Science Board is about to tell scientists competing for big new research facilities exactly where they stand. Responding to an order from Congress, the oversight body for the National Science Foundation (NSF) agreed last week to assign a numerical ranking to each big project that it wants to fund. That's a big change from its previous policy of neutrality, which generated a growing backlog of projects deemed worthy of support and uncertainty about which ones the board preferred (*Science*, 14 September 2001, p. 1972).

"The new list will rank projects at the same time they are approved by the board," says Anita Jones, head of the board panel that drew up the new policy. "And that list will be public." Jones says the board also hopes to keep the list of approved projects as short as possible—"just a bit more than we think we can afford to do at any one time."

The board reforms are consistent with a bill Congress passed this month (H.R. 4664) reauthorizing NSF programs. It strengthens the board's ability to manage big projects with the goals of lowering costs, improving efficiency, and making the process more transparent.

Contributors: Dan Ferber, Andrew Lawler, Barbara Cassasus, Jeffrey Mervis