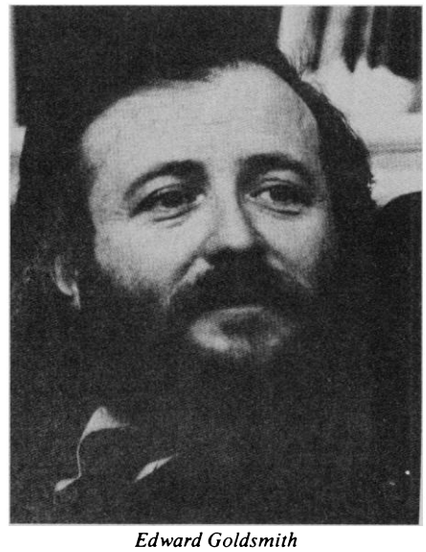
to be a director of television in Nigeria, reports on a visit to Papua New Guinea, and a tour d'horizon of organic farming is given by farmer Peter Bunyard. The journalism follows the English tradition of not striving too hard to divorce fact from comment, but the result is a colorful mixture of distinct points of view.

Like others before him, Goldsmith finds a greater receptivity to his ideas in the United States and Canada. During a recent visit he gave a lecture course at the University of Michigan and wrote a report for the Canadian ministry of the environment. "People here are much more open-minded than in England. In Canada people fall over themselves trying to talk to me. In England I can't even get to see officials in the ministry of the environment."

"As our society breaks down," Goldsmith told *Science* in one of his high-speed extempore lectures, "the solutions offered prove increasingly counterproductive. We assume *Homo oeconomicus*, we assume we can control nature. These are the values of industrialism. We believe in a paradise that will be created by science and technology and industry, a sort of Herman Kahn paradise in which people have all the material goods they require, and in which all our problems of pollution, war, and disease will be solved by science and technology.

"Of all the paradises proposed by man, this is the most naive. To achieve it would involve violating the basic laws of thermodynamics and ecology. Yet science has accepted the values of this paradise. The whole edifice of knowledge will lose all credibility as its solutions fail. As people grope around for a new set of values, it is difficult to see what will replace it. Marxism is largely discredited, old-fashioned rubbish, besides which the proletariat has already become the establishment in most industrialized countries. What other possibility is there? The Gandhian one seems to me to be the only course. It offers the perfect social philosophy for a decentralized society which lives in harmony with the environment. I can see no other social philosophy that meets the requirements."



*Edward Goldsmith*

Goldsmith is now planning to set up a World Gandhian Institute. He recently spent 2 months in India as a guest of the Gandhian Peace Foundation, and ran a special issue of the *Ecologist* that was written entirely by Indians ("People are sick to death of being told what to do by Europeans"). He claims to have founded the OAD (Organization for African Disunity) to foster a return to tribalism—a solution, be it said, that he advocates for everyone. He believes in democracy, but "of the kind you can only have in a small society; mass society is incompatible with democracy—a lot of deadbeats who care only about the price of beer and working less."

It is easy to argue that Goldsmith's remedies are extreme, impractical, and utopian. Yet all utopias are by definition impractical extremes, but that has not deprived them of influence on the course of events. In an age excessively dominated by specialists, Goldsmith and his colleagues are trying to be generalists. Their beliefs as to what a stable society should look like in its economic, technical, and social characteristics are at the least of theoretical interest and, given a few large-scale calamities, might even one day be pertinent.

—NICHOLAS WADE

# Diabetes Commission: Problem Severe, Therapy Inadequate

Diabetes, commonly considered to be the seventh leading cause of death by disease in the United States, is actually the third leading cause, according to a report by the National Commission on Diabetes. Even though only 35,000 deaths per year are directly attributable to diabetes, the commission found, there is "strong evidence" that diabetes and its complications are responsible for more than 300,000 deaths per year—ranking it behind only heart disease and cancer. The commission also found that the prevalence of diabetes in this country increased by more than 50 percent between 1965 and 1973. Diabetes now affects 5 percent of the population and, at the current rate of increase, the number of diabetics will double every 15 years. The average American born today, the report says, has a better than one-in-five chance of developing diabetes.

