

now that another nine universities have joined.) Each participating university would be required to guarantee a contribution of about \$100,000, for the cost of operating the association, but they would not necessarily have to put forth the full sum.

What is perhaps most significant is that the university association examined, but left open, the possibility that it might also seek to assume responsibility for federally financed facilities other than the 200-bev accelerator. Just what it had in mind isn't clear, but one possibility might be the Mohole platform, on which construction is soon to start. At present the National Science Foundation finds itself handling the Mohole project without any of the university links that traditionally exist between the Foundation and its projects.

At the same January meeting it was also proposed that the university association, in "consultation" with the AEC, should offer its advice on the location of the new accelerator, and that a governing body, derived from the association, should work out guidelines for making the machine available to various researchers. It might appear that the university association is in jurisdictional conflict with the Academy's site-selection committee; but as is often the case with matters of high policy in the scientific community, there is a good deal of institutional overlap of the two bodies, and it is extremely doubtful that the groups will go off in different directions.

As things now stand, the university association is to meet this weekend to settle on bylaws, and it is expected that it will be incorporated as an independent organization within a few weeks. What happens then is in no way certain. But clearly, a nationwide organization of university presidents, closely associated with the Academy and the major granting agencies, has the potential for exerting enormous influence. The motive for establishing the organization was a laudable one—to dampen regional strife by getting universities across the nation to cooperate in the administration and use of the costly machines of science. It is perhaps unfortunate, though, that it was organized without any public notice or discussion. Traditionally, that's the way of doing business at the summit of the scientific community, but it's not the way to inspire public or congressional confidence, especially when the principal business of the association is expected to be the administration of taxpayer-supported science.—D. S. GREENBERG

### **Congress and Science: New Probe by Senate Unit Reviews Evidence on Spread of Government Funds**

A new entry was made this month into the growing society of congressional committees carving jurisdictions out of the lately discovered topic of "science and politics." The latest arrival into the ranks of congressional investigators goes under the somewhat unlikely official title of the Subcommittee on Employment and Manpower of the Senate Committee on Labor and Public Welfare. In actuality, however, the prime mover is a single subcommittee member, Gaylord Nelson (D-Wis.), a former state governor serving his first senatorial term, to whom subcommittee chairman Joseph Clark (D-Pa.) gave authorization to conduct hearings. In 7 days of intensive hearings on "the impact of federal research and development policies on scientific and technical manpower," which began 2 June, Nelson got token support from his subcommittee colleagues in the form of perfunctory appearances by Jennings Randolph (D-W. Va.), Claiborne Pell (D-R.I.), Jacob Javits (R-N.Y.), and Edward Kennedy (D-Mass.). But these visits have had more the appearance of senatorial courtesies than of genuine interest, and for the most part Nelson has been in the reviewing stands alone.

Coming so soon after the intensive studies of federal research and development policies by the Elliott and Daddario committees of the House, Nelson's hearings so far seem to have drawn a "so what else is new?" response both from the press, where coverage has been scanty, and from officials of federal science agencies, who have had to spend long hours preparing data for Nelson's perusal (some agency documents have run up to 120 pages) and in answering his detailed questions. At times it has seemed that a vast energy-consuming enterprise has been set in motion solely for the edification of Nelson himself. Nonetheless, though the element of repetition is undeniably present, both Nelson's purposes and his position diverge considerably from those of former congressional students of federal R & D, and he seems to be moving in a somewhat different direction. Nelson is starting from the now well-documented "uneven" geographic distribution of federal funds, which has resulted in extreme concentrations, notably in Massachusetts, California, and New York, and asking two hard ques-

tions. First, in perpetuating this condition, are federal agencies literally doing what most of them claim, and, as the phrase goes, just "putting the money where the competence is"? And second, what is the connection between the concentration of federal R & D money and local economic development? To what extent have federal grants and contracts been responsible for the industrial booms along Boston's Route 128 or in the Los Angeles or San Francisco Bay areas? "We hope to learn," Nelson said in his opening statement, "why the present distribution of Federal research and development funds is what it is, to what extent this is inevitable or useful, to what extent it promotes the development of various regions, or hinders the development of others, to what extent it derives from established policies, to what extent it is the result of initiative or lack of initiative in given regions, to what extent existing policies are serving the national goal of wise utilization of our manpower and wise employment of all of our resources, and to what extent new policies might be in order."

