search Centre and with scientific agencies in E.U. member nations.

Some European scientists are welcoming the recommendations, but others complain that the new authority would lack teeth: With no direct power to inspect suspect food shipments, punish violators of European food laws, or dictate policy to E.U. member nations, it would have nowhere near the clout of the U.S. Food and Drug Administration (FDA). Some are also disappointed that the proposed organization would play no role in public health policy. The E.U. has a drug-analysis lab—the European Medicines Evaluation Agency in London—but has no equivalent to either the FDA or the U.S. Centers for Disease Control and Prevention.

As public debate on food safety has raged over the past several years, the commission has struggled to beef up its authority. In 1997, the commission sought to insulate its scientific advisory panels on food safety from outside pressures—especially from industry—by moving them to the consumer directorate. But that shift solved only some of the problems, says physiologist Philip James, director of the Public Health Policy Group, a U.K. think tank, and a member of the commission's Scientific Steering Committee—an independent advisory panel that deals with multidisciplinary issues related to public health. "The commission's demands on scientists have at times been ridiculous, the remuneration for scientists has been too low, and the size of the 'scientific secretariat' support staff has been ludicrously small," he says. Indeed, the white paper itself says "The existing [scientific advice] system is handicapped by a lack of capacity, and has struggled to cope with the increase in the demands placed on it."

James and two other members of the steering panel—German toxicologist Fritz Kemper and French food safety expert Girard Pascal—last month issued a 74-page report criticizing the scientific advisory structure and suggesting the creation of a wider European authority that would cover both food safety and public health. They argued that the European public's confidence in scientific and government analyses "has declined because of a perceived bias toward political and industrial rather than consumer interests." Says Kemper, a Münster University professor who was a key player in developing the 1997 reforms: "We have to restore the confidence of European consumers, which was badly damaged by the BSE and other food safety debates." The new proposals are "a step toward improving the commission's scientific advice system on food safety—but it is only an initial step," says James. "Ideally, we would have a powerful agency like the FDA, but in Europe we have to do things one step at a time," adds Kemper.

But even this first step may be difficult. The European Parliament gave an initially tepid response to the white paper's proposals, and some consumer and food industry groups criticized the plan. David Barling, a researcher at the Centre for Food Policy in London, sees possible tension between the new E.U. Food Authority and the national food agencies that operate in eight of the 15 E.U. member nations. "There are some obvious fault lines," he says, including "the potential for future conflict when you create a European Food Authority at the same time that national food safety agencies are emerging."

–ROBERT KOENIG

EUROPEAN UNION

Getting Researchers to Pull Together

Like a fragmented empire of powerful fiefdoms, research in the European Union (E.U.) tends to be driven by the policies and leading laboratories of its 15 member nations rather than by any overarching vision across the whole community. Although that landscape is unlikely to change significantly anytime soon, the E.U.'s new research commissioner, Philippe Busquin, this week proposed steps to make the borders on the map of European research a bit less distinct.

Decrying the "fragmentation, isolation, and compartmentalization of national research efforts" in Europe, Busquin delivered a white paper policy statement on 18 January that outlined his concept for a "European Research Area." "There is no real research policy in Europe now, and the coordination of the member states' national policies and the European Commission is insufficient," says Busquin. "The research effort is often too little, too late, and too much centered on the national context—especially in comparison with our main competitors, the U.S. and Japan."

Cohesion needed. Philippe Busquin.

A significant part of Busquin's plan is the creation of a new "council of high representatives" from pan-European research centers such as the CERN particle physics lab, the European Molecular Biology Laboratory (EMBL), the European Space Agency, and the European Southern Observatory. These and other centers have a major influence on European research, but are run in-

CREDIT: KARIM IBOURKI PHOTO NEWS

ScienceScope

Booster Shot The Korea-based International Vaccine Institute (IVI) has received a 5-year, $40 million grant from The Bill and Melinda Gates Foundation to introduce vaccines for cholera, dysentery, and typhoid in six Asian countries. The money—for studies on topics such as disease prevalence and better vaccine delivery—is aimed at convincing policy-makers in the developing world that vaccines are a cost-effective way to improve public health.

