## Connecticut Church Passes Genetics Resolution

". . . We believe that the Gospel requires affirmative action by Christians to serve the less fortunate, including particularly those who by reason of their genetic inheritance face early death, prolonged pain and suffering or great physical or intellectual disadvantages." With that the Connecticut Conference of the United Church of Christ (the Congregational church) passed a resolution on 21 October that calls for a positive look at the benefits and ethical duties attendant to human gene research.

The resolution on "genetic disease and genetic engineering" is intended to counter a resolution written more than a year ago by activist Jeremy Rifkin, who wants a ban on all efforts to "engineer specific genetic traits into the germline of the human species" (*Science*, 24 June 1983, p. 1360). The Rifkin resolution was endorsed at the time by a large number of religious leaders, including the head of the U.S. United Church of Christ. Subsequently many of the clerics said they did not really favor a ban as total as Rifkin had in mind but had hoped mainly to stimulate debate.

The resolution passed by the Connecticut Conference, which represents the largest Protestant denomination in the state, not only affirms an ethical duty to do genetic research on behalf of those suffering from disease but also states, "we believe that God is working God's purpose out in enabling people to treat and prevent disease." Acknowledging that research in molecular genetics is being conducted worldwide, it also calls on "citizens, scientists and institutions of the United States [to] contribute substantially, in proportion to their knowledge and vast resources, to the treatment and prevention of genetic diseases . . . ."

The resolution was drafted by Curtis W. Carlson, a member of the First Congregational Church in Old Greenwich, and assistant general counsel of the Bristol-Myers Company in New York.

According to Dale Greene, the assistant pastor, the next step within Connecticut will be to form study groups at local churches so that people can become more informed about the scientific and ethical issues. It is also possible that the resolution will be presented next spring at the church's national synod, but that has not yet been determined.

However, Carlson, who believes the debate on human gene therapy thus far has focused too much on the risks, clearly hopes the Connecticut resolution will attract wide interest.

—**BARBARA J. CULLITON**

## Committee Vetoes Proposal to Ban Gene Tests

The federal advisory committee that sets gene-splicing policy last week unanimously rejected a proposal to prohibit all experiments that would involve the transfer of human genes into the reproductive cells of mammals. Instead, the Recombinant DNA Advisory Committee of the National Institutes of Health issued a statement that the continuation of these experiments is "a moral imperative."

The prohibition on these gene experiments was proposed by activist Jeremy Rifkin and scientific director of the Humane Society Michael Fox. Rifkin and Fox argued before the committee at a 29 October meeting that the transfer of human genetic traits to mammalian species transgresses the natural biological integrity of species. "Such an intrusion violates the telos of each species and is to be condemned . . . ," the proposal said. ("Aristotle would have turned over in his grave," said one observer.) Fox said, "I come before you on behalf of the animal kingdom" and urged the group to look at these issues "through the eyes of animals."

Committee scientists pointed out the genetic makeup of organisms constantly undergoes natural changes. The group, which includes ethicists and clinicians, also said that a blanket prohibition would block the development of new techniques to treat human and animal disease.

University of Pennsylvania researchers are now trying to insert human growth hormone into sheep and pigs. If successful, the research may eventually help to treat dwarfism in children. The experiment prompted Rifkin to propose the ban.—**MARJORIE SUN**

## NASA Suggests a New Shuttle Price

The National Aeronautics and Space Administration (NASA) has proposed raising the post-1988 price of a space shuttle launch to the "full cost recovery" level: a surprisingly low $87 million for a full payload bay, just 23 percent above the current price of $71 million. (All prices are in 1982 dollars.)

However, that $87 million figure seems certain to raise a few eyebrows: if NASA were charging full cost recovery today, the price would be roughly $155 million per launch. The question is whether NASA can really get the costs down as far as it claims.

The issue of full cost recovery has been highly controversial in recent months (*Science*, 24 August, p. 812). On one side are the people trying to commercialize the older-style, expendable launchers such as the Delta and Atlas-Centaur; they argue that anything less than full cost recovery would be an unfair advantage for the shuttle and would stifle their industry before it got off the ground.

On the other side are the people who want to sell upper stages to boost shuttle-launched satellites into higher orbits, or who want to use the shuttle for hands-on experiments in zero-gravity materials processing; they argue that a sharp rise in the shuttle price would heighten the financial risk of such ventures and would scare off investors.

NASA has tended to favor the latter group, but the proponents of expendable launchers apparently carried the day at the White House. In late August, National Security Decision Directive 144 ordered NASA to submit its plan for full cost recovery by 15 September.

The agency did just that, estimating the average cost per flight in the 1989 to 1991 period at $83.5 million. The recommended list price was then set at $87 million, in part to provide a margin for error and in part because NASA wanted to try something new: the actual price for any individual payload will be negotiable by plus or minus 5 percent. The idea is keep the shuttle competitive with Europe's Ariane launcher and the fledgling U.S.

expendable launch vehicle industry. "We want to force the competition to bid honestly," explains Issac Gillam, associate administrator for NASA's new commercialization office.

