"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.

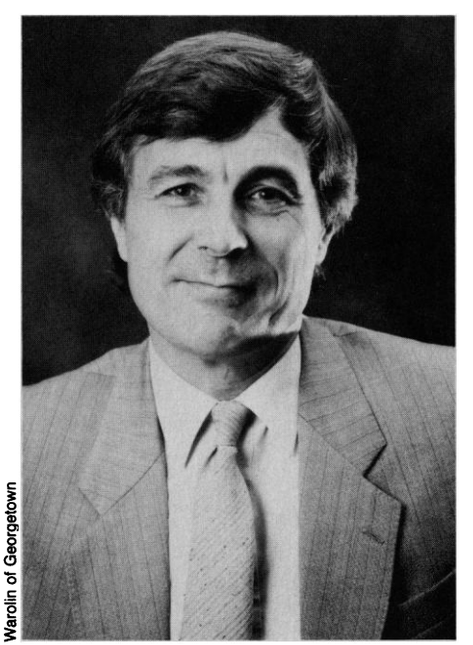
Emerson Elliot, director of the center since 1985, says more money is not needed at present. Steps already have been taken, he says, to improve the quality of data and to follow up on surveys to obtain higher response rates. "I think they have been very responsive," says Susan C. Gerwirtz, a research 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.



Warolin 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. reserchers 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 everyplace," 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