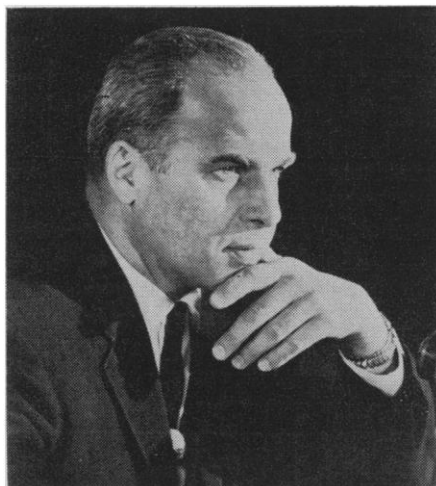
Now, this is an exceedingly large order, and in carrying it out Nelson is hindered in several ways. First, there is the fact that any investigation of federal R & D funds, particularly if it is led by a representative of a "have-not" region, inevitably raises the suspicion that beneath all the fancy talk and difficult diagrams lies the familiar motive: pork-barrel politics. It is plain that some of the federal witnesses, as they carried their briefcases and charts up Capitol Hill for the umpteenth time, were wondering, "would we really be here now if it hadn't been for MURA?" And it is true that Nelson's interest in the topic of geographical distribution is in part related to his intimate involvement in the attempt in 1963 to save the Midwestern Universities Research Association nuclear accelerator, which was to have been located at Stoughton, Wisconsin, from Johnson's budget-pruning.

To his credit, Nelson attempted to confront the pork-barrel issue squarely and to establish his credentials as an impartial seeker after fact. It seems to be his feeling that pork-barrel politics have already overtaken decisions on the location of federal installations, and that such pork-barreling can only be combated with a clear national policy; "more and more states are worried about this issue," he pointed out in his opening statement, "and . . . unless we devise wise national policies, we shall

end up the victims of 'pork barrel politics.' . . . Our job is to . . . see if present policies are producing rich yields in some regions, and wastelands in others."

Such protestations of statesmanship notwithstanding, the liveliest moments of the opening hearings came when Nelson questioned Atomic Energy Commission chairman Glenn T. Seaborg on an item of particular regional interest—whether midwestern physicists had adequate access to and control over the policies of the AEC accelerator at the Argonne National Laboratory. And the few witnesses who eschewed the posture of uncertainty, and spoke with real conviction on the seriousness of the imbalance produced by present policies, were also representatives of regional interests; among them were Otto Kerner, governor of Illinois, Fred H. Harrington, president of the University of Wisconsin, and Robert C. Edwards, president of Clemson University in South Carolina. These individuals stressed that in Kerner's words, "an economic cancer in any part of the country affects all of us adversely," and urged that, in handing out grants and contracts, attention be paid to the desirability of strengthening overall national competence in scientific and technical fields. But a majority of the government witnesses testified along the lines of the representative of the Pentagon, who stated that "since the goal of our programs is the best possible weapon and systems, we must seek those firms and institutions which have the best available scientific and technical resources." The split seemed both predictable and difficult to eradicate.

A second factor affecting the Nelson hearings is the difficulty in developing information on the points he is interested in. The Defense Department witness cited above went on to say that "competence, and a willingness to devote this competence to our work, is necessary if the Department is to be assured of the best results at the lowest cost to the Government." Nelson, coming back to one of his major themes, referred to several actual studies of procurement patterns and pointed out that "there are innumerable cases where the Defense Department did not place procurement where the competence was, did not place procurement where most could be purchased for the dollar, and many times ignores competitive bidding where they could get a lower price for the same quality product. . . . I am



Gaylord Nelson

not suggesting," he continued, "that where the money is going there is not competence; but what I am suggesting is that I wonder whether all of the competence that is available has an opportunity to get some of the money." By the end of the hearings Nelson himself was persuaded that the agencies' habits of dealing with the same circle of contractors left the government, as he said in an interview with *Science*, with "more of a phrase than an actual policy." But being personally persuaded is not the same thing as providing enough documentation to convince others—and especially to convince others that something needs to be done to open up the system.

