oleyl amine. As the particles grew, the soap molecules glommed onto the metal particles and stopped them growing at 4 nanometers.

At this stage, the metal particles were weakly magnetic jumbles of iron and platinum atoms. To make an array, the IBM team simply poured the particles out of the beaker. As the solvent evaporated, the particles nestled down into a regular structure like oranges stacked in a box.

Next, the IBM researchers baked their array like a sheet of cookies, at 500°C for about 30 minutes. The heat fused the organic molecules into a hard carbon coat that locked the particles in place, and it caused the iron and platinum atoms to segregate into distinct atomic planes, a change that dramatically boosted the magnetic strength of the materials.

The IBM team showed that these materials can store data faithfully at a density equivalent to that of hard disks on the market today. The particles' small size may even allow researchers to boost that density 10-fold using current read and write heads. But if heads can be improved to manipulate magnetic fields on single particles—and that's a big if—then the films could potentially store orders of magnitude more data.

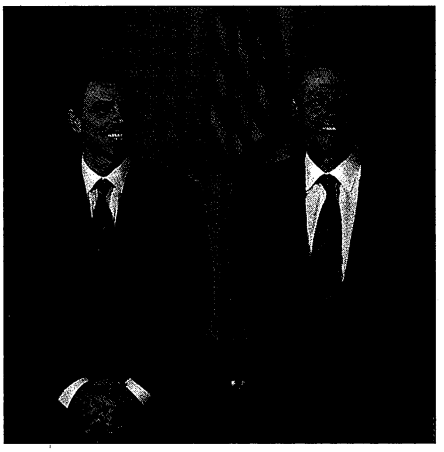
Sun and Murray are quick to point out that the new materials need more work. The biggest problem, Murray says, is that conventional recording heads work only if all the magnetic grains or particles on a disk have their crystalline axes aligned with the disk's surface. For now, however, the tiny iron-platinum particles can freeze in place facing any direction. Murray says the IBM team is working on aligning the particles by applying an external magnetic field to their films as they bake. If they succeed, the future of data storage may soon become a little less unnerving. **–ROBERT F. SERVICE**

GENOME SEQUENCING

Clinton and Blair Back Rapid Release of Data

It's not often that heads of state wade into a furious quarrel in the scientific community, but both President Clinton and British Prime Minister Tony Blair did so this week. On 14 March, the two leaders announced that they enthusiastically support the rapid release of human genome sequence data, a principle long advocated by Francis Collins, director of the National Human Genome Research Institute (NHGRI), and other scientists in the nonprofit sector.

Clinton released a joint statement with Blair at *Science*'s press time arguing for the rapid release of human genome data. Afterward, Clinton made some personal remarks that went even further. Speaking at the annual medal of science ceremony at the White House, Clinton urged private companies to "make raw [DNA] data publicly available" and make "responsible use of patents." The statements were carefully worded to support patents on "new gene-based health care products." But they seemed directed at the activities of some private data-marketing companies—such as Celera Genomics and Incyte—that have been engaged in high-



View from the top. Two leaders say raw gene data should be unencumbered by restrictions.

volume sequencing of human DNA and collecting genes and genetic variations.

Although the high-level attention to this debate is new, the debate itself is not. The largest DNA sequencing labs funded by the U.S. government and by the Wellcome Trust, a British charity, endorsed very similar principles for data release at a meeting of top genome sequencers in Bermuda in 1996. Typically, these big labs release new human DNA data within 24 hours of production, posting results on the Internet. But the labs' insistence on this practice has caused some friction with the private sector. Recently, for example, talks broke down between Celera and a group of nonprofit centers over how they might collaborate on completing the sequence of the human genome. They clashed specifically on public access to data (*Science,* 10 March, p. 1723).

