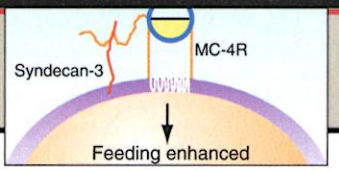


PAGE 190
New player in appetite control

193
Huygens revitalized

EMBRYONIC STEM CELLS

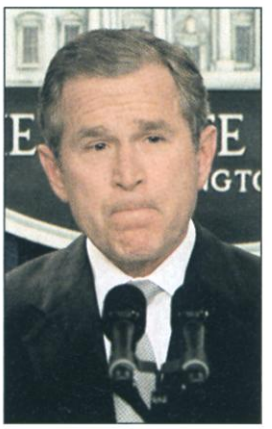
Rumors and Trial Balloons Precede Bush's Funding Decision

Opponents and supporters of embryonic stem (ES) cell research reached a rare moment of agreement last week. When aides to President George W. Bush floated options for a possible compromise on government funding for such research, both sides said the proposals were unacceptable.

Rumors about a compromise came in the midst of a barrage of intense lobbying. Last week the White House spokesperson was dogged with questions, while newspapers across the country ran front-page stories and passionate editorials. The once-arcane debate over the ethics of working with these cells, which are derived from week-old embryos, even dominated Sunday morning political talk shows. As *Science* went to press, Bush's decision was said to be imminent.

The president is caught between two politically powerful ideas. ES cells, which in theory can become any type of cell in the body, are touted as possible cures for diseases including diabetes and Parkinson's. The sticking point is their origin: embryos left over from fertility treatments, slated to be discarded. Opponents of the research believe such embryos deserve protection as human life, while advocates say these embryos have no chance at life and cells derived from them promise widespread benefits. Under guidelines crafted under the Clinton Administration, now on hold, the National Institutes of Health (NIH) can support research on ES cells, as long as they have been derived by privately funded researchers in accordance with ethical standards. But NIH-funded researchers cannot derive the cell lines themselves. Many researchers say that arrangement is compromise enough.

But Bush was considering proposals last week that would restrict NIH even more. One idea the White House floated was to allow NIH to fund this research—but only on already-existing cell lines. In other words, when new cell lines become available, NIH researchers would not be able to work on them. Others hinted that Bush might support giving government grants to private groups who could then divert their own funds to ES cell research.



Weighing the options. Bush faces intense lobbying over embryonic stem cells.

The first proposal is unworkable for several reasons, say advocates for ES cell research. For one, all known ES cell lines were derived by privately funded researchers, and many have commercial strings attached that could limit research. Scientists also say they need a variety of cell lines to determine which might be most useful for treatment—dozens or even hundreds, says developmental biologist Douglas Melton of Harvard University.

The anti–ES cell coalition is no happier. Although limiting work to existing cell lines would not directly cause the destruction of additional embryos, it would still rely on that immoral act, says Richard Doerflinger, spokesperson for the National Conference of Catholic Bishops. "I don't think such a compromise works on any plane," he says. "It does not resolve the ethical problem, and it doesn't resolve the scientific problem"—that is, the need for new cell lines.

Pro-research advocate Tony Mazzaschi of the Association of American Medical Colleges agrees. "The talk of a compromise is really foolish. You have ethical paradigms that can't be bridged. To try to bridge them is to respect neither one. You just have to choose."

The other idea does not fare much better. Although the Juvenile Diabetes Research Foundation, for example, would not immediately refuse an offer of federal money, it would be cautious about accepting money with complicated oversight requirements, says spokesperson Julie Kimbrough.

If Bush does decide to limit research, supporters may have enough allies on Capitol Hill to overrule him. Since late June, dozens of legislators, including many abortion opponents, have stated their support for the research (see timeline).

Some congressional staffers favor removing the so-called "Dickey amendment" from next year's Health and Human Services (HHS) funding bill. That amendment forbids HHS (which oversees NIH) to spend money on research that harms or destroys human embryos. Senator Arlen Specter

13 June Senator Orrin Hatch (R–UT) writes to Bush Administration supporting embryonic stem (ES) cell research.

20 June NIH sends scientific review of stem cell science to Health and Human Services Secretary Tommy Thompson.

27 June U.S. Representative Jennifer Dunn (R–WA), with 37 Republican colleagues, sends letter urging President Bush to support ES cell research.

1 July Coalition of Americans for Medical Research urges more than 70,000 patient activists to lobby their representatives over the 4 July holiday.

2 July House Republican leaders Richard Armey (TX), Tom DeLay (TX), and J. C. Watts (OK) urge Bush not to allow funding for ES cell research.

2 July Main Street Republicans, a group of 57 moderate Republicans, issue statement supporting ES cell research.

3 July Press reports possible "compromise" from White House aides.

3 July Bush tells journalists he'll decide the issue "in a while."

5 July Conservative columnist William Safire urges Bush to support ES cell research.

(R–PA) has introduced a bill in the Senate that would allow NIH to fund derivation of new ES cell lines, and a companion bill has been introduced in the House of Representatives. On 8 July Specter said on CBS's *Face the Nation* that he had counted 70 votes in favor of his bill—enough to pass it even over a presidential veto.