On the second point in which Nelson is interested—the relationship between federal expenditures and local economic progress—information is even more difficult to come by. Almost no one doubts that federal money has played some role in bringing into existence various university-industrial complexes, but no one is at all certain how large a role it played or what the other critical factors are. Few witnesses failed to point to instances of excellent universities—particularly those in the Midwest—which have failed to spawn significant industrial associations. And a host of factors—ranging from the degree of local entrepreneurial spirit, to the policies of universities vis-à-vis outside employment of their faculty members, to the attitudes of the local banking community toward risk enterprises—were cited as contributing to industrial development. But on this question—which would be central to the formulation of any overall national policies designed to promote regional development by using R & D money—most

participants in the hearings agreed that much more information was needed.

A final factor that may limit the impact of the new inquiry is the jurisdiction of the subcommittee, which is technically supposed to study employment and manpower—a track which seems uncomfortably narrow for the issues Nelson is trying to pursue. Nelson has a tendency to exceed the formal scope of his subject, a fact that could conceivably provoke some difficulties with his colleagues. In addition, he is not chairman of the unit holding the hearings, and thus not in sole control over the direction they will ultimately take. The signal for a continuation of the investigation beyond its initial stages has to come from subcommittee chairman Joseph Clark. On the other hand, it has to be said that, although Nelson is a newcomer to the Senate, and an unusually independent one (he cast one of three votes opposing Johnson's emergency appropriation request for Vietnam), his straightforward, low-keyed, and responsible approach to his legislative duties has already won him the respect of his colleagues. In particular, his relations with Clark are said to be excellent, and it appears unlikely that—except in the improbable event that real opposition develops—any roadblocks will be put in his way.

At the same time, it is also the case that Nelson's efforts represent the first time the Senate has directly injected itself into an issue that has up till now been more or less monopolized by the House, and that while many of his colleagues lack the time or patience to plow through the difficult and often dry data that an understanding of the problems requires, they nonetheless have a real interest in the outcome. Geographic distribution of federal funds is an issue that is going to be around for a long time, and to anyone reading between the lines of the hearing transcripts it is apparent that Nelson has gone some distance toward getting federal officials to acknowledge that it is a factor that should be given more weight. If nothing untoward occurs to squelch the inquiry, and if Nelson's very tentative plan is carried out, it will mean another set of hearings in the fall, in which individuals outside the federal establishment—scientists, educators, governors, businessmen—will be asked to expand on the factual record, which is the chief (and inconclusive) legacy of the opening session.

After that, it is conceivable that some

kind of national legislation could be proposed formally requiring federal agencies to pay greater heed to geographic considerations in the dispensing of their funds, perhaps in the way that Title VI of the Civil Rights bill requires them to observe nondiscrimination in racial matters. On this point Nelson is exceedingly cautious, stating that he feels a real purpose is being served simply by reminding federal agencies that the implications of their policies are being watched, and that an overall formula might not be particularly useful. A decision on whether or not to legislate is still far-off. But while Nelson's efforts are still rather academic and low-keyed, there is clearly the chance that he will at some point produce the proposal that could change his investigation from a footnote in the history of science-government relations to an entire chapter.—ELINOR LANGER

## Announcements

The Division of Biological and Medical Sciences of the National Science Foundation announces that there will no longer be closing dates for the receipt of **basic research proposals in the life sciences**. The division had operated with three closing dates each year. Proposals will be received all year, and will be reviewed by the NSF's advisory panels usually three times during the calendar year. Applicants should allow 6 months between the time the foundation receives a proposal and the notification of its decision regarding support. Inquiries should be addressed to the Biological and Medical Sciences Division, NSF, Washington, D.C. 20550.