The report was the culmination of a 10-month study of diabetes by the commission, which was established by the National Diabetes Mellitus Research and Education Act of 1974. Like similar studies of diseases, it recommends an increase in funding for diabetes research. But the report also has some unusual facets.

One of the major conclusions reached by the commission, according to its chairman, Oscar B. Crofford of Vanderbilt University, is that there is widespread resignation about the inadequacy of the present therapy. Even with the best of medical care, he says, the complications of diabetes still develop. (These complications include impairment of vision, kidney function, and peripheral blood flow; loss of peripheral nerve sensation; and increased periodontal disease.) There was thus no great pressure on the commission from diabetes organizations and laymen to set up a health care delivery system, as had been the case in similar studies of heart disease and cancer. Consequently, the report recommends that the comprehensive diabetes research and training centers authorized by the 1974 act provide no health care other than that which is specifically linked to research.

It was also the conclusion of the commission, Crofford says, that there are not enough qualified investigators in the many areas of diabetes research to justify a massive infusion of funds. The report thus recommends what Crofford terms a modest increase in funding: from $43 million in fiscal 1975 to $142 million in fiscal 1980. (In comparison, funding for cancer and heart disease in fiscal 1975 totaled $691 million and $208 million, respectively.) And to stimulate the development of additional manpower, the commission recommends the establishment of "Distinguished Scientist Awards" in the National Institutes of Health. These awards would provide an

annual stipend of $35,000 for as long as 10 years to investigators working in areas directly related to diabetes. The report suggests that six such awards be authorized in 1976, with the number growing to 25 per year in 1980. These awards would not be included in regular research funding.

Finally, the report recommends that a National Diabetes Advisory Board be created to serve as a focal point for coordinating information and research about diabetes. The commission encountered some pressure for the creation of a National Institute of Diabetes to provide such a focus. It concluded, though, that the need for a multidisciplinary approach to diabetes research could best be met by continuing funding through the seven institutes that now sponsor it, with coordination provided by the board.

The proposed advisory board would be unique among health agencies. The report recommends that it be established in the office of the Assistant Secretary of Health, Education, and Welfare. Its membership would include six other health officials from the Administration, two senators, two congressmen, seven diabetes investigators, and five interested laymen. Crofford suggests that such an advisory board might alleviate some of the conflicts between the Administration and Congress that have been apparent on other health issues.

The report was presented to Congress on 10 December, and several members of Congress have responded with enthusiasm.

# Accelerated OCS Leasing Program Is Running into Trouble

On 19 December the Department of the Interior announced the results of the first lease sale of oil and gas tracts in as yet unexplored "frontier" areas of the outercontinental shelf (OCS). This area is off the coast of southern California, and the results were considerably below expectations. Of the 1.25 million acres offered, bids were accepted on only 413,000, and they totaled only $438 million. The department's original estimate was $1.9 billion.

The disappointing sale results are regarded by many observers as proof that the accelerated offshore leasing schedule, initiated by President Nixon and continued in modified form by the present Administration, is premature and ill-conceived. The Administration abandoned its earlier goal of leasing 10 million acres a year—a goal almost everyone agreed was absurd long before it was officially dropped—and now the talk is no longer of acreage figures. Plans are, instead, to conduct 6 lease sales per year in "frontier" areas in the Gulf of Alaska, the Atlantic seaboard, and the California coast. The next sale is to be in the Gulf of Alaska, but the government may meet with even greater resistance there than in California.

The Department of the Interior is apparently plunging ahead with more of an eye to swift development of OCS holdings than to getting good prices or waiting until all parties concerned are fully prepared to participate. Oil companies are eyeing the goodies being offered them with great caution these days, restricted as they are by shortage of capital, tightened environmental protection requirements, uncertainty about future oil prices, and trepidation about pending national legislation relating to OCS development, not to mention the litigation, public and private, that is following them everywhere. The affected states are seeking delays in leasing until they have completed their coastal zone management plans (as provided for by the Coastal Zone Management Act of 1972) and have established mechanisms to deal with the onshore aspects of offshore oil production.