Nothing about the pricing plan is official, of course, until the President says yes. So far there has been no word from the White House. But a decision is expected sometime before the President's fiscal year 1986 budget proposal is submitted in February.

It may not be smooth sailing. For one thing, the proposed new price only covers *operating* costs, and makes no attempt to recover sunk costs for such things as launch facilities. NASA gave up on recovering sunk costs in its last price revision in 1982 (*Science*, 2 July 1982, p. 35). But the expendable-launch people may still object.

More important, however, is that NASA's proposed price assumes 24 shuttle launches per year. Given the record of delays and scrubbed launches in 1984, that seems a bit optimistic. On the other hand, Gillam points out that shuttle launches are scheduled at the rate of one per month for the next 11 months; if the agency can pull that off, the 24-per-year figure will look a lot more credible.

Gillam also points out that the Pentagon has requested 13 shuttle flights in 1989, the first year of the new pricing schedule. Assuming that they hold to that number, he says—a big If at the moment, since the Air Force seems to want to move some of its satellites onto expendable launchers (*Science*, 29 June, p. 1407)—then there should be no problem with filling up the bay on the other 11 flights. "We might not be able to keep up with the demand," he says.

—**M. Mitchell Waldrop**

## Coalition Recognizes Ten Friends of Science

The National Coalition for Science and Technology has announced its second batch of "Friends of Science" awards. Reversing the formula of dubious achievement awards used in the past by environmentalists in naming a congressional "Dirty Dozen," the coalition cited ten senators and representatives "who have been of particular help to the science and technology community." Factors such as legislative leadership, action in committee, and public advocacy are taken into account in making the awards.

The recipients this year are senators Pete V. Domenici (R–N.M.), Daniel K. Inouye (D–Hawaii), and Sam Nunn (D–Ga.), and representatives Joseph D. Early (D–Mass.), Bill Frenzel (R–Minn.), Albert Gore, Jr. (D–Tenn.), Judd Gregg (R–N.H.), Stan Lundine (D–N.Y.), Henry A. Waxman (D–Calif.), and Ed Zschau (R–Calif.)

The coalition made its first Friends of Science awards in 1982, the year it was founded. No repeat awards were made because the coalition decided to spread its plaudits around. A nonpartisan, nonprofit organization of scientists, engineers, educators, and business people, the coalition operates as advocacy group supporting education, training, and research in science, technology and engineering. This year's awards are to be presented by local NCST members to the winners back in their districts, where most of them are currently campaigning for reelection.—**John Walsh**

## Landsat Stalled Again

The White House Office of Management and Budget (OMB) has once again blocked funding for the transfer of the Landsat system to a private operator, and has once again left the program in limbo.

The irony is that after nearly a decade of arguments and study groups and study groups and arguments, a compromise on Landsat commercialization has finally been reached. A private operator—EOSAT, a partnership of RCA and Hughes—stands ready to take over (*Science*, 21 September, p. 1373), and the long-sought goal of a commercial remote sensing industry seems within grasp.

The OMB, however, has balked at the cost of getting that industry started. The multitudinous studies of Landsat have been virtually unanimous that EOSAT or any other private operator will require some $500 million in subsidies while it develops the market. In fact, President Reagan himself has endorsed the idea.

In July, however, OMB succeeded in getting a cap of $250 million on the subsidies. Then in September, when EOSAT and the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA) finished their negotiations on the contract and the agency asked OMB to forward a request to Congress for the first installment of the subsidy, OMB refused (*Science*, 12 October, p. 152).

Most recently, in mid-October, Commerce Secretary Malcolm Baldrige sent a letter to the chairmen of the House and Senate appropriations committees asking for permission to get the transfer started with money reprogrammed from elsewhere in NOAA; he would come back next year for a supplemental appropriation when Congress was back in session.

But the letters had to go through OMB, and once again OMB refused to forward them.

OMB officials have consistently refused to talk to the press about Landsat, so it is hard to be certain of their rationale. However, as one Commerce insider noted, Occam's razor suggests that they are deliberately trying to kill the program for budgetary reasons.

Be that as it may, Baldrige is currently trying to strike a deal with OMB director David Stockman. Failing that, Baldrige could try to go over Stockman's head to the President's inner circle, although it will be hard to get their attention in the midst of Reagan's reelection campaign.

And if nothing works, of course, EOSAT may very well decide to withdraw—leaving Landsat caught in an entertaining Catch-22.

The Land Remote Sensing Commercialization Act, passed just last spring, says that Commerce would then have to put the system out for bid again. But even assuming that anyone would want to bother, the delay would mean conceding the commercial remote sensing market to SPOT, the highly subsidized French satellite scheduled for launch in 1985. So the new Landsat operator would not only have to build a market, it would have to recapture the market—which means building something better than SPOT, which means lots of high-technology research and development, which means raising the OMB subsidy cap. Which the Reagan OMB will almost certainly not allow.

Stay tuned.—**M. Mitchell Waldrop**