"The president is very aware that there is a balance on this issue where there is so much potential for health and for breakthroughs," White House spokesperson Ari Fleischer said on 9 July. "The president ... is listening to all sides of the debate." Many believe he will announce his decision before a 23 July meeting with Pope John Paul II.

–GRETCHEN VOGEL

PH.D. TRAINING

Spain Cuts Off Aid to Foreign Ph.D. Students

BARCELONA—Eduardo Agatângelo came to the Autonomous University of Barcelona (UAB) from his native Angola last year under a new program to help promising students from the developing world earn Ph.D. degrees. But last month the Spanish government pulled the plug on its 3-year commitment to Agatângelo and hundreds of other students from around the world, shifting the money to target links with Latin America. The move has left many students angry at their host country and anxious about their chances of becoming scientists. "This worries me greatly," says Agatângelo, who is seeking a degree in food science. "I have no prospects to continue my Ph.D. training in Angola."

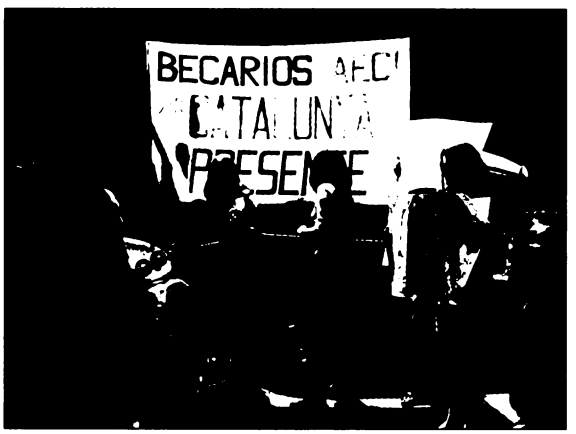
In 1998 Spain's Agency of International Collaboration (AECI) expanded a program, begun at the end of World War II, that awards competitive 3-year training grants to deserving graduate students from the developing world. The program now supports more than 1200 students from 40 countries. But last month the AECI announced that it would transfer $3.6 million from the grants program into a new entity, the Carolina Foundation, to support cultural and education programs in Latin America, including science courses for biomedical postdocs. An AECI official says the foreign grants program was too expensive and that the students, instead of returning to their home countries, were using the training as a kind of work placement program to land jobs in Spain—a characterization that the students deny.

The AECI's decision means that some 900 foreign students may soon be homeward bound. Last month the agency informed first- and second-year students like Agatângelo that their training grants would be extended by 1 year. The roughly 350 students who were completing a third year without earning a Ph.D. were told that their support would end on 30 June, the last day of the academic year. The AECI said it would no longer grant extensions to allow such students to finish their degrees.

The news left students up in arms, leading to demonstrations in Barcelona and Madrid. "This situation places hundreds of researchers in a situation of economic precariousness," says Silvina van der Molen, an Argentinean who has just completed her third year of studies in ichthyology at UAB and was hoping to finish her Ph.D. next year.

Faculty members have also condemned the AECI's hard line. The Spanish Council of University Rectors, representing 64 universities, criticized the disruption to the students' lives and work. Echoing that theme, officials at 11 universities in Catalonia say the decision "is harming not only the Ph.D. students but also the research institutions where they are developing their training grants and their corresponding countries."

The backlash has sent AECI officials backpedaling. Jesús Silva, the Foreign Office's director of cultural and science relations, says that the agency will now give "a few extra months" of support to third-year students on the verge of completing degrees and may give selected foreign students a few months of grant support for study in Spain. But university officials remain upset. The AECI, fumes UAB research vice chancellor Joan Antón Carbonell, is "not taking this matter seriously."



Taking action. Barcelona students protest the Spanish government's decision to curtail grants program.

A spokesperson for the students says AECI bylaws mandate that these grants run for 3 years. But the students may have little legal recourse: Class-action lawsuits are prohibited in Spain, and individual lawsuits would be costly. Unless the AECI changes its stance, scores of embittered students will be packing their bags for home next year.

–XAVIER BOSCH

Xavier Bosch is a science writer in Barcelona.

HUMAN EVOLUTION

Another Emissary From The Dawn of Humanity

Roots. Tooth of oldest known hominid?

Fossils unearthed in Ethiopia offer a glimpse of the time when humans and chimps first went their separate evolutionary ways—and may represent the earliest known human ancestor. The remains—a jawbone with teeth as well as arm, hand, and foot bones—have been dated at between 5.2 million and 5.8 million years old. From the shape of one nearly complete foot bone, the discoverers conclude that their specimen walked upright, a hallmark of all hominids.

The find comes hot on the heels of the report of 6-million-year-old bones found in Kenya's Tugen Hills, also hailed by their discoverers as belonging to the earliest known hominid (*Science*, 23 February, p. 1460). The two creatures share a crucial feature: Both appear to have lived in relatively wet woodlands. If either is indeed a hominid, that could overturn a long-held theory that bipedalism evolved when forest-dwelling apes moved out into open savannas, possibly as a result of climate change. "The recent findings ... challenge some long-cherished ideas about the mode and timing of hominid evolution," says Brigitte Senut of the National Museum of Natural History in Paris, co-leader of the

CREDITS: (LEFT TO RIGHT) AECI; DAVID L. BRILL/BRILL ATLANTA