All this notwithstanding, the Department of the Interior chooses not to see the California sale as a bad omen. An Interior spokesman acknowledged that the department did an unusually poor job of predicting the take—usually bids are accepted for about half the land offered in a sale—and admitted that enthusiasm on the part of the oil people had been overestimated. The reasons for the discrepancy, he said, were that oil people interpreted the results of stratigraphic tests more pessimistically than did the department, and that the companies were not as optimistic about the time it would take to start production. The tracts are in fairly deep water, posing technical and environmental challenges greater than in the Gulf of Mexico, where most offshore drilling now takes place. He also noted that the environment on land was not very friendly either—three lawsuits had been filed (unsuccessfully) to delay the sale.

Others believe the poor showing in California was evidence of the faulty nature of the whole leasing program. Promptly after the sale, an I-told-you-so press release was issued by Senator Ernest F. Hollings (D–S.C.), chairman of the Senate Commerce Committee's National Ocean Policy Study Group. Calling the sale results "dismal," he decried the "bargain basement" prices at which the leases were sold. His staff calculated that the average price per acre (omitting one particularly expensive tract) amounted to only $1000 (prices in the Gulf of Mexico average around $2500). Hollings said the public was being "ripped off" and urged House passage of two Senate-passed pieces of legislation (*Science*, 12 September 1975) that would change the bidding procedures so as to encourage bids by smaller companies and allay state anxieties by giving them more resources and more control over onshore aspects of development.

The adventurousness of oil companies will be put to its next test at a sale of leases in the northeast Gulf of Alaska which was scheduled for next month but is now likely to be delayed. The Environmental Protection Agency last month pronounced the environmental impact statement for the sale unsatisfactory, and the leasing decision must now await recommendations by the Council on Environmental Quality. Meanwhile, the state is in an uproar over the proposed sale and plans to bring a suit against Interior if there is no delay. Governor Jay Hammond has written a strong letter to Interior Secretary Thomas Kleppe complaining of "serious defects" in the national OCS program and saying it is "so inflexible as to be arbitrary." Guy Martin, Alaska's commissioner of natural resources, told *Science* the state is opposed to being "virtually the first area (aside from California) to go on the block." There is "nothing right" about this sale, he says: environmental baseline studies have not been completed; physical conditions are unfavorable (efforts at drilling a test hole were foiled by bad bottom conditions and bad weather); exploration would have disastrous social and economic impacts on coastal areas, and the state has neither had the time nor received the funds necessary to calculate and plan for the impact of OCS explorations.

Despite all this, an Interior official predicted confidently that the sale will bring in $1.2 billion worth of bids. But if the department continues to downplay or ignore the obstacles, its forecasting record seems unlikely to improve.—C.H.

Among them were Richard Schweiker (R–Pa.) and Edward Kennedy (D–Mass.) in the Senate, and Paul Rogers (D–Fla.) and Tim Lee Carter (R–Ky.) in the House. These four, and probably others, will introduce bills in early 1976 to implement the recommendations of the commission and all seem confident that such a bill will be adopted. Meanwhile, a technical amendment recently adopted by the Congress would extend the life of the National Commission on Diabetes until the advisory board is established. This bill was expected to be signed by President Ford after the Christmas holidays.

The only problem that might snag the implementation of the commission's recommendations is the provision for establishment of the advisory board in the office of the assistant secretary. Congress has not yet received the report of the President's Biomedical Research Panel, which is studying the problems involved in the administration of such research. This panel is expected to make specific recommendations about the establishment of advisory boards. Thus the creation of a diabetes advisory board prior to the receipt of that report, scheduled for 30 April, might be considered premature. It may be summer at the earliest, then, before Congress takes any action on the report.