"While the grant is large, it's small in terms of the job we face," says John Clemens, director of the 3-year-old IVI, which carries out collaborations with U.S. and European researchers and is building labs at Seoul National University. Focusing on Bangladesh, China, India, Indonesia, Thailand, and Vietnam, the money targets diseases that kill nearly 2 million people worldwide every year.

Mir's Nine Lives Slated to have been junked in the Pacific this year, the former pride of the Soviet Union is about to get a new lease on life as the loftiest outpost of capitalism. A Bermuda-based company called Mir Corp. Ltd. has raised some $20 million (primarily from telecom tycoon Walter Anderson) to renovate the creaking space station and plans to make a buck by selling time and space aboard what CEO Jeffrey Manber calls "one of the world's great destinations." He envisions that advertising and maybe even some research will keep the station afloat. Mir Corp. will be under majority control of RKK Energia, the firm that builds much of Russia's space hardware.

Try, Try Again As scientists duke it out over the safety of genetically modified (GM) organisms, nations have reached a frustrating impasse on crafting trade rules. Signatories to the 1992 biodiversity treaty agreed to address the environmental impact of certain GM products. After hammering away for 8 years at a new treaty on the export of GM products, negotiators will pick up the beat again next week in Montreal.

Major ag exporters, including the United States, argue that any treaty on segregating and labeling GM crops should apply only to seeds or organisms that could escape into the wild. However, delegates from Europe—where passions over GM foods have flared (*Science*, 7 August 1998, p. 768)—plan to lobby for broader language that would give countries the right to ban products even in the absence of strong scientific evidence that they are unsafe. Don't count on any compromises just yet.

from lavas elsewhere around the world, Gordon concedes. Tarduno and Kent see that as a serious problem, suggesting a solely regional phenomenon like a redirecting of Pacific Ocean plate motions, but Gordon suspects the data from beyond the Pacific may just not be good enough yet.

If so, he, like Sager, looks to Earth's interior for the driver of true polar wander. Perhaps a pile of ocean plates that had sunk 700 kilometers down finally broke through into the lower mantle, abruptly shifting the planet's mass distribution and triggering true polar wander. Then plate tectonics would lie behind Earth's tipsiness.

–RICHARD A. KERR

REMOTE SENSING SATELLITES

The Promise of All Weather, All the Time

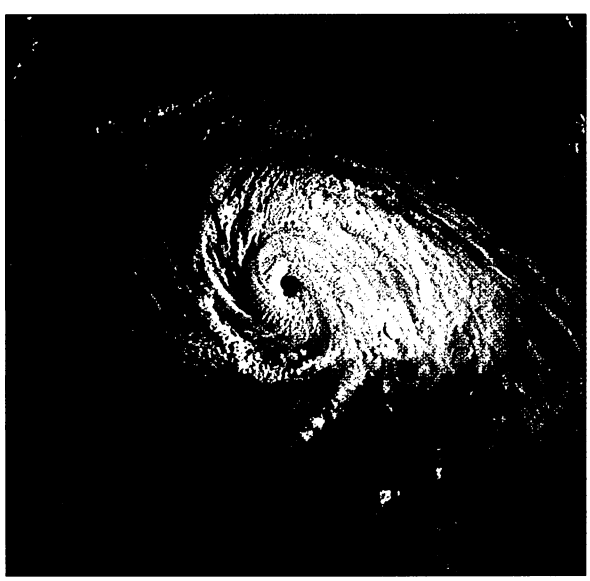
Want to watch the weather unfold on your home computer or TV? Next year a Mississippi company called Astro Vision Inc. hopes to launch the first in a series of small satellites that would provide live, high-quality color videos from space of storm fronts, hurricanes, forest fires, and other natural disasters. The satellites have piqued the interest of NASA officials, who hope that the data will be useful to researchers, and they have caught the attention of venture capitalists, who see an opportunity to feed the Internet's insatiable demand for material.