Florida State University, department of biological sciences and oceanographic institute, is introducing a program in **geological and marine microbiology**. The program will be conducted by Carl H. Oppenheimer, formerly of the Marine Laboratory, University of Miami, and Wilhelm Schwartz, former head of the Institute of Microbiology, University of Greifswald, East Germany. The program will be affiliated with the departments of geology and chemistry to provide a wide range of curriculums needed for background in the area. The primary emphasis will be on training students both in the laboratory and in the field. Some assistantships are available for graduate students. Requirements include a basic background in biology, chemistry, mathematics, and

possibly geology. The problems for research will include marine microbiology, microbial ecology, pollution, sanitary aspects, diagenesis of organic matter and the origin of oil, geochemistry and microbial diagenesis of sediments, and economical aspects in microbial fouling, deterioration of plastics, and corrosion. Additional information is available from Esther E. Sell, administrative assistant, Oceanographic Institute, Florida State University, Tallahassee 32306.

The American Association of Petroleum Geologists, American Institute of Professional Geologists, and the Society of Independent Earth Scientists have formed a committee for cooperation in the **certification of geologists**. Its members are Ben H. Parker, chairman and AIPG representative; G. Frederick Shepherd, of AAPG; and Willis G. Meyer, of SIPES. The sponsoring societies invite other groups to participate in the committee's work. Information may be obtained from Dr. Parker, Frontier Refining Co., 4040 East Louisiana St., Denver, Colorado.

A committee to allot appointments for laboratory space at the Naples Zoological Station, Italy, is accepting applications. The AIBS-organized committee, known as the American Tables Committee, reviews applications and selects U.S. participants for research at the laboratory. The station offers opportunities for varying periods of research in behavioral, physiological, biochemical, and radiological sciences; it is supported primarily by institutions throughout the world, which buy "tables," or laboratory space, for scientists. U.S. support, through an NSF grant, is in the form of purchase of ten "tables," each of which provides logistic support for the researcher. Applications must be received at AIBS at least 6 weeks before the beginning date of the research. (J. Burk, AIBS, 3900 Wisconsin Ave., NW, Washington, D.C. 20016)

## Scientists in the News

**David B. Scott**, chief of the Laboratory of Histology and Pathology, National Institute of Dental Research, has been named the first Thomas J. Hill distinguished professor of physical biology at Western Reserve University school of dentistry. He will assume the position 1 August.

**Charles Gald Sibley**, professor of zoology and curator of birds at Cornell University has been appointed professor of biology at Yale, and curator of vertebrate zoology at the school's Peabody Museum of Natural History, effective 1 July.

**Richard E. Klinck**, a sixth grade teacher from Wheat Ridge, Colorado, last month was presented the Look Magazine Teacher of the Year award. Klinck is known as an authority on U.S. national parks and a leader in the conservation movement. The national "teacher of the year" is chosen by *Look* and the Council of Chief State School Officers, from among the winners of the state teacher of the year awards.

**Robert D. Barnes**, biology professor at Gettysburg College, has been appointed chairman of the department.

**Eugene M. Holleran**, chairman of the chemistry department at St. John's University, Jamaica, N.Y., has been appointed to the new position of director of science at the university. He will coordinate the activities of science study and research within the school's curriculum.

The new president of the American Gastroenterological Association is **Joseph B. Kirsner**, professor of medicine at the University of Chicago.

The Federation of American Scientists recently elected **W. A. Higginbotham** president. He is a physicist at Brookhaven National Laboratory.

**Joseph N. Beasley**, former professor at Texas A&M University, has become a professor of animal industry and veterinary science at the University of Arkansas.

**Elmer Berry**, scientific director of the Laboratory of Parasitic Diseases at the National Institute of Allergy and Infectious Diseases, NIH, will become a professor of zoology at the University of Michigan and curator of malacology at the university museum, 1 July. He retired this month from the Public Health Service.

**James D. Schneider**, director of placement at Tulane University, has been appointed general manager of the university's Riverside Research Laboratories, Belle Chasse, Louisiana.