

ScienceScope

Earthman Cometh There is rejoicing at Columbia University's Earth Institute (EI). Last week, after 3 years without a permanent director, the New York City institute snagged renowned Harvard economist Jeffrey Sachs (below) to be its chief. Sachs, a specialist on post-Soviet economies and adviser to United Nations (U.N.) chief Kofi Annan, is interested in the economic effects of disease in poor countries (*Science*, 29 June 2001, p. 2420). He plans to add two centers to the EI complex: a U.N.-based Center on Globalization and Development, to work on poverty-alleviation goals; and what he informally dubs CDCDC—a Center for Disease Control in Developing Countries—at Columbia Presbyterian Medical Center.

Sachs starts his new job in June and says he's boning up on its scientific aspects. Geochemist Wallace Broecker of Columbia's Lamont-Doherty Earth Observatory says he's "delighted." The 47-year-old Sachs, he says, has "the personality and energy" to fulfill the promise of EI, started in 1994 with the aim of combining earth, biological, and social sciences in charting the planet's future.

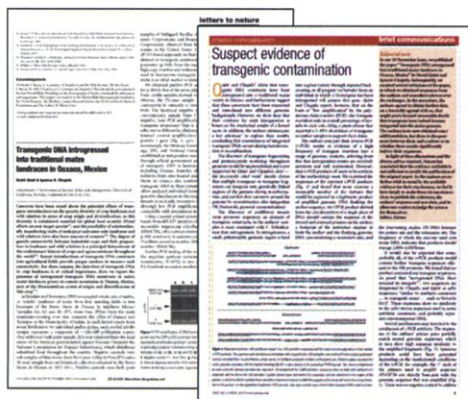


Job Confusion A court ruling threatens to throw a wrench into ongoing attempts to reform Italy's National Research Council (CNR), the nation's main basic research agency. An administrative tribunal this week rejected CNR's pick to head an astrophysics institute, saying that the agency ignored the qualifications of another candidate, who went to court to challenge the process.

Giovanni Bignami, science chief at the Italian Space Agency, alleged that CNR unfairly rejected his application to become director of the Institute of Astrophysics in Rome. The job was one of 101 directorships that CNR was filling under a plan to overhaul its infrastructure. An administrative tribunal backed Bignami, ruling that a CNR panel had "neglected" to consider his managerial skills. It annulled the appointment of another researcher to the post.

CNR officials are still grappling with the implications of the decision, with some officials fretting that it could expose the agency to further such challenges. The governing board will assess the potential fallout at a regular meeting next week.

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Insufficient evidence. *Nature* says its paper on transgenes in corn lacks data to justify publication.

Greenpeace demanded that the government ban all transgenic maize (the moratorium covers only planting maize, not selling or eating it), "develop an emergency plan" for "de-contamination" of Oaxaca, and sue all companies responsible for "transgenic organisms." Headlines about the "Mexican maize scandal" appeared worldwide. As the media pressure mounted, the Mexican Congress unanimously demanded in December that President Vicente Fox forbid the import of transgenic maize.

To identify transgenic DNA, Quist and Chapela had used the polymerase chain reaction—a standard procedure, but one that is prone to false positives. Almost immediately, other molecular biologists wrote critical letters to *Nature*. "I knew as soon as I read the paper that something was wrong," says biologist Wayne Parrott of the University of Georgia in Athens. Even greater skepticism greeted the report of transgenic instability. "Nobody has ever observed anything like it in years of working with corn," says UC Berkeley biologist Peggy Lemaux. These and other criticisms are spelled out in the two letters *Nature* is publishing.

In a highly unusual move, *Nature* asked Chapela and Quist to come up with further data to "prove beyond a reasonable doubt that transgenes have indeed become integrated into the maize genome." Using another technique, "dot blotting," the two scientists produced data that in their view did just that. But the results did not convince a *Nature* referee, which led editor Philip Campbell to decide that "the evidence available is not sufficient to justify the publication of the original paper." *Nature* is, however, publishing Chapela and Quist's response, including their new data, along with the critical letters, to "allow readers to judge the science for themselves."

