

## NIH Leaves Gene Therapy Rules as Is

A proposal to change the current NIH guidelines governing future research in human gene therapy has been turned down. At its 29 September meeting, the Recombinant DNA Advisory Committee (RAC) accepted a recommendation from its gene therapy subcommittee to reject changes offered by the Committee for Responsible Genetics (CRG), an activist group based in Boston. The CRG argued that certain prohibitions, such as one against germline alteration, should be made permanently binding. RAC and the subcommittee preferred to let present strictures stand as guidelines under which research proposals must be evaluated. As written, current guidelines are quite stringent and inclusive (*Science*, 26 September, p. 1378). ■ **BARBARA J. CULLITON**

## Rhinos Pushed to the Brink for Trinkets and Medicines

Hollywood often portrays the rhinoceros in films as a fierce and invincible beast with no predators. But the carnage that has taken place in Africa and Asia during the past 15 years reveals how vulnerable the animal is to human predation. Since 1970, more than 58,000 rhinos from five species have died. The animals mostly have been slaughtered for their horns, which are shaped into handles for ornamental knives in North Yemen and are used for medicinal purposes in parts of Asia.

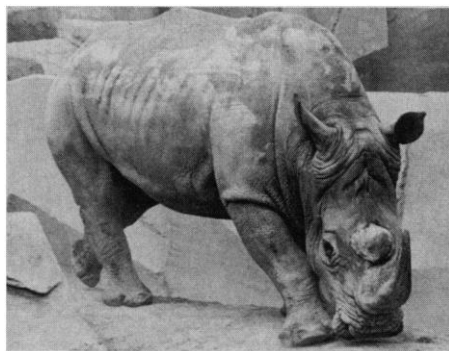
Today fewer than 11,500 rhinoceroses survive worldwide, and they could be virtually extinct within a decade if poaching continues unabated. The most dramatic drop in population has occurred among black rhinos (*Diceros bicornis*), which numbered 65,000 in 1970. The remaining 4500 are scattered in unstable pockets, says Esmond Bradley Martin, a geographer based in Kenya, who has worked for 8 years to save the rhinoceros.

"In not one country of tropical Africa is the black rhino safe," Martin noted recently at a House science and technology subcommittee hearing on the fate of the world's rhinos. Although an estimated 1 million black rhinos inhabited all of sub-Saharan Africa in 1900, he says, in the past 6 years they have been wiped out in Angola, Chad, Ethiopia, Mozambique, Rwanda, Somalia, Sudan, Uganda, and Zaire. With populations in other African nations heavily depleted, the rhino may never reclaim its historic

range. The situation in Asia is equally dismal. The International Union for Conservation of Nature and Natural Resources estimates that only 1700 Indian, 750 Sumatran, and 65 Javan rhinos remain.

Control of trade in rhino products, says Martin, is the key to stopping poaching. The Convention on International Trade in Endangered Species of World Fauna and Flora (CITES) has been signed by most countries. But North Yemen and Singapore have yet to embrace the treaty, and it is through these two countries that most trade in rhino products is conducted. Efforts by conservation groups and American government officials to get the two countries to halt imports of rhino horn and carcass parts have been unsuccessful so far.

There are signs, however, that the United States may take a tougher stand on the issue. The Interior Department's Fish and Wildlife Service, exercising authority under the CITES treaty and under the Endangered Species Act, is blocking all imports of animals and animal products from Singapore. Members of the House subcommittee on natural resources, agriculture, and environment are demanding that the departments of State and Interior "lean" on Singapore and North Yemen. Chairman James Scheuer (D-NY) and ranking minority member Claudine Schneider (R-RJ) say it may be necessary to attach restrictions on trade with Singapore and on economic aid provided to North Yemen if the two countries do not take action within 6 months.



Even if that occurs, the survival of rhino populations will not be assured. Poaching is sure to continue at least until the trade pipeline is shutdown, a process that depends on governments in Africa and Asia taking strong enforcement actions, says Thomas Schneider, chairman of Rhino Rescue USA. The Washington, D.C., conservation group is seeking to establish a \$2.5-million capital fund to help support the operation of rhino reserves in Africa and Asia. The government of Kenya already operates one reserve and three private reserves also exist. Each cost about \$500,000 to establish.