In addition to giving Collins's side of the debate a boost, this high-level endorsement of the Bermuda rules may have an impact on discussions within the U.S. Patent and Trademark Office (PTO). For several years, Collins and former National Institutes of Health director Harold Varmus have tried to persuade PTO leaders that they should not grant patents on simple gene discoveries. In letters and speeches, both have argued that only inventors who clearly describe the "utility" of a gene, such as a plan to develop a medical product, deserve to win a patent. Although the PTO has proposed tighter policies, it hasn't gone as far as Collins would like (*Science*, 18 February, p. 1196).

Collins calls the Clinton-Blair announcement a "very encouraging" and "gratifying endorsement" of NHGRI's strategy. But presidential enthusiasm may not carry much legal weight. PTO biotech section leader John Doll says: "It doesn't seem like this is going to affect biotech patenting at all." And Celera said in a statement that the company "welcomes" the Clinton-Blair policy, calling it "completely consistent" with Celera's plan to publish the human genome in a peer-reviewed journal and make the information "available to researchers for free." **–ELIOT MARSHALL**

BIOMEDICINE

Congress Investigates Fetal Tissue Sales

At a packed hearing on 9 March, members of a congressional committee vowed to investigate whether some companies are profiting from the sale of fetal tissue. One committee member said after the hearing that he would introduce a bill requiring researchers to report the source and cost of fetal tissue they use. But—much to the disappointment of antiabortion groups that had hoped the hearing would spark outrage over grisly tales of trade in body parts—the testimony itself turned up no persuasive evidence of wrongdoing.

Indeed, one key witness, a clinic technician who had made gruesome allegations in a video that an antiabortion group had been circulating on Capitol Hill, backed away from many of the claims he had made on the tape. That left for evidence a network news broadcast, aired the previous night, in which a Missouri pathologist on hidden camera seemed to admit selling fetal tissue for a profit—but committee members disagreed over whether that indicated widespread disregard for the law.

Keeping track. Representative Tom Coburn.

Under a law enacted in 1993, researchers can pay for the cost of procuring and shipping fetal tissue. However, buying or selling fetal tissue for a profit is strictly forbidden. At the hearing, both Republicans and Democrats voiced support for fetal tissue research while condemning any possible for-profit sales. "Full and vigorous enforcement of the law against the sale of fetal tissue is essential to prevent a negative impact on legitimate research," said Michael Bilirakis (R–FL), chair of the subcommittee.

The impetus for last week's hearing arose

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in November, when several outraged members of Congress presented on the House floor a price list for various fetal organs. They alleged that the price list had come from a company called Opening Lines and was evidence that the company was trafficking in fetal tissue. The House passed a resolution condemning such sales and called for a hearing into the matter.

The night before the 9 March hearing, ABC News broadcast a report on *20/20* in which the owner of Opening Lines, Missouri pathologist Miles Jones, told a reporter posing as an investor that he could make $50,000 in a week from sales of fetal tissue. On 10 March, the FBI launched an investigation into whether Jones or the Kansas City–area clinic where he apparently obtained tissue broke federal law, said Special Agent Jeff Lanza of the FBI office in Kansas City, Missouri.

Jones, who could not be reached for comment, had been subpoenaed to testify at the hearing, but he failed to appear; the committee voted unanimously to hold him in contempt of Congress. Two workers from the clinic that allegedly procured tissue for Jones did appear, but both said they did not have personal knowledge of illegal tissue sales. One of those, Dean Alberty, was the key figure in the videotape that had been making the rounds on the Hill. But under oath, Alberty, who admitted being a paid informant for an antiabortion group while working at the clinic, hedged his earlier allegations. He said that researchers would call him to ask what kinds of tissue were available that day, but he "did not discuss prices" with them.

The committee also called on two scientists who work with fetal tissue: Samuel Cohen of the University of Nebraska Medical Center in Omaha and Hannah Kinney of Harvard Medical School in Boston. Both testified that they had no knowledge of companies that sold fetal tissue for profit. Kinney told the committee that the fetal brain tissue she uses comes either from the pathology department within Harvard Medical School or from the fetal tissue bank at the University of Washington, Seattle, which charges a flat fee of $100, no matter what tissue a researcher requests.