Surprisingly, all sides agree that transgenic maize is probably growing in Mexico. Thousands of government-subsidized stores sell low-cost staples, including the maize kernels used to make tortillas. Much of the

maize is imported from the United States; preliminary government tests indicate that up to 40% is transgenic. Because the kernels can be planted, it is widely assumed that some small farmers have done so. In consequence, the dispute is less over the likely presence of transgenic maize than whether Chapela and Quist actually demonstrated it, and whether foreign DNA is as widespread and unstable as they claim.

Because of the political stakes, the debate has not been purely scientific. Chapela has charged that some of the criticism was fomented by biotech firms that feared the discovery would derail plans to end the European Union's de facto ban on agricultural biotechnology. On 19 February the Institute for Food and Development Policy (Food First) released a letter from 140 groups decrying "the use of intimidatory tactics to silence potentially 'dissident' scientists." Three days later, more than 100 scientists responded with a statement "in support of scientific discourse" (*Science*, 1 March, p. 1617).

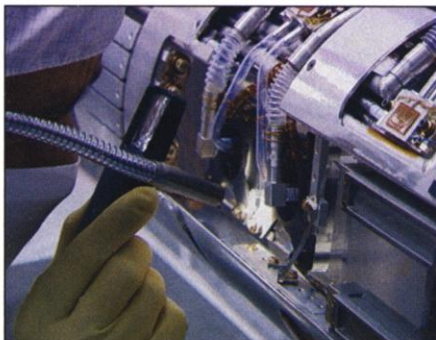
Unsurprisingly, the latest exchange hasn't ended the dispute. The Competitive Enterprise Institute, a pro-market advocacy group in Washington, D.C., hailed the reversal as proving that "antibiotechnology activists often rely on faulty data." Meanwhile, the antibiotech ETC Group charged that *Nature*'s "flip-flop" is "just an obfuscation of the real issue ... that a Centre of Crop Genetic Diversity has been contaminated, and no one is doing anything about it."

—CHARLES C. MANN

U.S. EXPORT CONTROLS

Rules Eased on Satellite Projects

The U.S. State Department last week loosened its export rules on scientific satellite projects and told the university community that those regulations aren't intended to stifle scientific research. Researchers, who have campaigned for 3 years to ease the irksome restrictions, say that they are



Hands on. New satellite rules make room for foreign scientists.

EMBRYONIC STEM CELLS

Australian Agreement Allows New Lines

SYDNEY—Australian researchers are relieved that it's not worse, although many wish it were better. Last week federal, state, and territory leaders attempted to resolve a raucous national debate over the use of human embryonic stem (ES) cells by agreeing to allow some research to continue under a strict regulatory regime.

The proposed legislation, to be introduced in June, would not only allow scientists to work with ES cell lines that have already been established but would also permit them to derive new cell lines from surplus in vitro fertilization (IVF) embryos created be-



Half-full glass. Monash University's Alan Trounson (left) and Martin Pera say that the new agreement permits derivation of new ES cell lines.

fore 5 April that would otherwise be destroyed. The rules would, however, prohibit all forms of cloning, including so-called therapeutic cloning: the transplantation of a nucleus from an adult cell into an ES cell to generate cells for tissue engineering. The technique, which is still a long way off, holds the promise of producing tissue that is genetically matched to a patient. An ethics committee would be established to review protocols, and the National Health and Medical Research Council will report within 12 months on the adequacy of the supply and distribution of embryos. The provisions on IVF embryos would expire after 3 years.

The new rules are more flexible than the conditions imposed on federally funded U.S. researchers, who can use ES cells only from cell lines created before 9 August 2001 (*Science*, 17 August 2001, p. 1242). Australian researchers estimate that some 70,000 frozen embryos are potentially available, although the agreement says that donors must give their permission before the embryos can be used. "This is very good news for researchers who are working to cure diseases and save lives," says Bob Carr, the premier of New South Wales and an out-

spoken supporter of research involving ES cells. "It means that research can go ahead with a minimum of inhibitions."