Without such reserves, the preservation of several rhino species may be impossible. Poaching and fragmentation of rhino ranges have scattered the populations, thereby diminishing the chances for the animals to meet and mate, observes Martin. If the remnants of these dwindling populations can be gathered into refuges that are fenced and patrolled, however, the rhinoceros could again become a common sight in parts of Africa and Asia. ■ **MARK CRAWFORD**

## Education Statistics Found to Be Inadequate

How reliable are federal statistics on pre-college education? A National Academy of Sciences study says that much of the basic data, which are crucial for analyzing trends and future needs, are in a sorry state. The problem, says the Academy's National Research Council (NRC), is the result of years of neglect by the Department of Education, its predecessors, and Congress.

The Center for Statistics, known until October 1985 as the National Center for Education Statistics, is responsible for collecting and disseminating basic data about public elementary and secondary schools. Besides assembling core data on issues ranging from class size to school financing, the center also conducts a number of surveys on matters such as private schools and longitudinal studies to track what happens to high school graduates.

But much of the data collected by the agency suffers from poor quality and lack of timeliness, says the NRC in its report, *Creating A Center for Education Statistics: A Time For Action*. The data are flawed because of the way they are collected and aggregated, and written standards to assure consistency are lacking, says the NRC panel. The review, which was chaired by Vincent Barabba, executive director of market research for General Motors Corporation, also found that the problems were not unique to just a portion of the center, but to the entire operation.

In the case of the Vocational Education Data System (VEDS), which was mandated by Congress in 1976, only once in 5 years was the statistical agency able to assemble all the required data. By 1984, the center acknowledged that the VEDS data were unusable. In another instance, the NRC learned that it was common to have less than half the 50 states report data for elementary and secondary schools on time. No procedures existed for an organized follow-up to assure timely reporting, the report notes.

"It is clear that the [center] has hardly been managed by its own organization," says Daniel B. Levine, staff director of the study. Indeed, part of the center's problems, according to the report, rest with its oversight board, the Advisory Council on Education Statistics, which was established by Congress in 1974. The board "has had a checkered past," the NRC panel concludes. At the start, board members were "extremely competent to review operating policies," but in recent years, the NRC says, the competence of the board has declined.

If the federal agency is going to survive, the report says, it must command respect and be viewed as objective and nonpartisan. To achieve this, the General Education Provisions Act should be amended, says the study, to define the center's role in assisting the secretary of education in evaluating the condition of education in the United States. The center also should serve as the focal point for releasing statistical information on education, and should coordinate and review all data collection within the department.

"We have not proposed a solution that rests solely on immediate, large infusions into the center," says the NRC. Instead, it contends that much of the center's problems can be solved with the implementation of management systems and restructuring of data collection tasks. Congress also shows no inclination to spend more money for education statistics at the moment. The House and Senate appropriations committees are proposing an \$8.7-million budget for fiscal year 1987, the same budget level the agency has had since 1981.

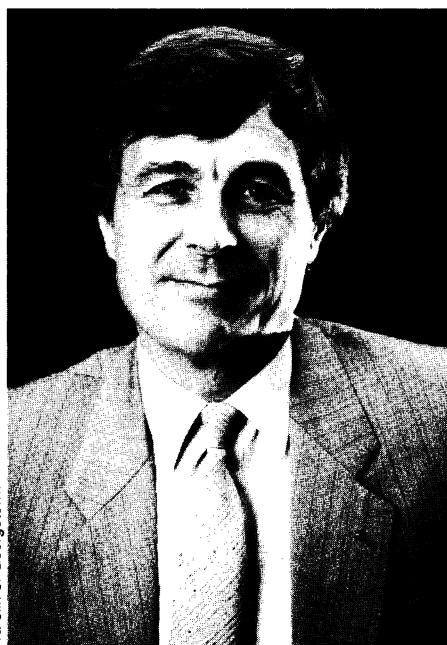
Emerson Elliot, director of the center since 1985, says more money is not needed at present. Steps already have been taken, he says, to improve the quality of data and to follow up on surveys to obtain higher response rates. "I think they have been very responsive," says Susan C. Gerwitz, a research specialist at the National Education Association. NRC's Levine agrees that the center is making a concerted effort, but he wonders how long it can last.

