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.

that their states might be frozen out.

Despite the setback, Texas A&M says it is ready to compete for the center. And congressional aides note that DeLay and other Texas lawmakers could still earmark money for the project in a spending bill. Says one Republican staffer: "The idea that this is going away is absurd." Adds another aide, who is opposed to the project, "This is like a horror movie: The creature takes a licking but somehow keeps on ticking."

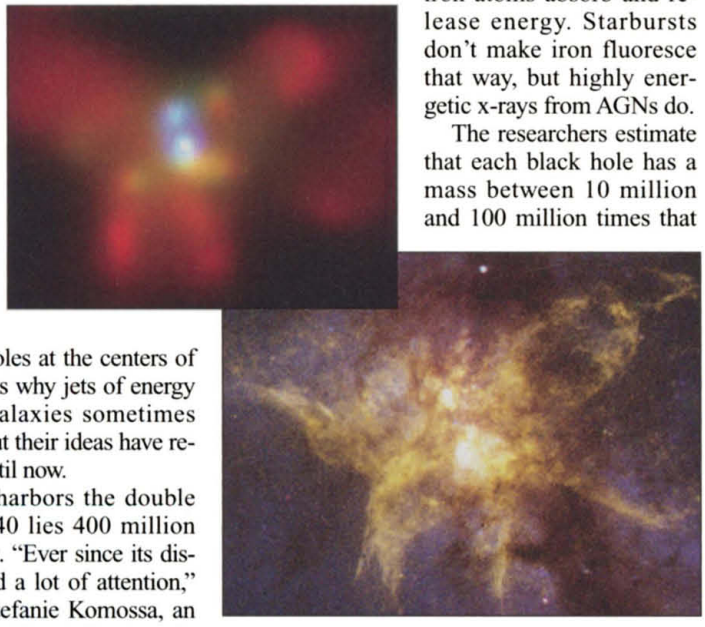
–DAVID MALAKOFF

ASTRONOMY

X-rays Show a Galaxy Can Have Two Hearts

Astronomers have sighted evidence of two black holes spiraling toward an eventual collision in the center of a nearby galaxy. The discovery—made by an international team of astronomers using data from the orbiting Chandra X-ray Observatory—has confirmed astronomers' long-held suspicions, based on indirect evidence, that the black holes at the hearts of many galaxies might come in pairs.

"It was not a surprise. … We have been thinking about it for more than 20 years," says Astronomer Royal Martin Rees of the University of Cambridge, U.K. In 1980, Rees, together with Mitchell Begelman of the University of California, Berkeley, and Roger Blandford of the California Institute of Technology in Pasadena, proposed that the waltz of binary supermassive black holes at the centers of some galaxies explains why jets of energy spewing from the galaxies sometimes wander, or precess. But their ideas have remained speculative until now.



Twin peeks. X-ray image (*top*) reveals two black holes at the core of a galactic merger.

The galaxy that harbors the double black hole NGC 6240 lies 400 million light-years from Earth. "Ever since its discovery, it has received a lot of attention," says team member Stefanie Komossa, an astronomer at the Max Planck Institute for Extraterrestrial Physics in Garching, Germany. In 1983, astronomers observing NGC 6240 in visual light found that its shape is strongly distorted—an indication that it consists of two galaxies that have collided. What really piqued their curiosity, however, was that the galaxy radiated enormous amounts of power at longer wavelengths, in the infrared part of the spectrum.

Astronomers knew of only two mechanisms that might explain such huge infrared emissions. NGC 6240 might be alive with starbursts, swarms of newly forming stars. Alternatively, like many other galaxies, it might contain an active galactic nucleus (AGN): an enormous engine that blasts out x-rays as matter falls toward a black hole in the galaxy's center. Dust clouds near the core of the galaxy would absorb x-rays and reradiate the energy in the infrared.

When Chandra was launched in 1999, its high-resolution x-ray imaging made NGC 6240 an obvious target, Komossa says. She and her colleagues set out to find the galaxy's x-ray powerhouse. Earlier observations by the ROSAT x-ray observatory, which Germany, the U.K., and the U.S. operated during the 1990s, had hinted that the galaxy's central x-ray source was oblong rather than spherical. In 10 hours of observations made in July 2001, Komossa's team found that the elongated source was actually two sources, thousands of light-years apart.

Several telltale signs show that the x-ray sources are black holes, Komossa says. First, they are very intense and concentrated, and they are emitting extremely high-energy x-rays—hallmarks of AGNs but not of starbursts. What's more, the spectrum of x-rays from the galaxy's center shows a strong emission line caused when cold, nonionized iron atoms absorb and release energy. Starbursts don't make iron fluoresce that way, but highly energetic x-rays from AGNs do.

The researchers estimate that each black hole has a mass between 10 million and 100 million times that of our sun. The distance between them, 3000 light-years, means that they must rotate around their common center over a period of millions of years. Over hundreds of millions of years, the two bodies will spiral toward each other, giving off energy in the form of gravitational waves, and ultimately merge. Such mergers might explain why some galaxies don't show an increased concentration of stars toward the center, Rees says: "In the process of merging, the binary would have kicked out the stars from the center."

Gravitational waves unleashed by similar mergers should be detectable by the Laser Interferometer Space Antenna, a constellation of six spacecraft that the European Space Agency and NASA plan to launch later this decade (*Science*, 16 August, p. 1113). Because most galaxies are expected to contain supermassive black holes, and many galaxies merge, coalescent black holes might be common. "We may observe about one merger per year if we observe all the galaxies out to the limit of a big telescope," Rees says.

–ALEXANDER HELLEMANS

Alexander Hellemans is a writer in Naples.

PLANETARY ORIGINS

A Quickie Birth for Jupiters and Saturns

Talk about a major embarrassment for planetary scientists. There, blazing away in the late evening sky, are Jupiter and Saturn—the gas giants that account for 93% of the solar system's planetary mass—and no one has a satisfying explanation of how they were made. Of course, they formed from the infinitely more diffuse gas and dust of the solar nebula as the sun formed. But what could entice that much gas to condense into planets before it all dispersed in a million years or so?

On page 1756, a group of astrophysicists presents computer simulations of the nascent solar system that suggest a possible mechanism: runaway fluctuations in the disk's density. In their model, gas giants of about the right size, number, and orbit condense from a disk of gas to look like very young Jupiters. The trick was to simulate the process in fine detail so that the gas's own gravity could take over. "It's a beautiful calculation," says astrophysicist Richard Durisen of Indiana University, Bloomington. "It's a step along the way, but this is not the final answer." A next step is to work out whether some disruptive forces not yet included in this model might frustrate the disk's gravitational urge to collapse on itself and spawn planets.

Until recently, theorists assumed that, for a gas giant to form, a small core of rock with the mass of perhaps 10 Earths must accumulate bit by bit as kilometer-size planetesimals collide with one another. Only then would the core have the gravitational heft to begin pulling in the gas that would make up 99% of the planet. But in the meantime, the spinning protoplanetary disk is dispersing quickly. By current estimates, it's gone before a Saturn can grow, much less a Jupiter. But the alternative to accretion is even less appealing: Depend on a patch of slightly denser gas

CREDITS: (X-RAY, LEFT) NASA/CXC/MPE/S. KOMOSSA *ET AL.*; (OPTICAL, RIGHT) NASA/STSCI/R. P. VAN DER MAREL AND J. GERSSEN