The legislation would reconcile what until now has been a patchwork of state and territory rules. "Getting a national consensus is terrific," comments John White of the Australian Academy of Science. "But let's take the next step to enable [therapeutic cloning] to follow." It's also a compromise between research advocates, who wanted greater freedom, and conservative politicians and religious leaders, who sought a ban on all embryo research. An "Open Letter" on 2 April from 80 prominent critics in Melbourne's newspaper *The Age*, for example, branded therapeutic cloning as "the manufacture of a new race of laboratory humans." In September 2001, a parliamentary committee recom-

mended a delay in drawing up any rules, but in the following months its chair, Minister of Ageing Kevin Andrews, led a campaign to stop all such research (*Science*, 1 March, p. 1619).

Martin Pera of Monash University's Centre for Early Human Development says that the new agreement allows him and his colleagues to keep their Melbourne lab intact (*Science*, 8 March, p. 1818). "We'll be able to derive new cell lines to support research elsewhere and also in Australia," he says. Steve Bracks, premier of Victoria state, where Monash is located, calls the agreement "a victory for common sense."

Others are less sanguine. Paul Simmons, who works with adult stem cells at the Peter MacCallum Cancer Institute in Melbourne, says that Australian scientists and clinicians will be "disadvantaged" compared to groups in nations such as the United Kingdom and China that allow work on ES cells for developing new therapies. "We'll be put out of the game for a period of time," he says. "How do you compete?"

—LEIGH DAYTON

Leigh Dayton writes from Sydney.

ASTRONOMY

If It Quarks Like a Star, It Must Be ... Strange?

Astronomers may have discovered two of the strangest objects in the universe. Observations by the orbiting Chandra X-ray Observatory imply that stars named RXJ1856 and 3C58 are too small to be familiar neutron stars but might instead be a more exotic breed composed of degenerate quark matter. If so, the two would be the first credible examples of so-called strange stars, presenting theorists with a chance to pin down some of

couraged by this move but that their work isn't finished.

"This is a big deal, but it doesn't solve the problem fully," says Claude Canizares, an astrophysicist at the Massachusetts Institute of Technology (MIT). Researchers say that the new rules are fuzzy about collaborative work abroad, don't address cooperative efforts with industry, and will lead to discrimination against graduate students from outside Europe and Japan.

The regulations followed a series of scandals in the late 1990s involving the alleged transfer of sensitive U.S. satellite technology to China (*Science*, 24 March 2000, p. 2138). In response, the State Department and agencies that fund academic research tightened oversight of research satellite efforts. Canadians became the only non-U.S. researchers allowed to work on such projects without U.S. government approval, and exports to even friendly nations required licensing. Outraged U.S. researchers complained that the rules hindered the contributions of foreign-born graduate students and non-U.S. universities.

Under the new rules, students or scientists from Canada, Europe, Japan, and a few other U.S. allies may participate in most satellite projects without licenses. But some scientists say that the change, although welcome, could divide students into those from friendly nations and those considered untrustworthy. "Any university worth its salt will not do this," says Eugene Skolnikoff, an MIT political scientist who has closely monitored the regulations.

The new rules also will allow shipments of nonsensitive technology to a friendly nation without a license. But it's not clear whether the government will hold U.S. researchers responsible for blocking access by citizens of countries not considered U.S. allies. "There's just no way to control the other end," says Canizares. Skolnikoff adds, "It's simply unworkable." Universities are still puzzled about how to manage their increasing collaboration with industry, which comes under related but different rules.

With export-control officials worried that unfriendly countries will still try to get their hands on sensors or radiation-hardened components, further loosening of the rules seems unlikely. "[The rules] will make life easier for universities, even if they don't give them 100% of what they want," says one Administration official. At the same time, thankful researchers don't want to complain too loudly about not having all their wishes for fewer restrictions granted. The Administration, they note, has made a strong and public first step. Says Skolnikoff: "This tells the bureaucracy that this is important."

—ANDREW LAWLER