—THOMAS H. MAUGH II

# NSF: Trying to Cope with Congressional Pressure for Public Participation

Imagine the National Science Foundation (NSF) giving money to some Nader-like public interest group that wants to purchase scientific expertise to back its position on some controversial issue of public policy. Senator Edward M. Kennedy (D–Mass.) imagines such a situation and, by law, he and his colleagues in Congress have asked NSF officials to try to imagine it too. They have until 9 February to tell Congress what they think of this and other aspects of a plan to create a "Science for Citizens" program within the Foundation. At present, the program is little more than an idea, the brainchild of Kennedy and his staff. NSF has been instructed to give it substance, but its heart is not in it.

Nevertheless, during December, NSF officials held seven public meetings throughout the country at which they heard more than 200 persons tell them what a Science for Citizens program should be. Afterwards, an NSF officer volunteered that one option the Foundation could take, after contemplating all it had heard, would be to tell Congress that it does not want to create a Science for Citizens program at all. But, he conceded, that would be unlikely. However, the fact that NSF officials are talking about such an option, even wistfully, is an indication of what they think about becoming involved with groups of people whom they describe as being "not our usual constituency." Even so, congressional observers credit NSF with making a "good faith effort" to gather a range of opinion at the hearings.

As if pressure to establish a Science for Citizens program were not enough, Congress—in this case, particularly the House—has been pushing NSF to open its internal decision-making machinery to wider public participation (*Science*, 17 October 1975). In a recently completed paper on that subject, called "Public participation, findings and plans," NSF reports it will broaden its horizons in 1976, when its governing body, the National Science Board, takes to the hustings to hold a series of public hearings similar to those held to elicit ideas about the Science for Citizens program. Foundation officials call the plan to have "regional forums" on a number of topics the "principal" item in its efforts to broaden the base of public involvement in agency policy-making. However, its "target audiences" for this endeavor are groups that already are largely within the science community. The Foundation's report also promises an expansion of the agency's advisory committees, but only to include individuals from groups which "comprise the Nation's science base," not members of the general public. The gist of NSF's response to Congress seems to be summed up in its own conclusion to a section titled "New initiatives and policies." It says, ". . . the majority of the Foundation's future policies and activities will consist of a continuing development of the very substantial body of techniques and practices which has been built up over the years."

Resistance to public participation in the policy-making of science agencies is not hard to understand—becoming involved with potentially contrary outsiders is bound to be alarming to persons who are not used to it—but it may be fruitless if Kennedy and others in Congress continue to press for the citizen's right to get his opinion in. The notion that the public should somehow "participate" in the formulation of science policy is a natural extension of a movement that began in the early 1960's, when welfare rights groups insisted on a role for themselves in the establishment and operation of programs for the poor. During the past decade, students demanded, and in many places got, seats on curriculum committees and the right to evaluate their teachers. The environmental movement took hold and showed people they could have some influence on the world around them. Hospitalized patients joined the ranks of groups demanding their "rights." And the idea that researchers experimenting on human beings should first submit their protocols to a review committee and then get their subjects' consent was accepted.

It is not a very great leap to go from there to the proposition that citizens have a right to be involved in other kinds of policy-making, and scientists in all disciplines are now confronted by public interest groups that want some say in the kinds of research that is being done. They have an ally in Kennedy.

During the past couple of years, Kennedy's interest in the public participation movement has been stimulated by a number of events and individuals. His staff alludes to two topics in particular—offshore oil drilling and the potential dangers of experimentation with recombinant DNA—as issues that encouraged his feelings that the public needs to be more informed about and involved in decision-making. With regard to the creation of a Science for Citizens program in NSF, Kennedy staffers acknowledge that Frank von Hippel of the Center for Environmental Studies at Princeton University played an important role in the Senator's thinking about the program. Von Hippel, who has become an activist for public participation, spoke in favor of the program in testimony before the Senate and in a subsequent meeting with Jack T. Sanderson and other NSF officials responsible for getting Science for Citizens going. Among other things, von Hippel urged the establishment of a fellowship program for scientists who want to spend some time working with a public interest group of their own choosing, and the creation of a journal of

*(Continued on page 318)*