This week company officials said they have almost finished raising nearly $65 million in private funding for the first phase of their business plan, which calls for the launch of Avstar 1 in October 2001 and a twin 6 months later. The fund raising was aided by the prospect of some real income: Under a 1998 contract, NASA will buy $9.4 million worth of data on how tornadoes form. The company has a broader market in sight, however—the millions of people who watch The Weather Channel and monitor the Web site of the National Oceanic and Atmospheric Administration (NOAA). "We're going to change the way we view Earth's environment and weather," boasts Michael Hewins, the company's chief executive officer. NASA officials aren't willing to go that far, but they are complimentary. "It's a neat little project, and they've got a good shot at making it happen," says David Brannon, chief of commercial remote sensing at NASA's Stennis Space Center in Pearl River, Mississippi, who has worked closely with Astro Vision officials for the past 3 years.

Each Avstar satellite will cost between $20 million and $25 million to build and launch, says Hewins. It would carry both a wide-angle camera with a resolution of 7 kilometers and a second camera with a narrower field to spot objects as small as a half-kilometer across. Although its resolution is poor compared with military spy satellites, it is similar to the 1-kilometer resolution achieved by NOAA's Geostationary Operational Environmental Satellites (GOES) and well-suited for weather watching.

Astro Vision managers will be able to provide users with an image per minute, rather than the single image a government weather satellite typically produces every 15 minutes to a half-hour. That will enable Astro Vision to stitch together videos of hurricanes evolving, thunderstorms growing, and forest fires spreading. A customer interested in volcanoes could be alerted to an eruption, for example, or forest rangers could monitor the spread of fires. The second phase of Astro Vision's business plan calls for launching a satellite every 6 months or so, with a resolution down to 100 meters. In time, Hewins says, the company will operate a fleet of spacecraft "that can watch everything at once—eventually globally."

Fritz Hasler, a research meteorologist at NASA's Goddard Space Flight Center (GSFC) in Greenbelt, Maryland, says the Astro Vision approach could provide researchers greater flexibility than the GOES system, which must choose between viewing Earth from a wide angle or doing rapid scans of a smaller area. "Basically, we can only do one or the other," says Raymond



CREDIT: NASA/GSFC

Eyeful. Astro Vision satellites would provide clear view of storms like Hurricane Luis that struck the Caribbean in 1995.

ScienceScope

Academic Freedom Japan's leading university has cautiously endorsed a government proposal to cut loose the country's 98 national universities (*Science*, 13 August 1999, p. 997). A University of Tokyo panel has declared that "denationalization ... could help invigorate research and education" by freeing universities from regulations on administrative matters. However, it says, serious questions remain about whether funding cuts are the price of freedom—or if the government really can let go.

The panel's stance is expected to influence the academic community during negotiations. The education ministry hopes to submit a plan to the Diet by late spring, for implementation no earlier than 2002.

Chimp Deaths The Coulston Foundation is in hot water again. According to allegations made by In Defense of Animals (IDA), six chimpanzees have died at the primate lab since last August, when Coulston and the U.S. Department of Agriculture (USDA) announced an agreement that resolved charges of animal-care infractions (*Science*, 10 September 1999, p. 1649). In its latest broadside, IDA asserts that a chimp named Donna died of an infection after carrying a dead fetus in her womb for at least 2 weeks. A USDA report from December notes that the causes of several other deaths were "not fully determined."

Coulston's Don McKinney says the foundation is formulating its response to the USDA report. As for Donna, he says, Coulston vets had delayed surgery to remove the fetus in order to allow her to gain strength after failed attempts to induce delivery. The NIH and USDA are investigating. Coulston could face sanctions if found negligent.

Numbers Crunched Indian Prime Minister A. B. Vajpayee's promise to boost research spending sharply by tying it to the country's GDP—initially 1% and rising to 2% over 5 years—assumed that the current spending level is 0.86% of GDP (*Science*, 14 January, p. 209). But the actual figure is 0.66%, Indian officials now admit.

The revision means the government must come up with an additional $500 million—and a total increase of $1.25 billion over a current $2.5 billion budget—to meet the PM's pledge in the 2000 budget. Although a sudden rise of such proportions is unlikely, the head of the Department of Science and Technology says it should be possible to reach the 2% figure in 5 years.

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