The budget will have to increase steadily in the coming years if the goals set forth by the NRC are going to be met. The center is the equivalent of the Labor Department's Bureau of Labor Statistics, or the Energy Department's Energy Information Administration. These two statistical agencies had respective budgets of \$152 million and \$58 million in 1986. If Congress and the Administration are unwilling to provide additional funding, says the NRC, then the center should be abolished and its duties assigned elsewhere in the department, or given to contractors. ■ **MARK CRAWFORD**

## BP Looks for Remarkable Research Projects

Donald Braben, head of British Petroleum's Venture Research Unit, has just embarked on another of his frequent trips around the United States and Canada, looking for scientists with brilliant ideas. BP is trying to give away about \$2.2 million this year and Braben is one of three individuals whose job it is to find just the right people for possibly long-term support.

Only 1 out of 100 who apply for BP funds get them, Braben says, and the real problem is finding those few researchers whose ideas are sufficiently original and compelling. For its part, BP hopes to get patents—it has already gotten 15 in the past 2 to 3 years, according to Braben—and it will share royalties with the scientists and their institutions. The program has been in effect for 6 years.



Wardlin of Georgetown

**Donald Braben.** *Trying to do a Bell Labs on the cheap?*

Braben and his colleagues are trying to identify problems and support investigators "who need great intellectual freedom and who would find it difficult—if not impossible—to obtain support elsewhere." The company, says Braben, "is looking for *ambitious* research. We don't support next-step research. We don't support development research and we don't support product research." BP also wants to "avoid the fashionable areas of science. They don't need us."

This means, Braben explains, finding scientists who "recognize a problem that no one has ever thought about, yet which is important and which is manageable." The research idea "must be remarkable."

For example, BP is supporting Michael Bennett and J. S. Heslop-Harrison of the Plant Breeding Institute in England in a project entitled "The Nature and Significance of Higher Order Genome Structure." The investigators find a three-dimensional, higher order structure in the arrangement of plant chromosomes and now, with BP's funds, are looking for similar structures in animal cell chromosomes.

Other researchers include mathematician Edsger Dijkstra of the University of Texas at Austin, whose project is "The Streamlining of the Mathematical Argument," Peter Hirsch of the University of Oxford with "Controlling Mechanical Properties of Covalently Bonded Solids," and a collaboration between cell biologist Adam Curtis and electrical engineer Christopher Wilkinson of the University of Glasgow on "Behavior of Cells on Patterned Substrates." BP is now supporting 21 projects, so far including only five by U.S. researchers and all of those at the University of Texas at Austin.

The actual process of applying for a BP grant is simple, Braben notes. "I insist on informality," he remarks. It starts with a "2-minute phone call or a one-page description" of the work.

Once Braben or one of his associates is convinced that a researcher's idea is a good candidate for BP's funds, they help the investigator write a proposal, which is a five-to ten-page description of the project. Then the proposal is reviewed by BP's six-member board of scientists. The proposals, Braben emphasizes, "are not peer-reviewed." The board tends to accept the proposals that it receives, and each scientist is given a 3-year commitment of \$100,000 a year, with the possibility of continuing support for a much longer time, if the project requires it.

Braben finds candidates for BP funds "by a random walk." He visits universities and asks around. But he frequently is frustrated. For example, he recently visited the University of Bordeaux where BP is supporting P. DeKepper, who is collaborating with H. L. Swinney of the University of Texas at Austin to study self-organization in nonlinear chemical systems. DeKepper helped Braben arrange to give a talk at Bordeaux, explaining the BP program. "We put notices everywhere," Braben recalls. But when it came time for the talk, only two people showed up. That sort of experience, Braben says, "has happened more than once."

One time, at the University of Edmonton in Canada, when Braben was explaining the BP program to university officials, a vice chancellor finally lit up and said, "I see. You're trying to do a Bell Labs on the cheap." Braben's response: "I was tremendously flattered." ■ **GINA KOLATA**