Despite the lack of evidence, the committee said it will continue its investigations. Spokesperson Steve Schmidt said committee staff are looking into the pricing practices of several organizations that provide fetal tissue to researchers, including the University of Washington. And committee member Tom Coburn (R–OK) says he intends to introduce a bill that would set up a national reporting network on fetal tissue transfers. Both tissue providers and researchers would be required to detail the source of the tissue and what, if any, fees were paid. A spokesperson for Coburn said the form would be "similar to the records a pharmacist has to keep" on sales of controlled substances. **–GRETCHEN VOGEL**

GLOBAL CHANGE

Endorsement for Controversial Satellite

The presidential campaign appears to be going into orbit. An Earth-monitoring satellite initially proposed by Vice President Al Gore won scientific endorsement last week from a panel of the National Research Council (NRC). President Bill Clinton's science adviser Neal Lane immediately hailed the study as "a rigorous analytic review" that gives a green light to the program and called for bipartisan support for the effort. But with Gore as the likely Democratic nominee, that may not materialize: Republican leaders in Congress have long opposed the venture, and Representative James Sensenbrenner (R–WI), who chairs the House Science Committee, promptly issued a statement complaining that the satellite "is not the best use of NASA's scarce science funding." Nevertheless, space agency managers told Congress on 8 March that they are pushing ahead for a planned spring 2001 shuttle launch.

Green light? NRC panel found Al Gore's proposal for an Earth-monitoring satellite scientifically sound.

Gore first proposed the satellite—named Triana for the member of Columbus's crew who first spotted land—in March 1998. The idea was that the spacecraft would beam back pictures of the whole planet, which would "awaken a new generation" to environmental concerns. NASA embraced the idea, then projected to cost only $50 million. But Gore's political nemeses on Capitol Hill, such as Sensenbrenner, complained that the program lacked scientific merit and hadn't been peer reviewed. Some said it would produce little more than an expensive screen saver. NASA tried to answer those criticisms by adding a host of global change instruments to accompany Triana's camera. Those instruments, selected through peer review, would measure Earth's vegetation and cloud coverage, and also the ozone and aerosol levels in its atmosphere.

Those additions pushed the mission's price tag to $75 million, which only increased the furor over the project. The House voted last summer to cancel it, and a NASA inspector general's report criticized its rising cost (*Science*, 24 September, p. 2041). Although it was rescued at the last minute in a deal with the Senate, Congress ordered NASA to stop work on Triana for 90 days while the NRC studied the scientific merits of the venture. The committee, chaired by University of Michigan president emeritus James Duderstadt, provided a clear, though qualified, green light for the spacecraft.

The panel concludes that Triana's instruments and its unique position—at a distance of 1.6 million kilometers it would be farther out than other Earth-observing satellites—could provide a fresh set of global data on everything from ozone to forest fires. That data will "complement and enhance" those from other spacecraft closer to Earth, and "may well open up the use of deep-space observation points ... for Earth science," the study states. Duderstadt's panel also determined that the program's cost "is not out of line for a relatively small mission." But the NRC panel also urges NASA to conduct more extensive testing of the satellite's components before launch, and it suggests that "there may be insufficient funding for scientific analysis of the data." Sources familiar with the program add that funding woes could be increased by the 90-day stand-down ordered by Congress, which will add as much as $10 million to $15 million to Triana's costs.

Despite these caveats, researchers involved in the effort are delighted with the report. "We can move ahead now," says Francisco Valero, an atmospheric scientist with San Diego's Scripps Institution of Oceanography and the mission's principal investigator. He insists that Triana will be more than a politician's daydream, capable of providing new data that will help resolve the critical issue of whether human activities are contributing to global climate change. But with the presidential election campaign getting off the ground, Triana is unlikely to shake off its political stigma. **–ANDREW LAWLER**

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