News and Comment

Science and Congress: Machinery Is Out of Date for Handling $12 Billion in Research Programs

Congress adjourned last week after carrying on the postwar tradition of treating science with an abundance of generosity and a dearth of understanding.

At the outset, it should be acknowledged that this is not the worst possible state of affairs. Congressional largesse has made American science marvelously affluent and the case can be made that, with few exceptions, money is now the least of its problems. (Hans Bethe recently remarked that before World War II he found it difficult to get some $3000 for a cyclotron at Cornell University. "Today," he said, "$3000 is pin money. We use it in this laboratory in a day.") But in many ways, the imbalance between Congressional enthusiasm and insight is not good for science or for Congress. It has led to a situation in which the more politically astute agencies are able to pursue their own interests without reference to overall national needs. At the same time, Congress' failure to equip itself, organizationally and with staff, for coping with the federal involvement in research and development is robbing the governmental process of the contribution that that branch can make when it is up to its task and committed to the national interest. One result of this lapse is a congressional feeling of pique, born of impotence, over the dominance of the Executive authority in a field where Congress is frustrated over its inability to fulfill its role. It can rely on its own judgment in coming to decisions on most legislative matters, but it finds itself very much at the mercy of the executive agencies and the Administration when it is asked to weigh requests for scientific undertakings.

This is a rather agreeable situation for most agencies, although those that have failed to recognize that there is gold in Capitol Hill sometimes get left behind in the rush of events. For example, as was noted in this space not too long ago, the Geological Survey has been thwarted in its efforts to obtain $1.5 million to expand its work in basic hydrology; in the haste to end the session, which was the longest since 1951, Congress failed to complete action on a Commerce Department request for a research program to bring new technology into the civilian economy. But with occasional exceptions, usually based on particular economic interests, Congress reflects the fact that no politically potent group in the country is opposed to research. The congressional tendency, therefore, is to go along with money requests, sometimes trimming a bit here or there as a not very convincing reminder that Congress holds the pursestrings.

Agency Appropriations

Thus, the National Science Foundation, which last year received $264.5 million, requested $358 million this year and received $322.5. The Atomic Energy Commission sought $3.2 billion and received $3.1 billion. (The reduction included $60 million which will be made available, when required, for an accelerator at Stanford University.) The National Bureau of Standards requested $30 million for research and technical services and received $27.5 million. The National Institutes of Health found itself in a relatively poor position this year, having received only $100.4 million above the Administration request.

In comparison, Congress vigorously exercised its judgment to cut over $1 billion from the foreign aid program, to slash the civil defense program close to extinction, and to kill the Administration's proposals for expanding federal aid to education. The fortunes of the legislatively blessed, however, bears little relation to the exercise of congressional judgment. Rather, it reflects that Congress is for science, knows virtually little about it, and has therefore virtually abdicated from the decision-making process when it is presented with proposals to spend money on scientific efforts.

At the heart of the situation is the fact that more than $12 billion is now channeled annually into federal research and development through a congressional structure that has changed little since the R&D budget totaled only a few hundred million a year. With a prod from Sputnik, the Executive recognized this revolutionary change in 1957 by first bringing a science adviser and science staff into the White House, and recently by transforming this organization into the Office of Science and Technology (OST). The Senate's lag in this field was perhaps most clearly illustrated when the Senate Parliamentarian was faced with the problem of selecting the committee that would pass on the nomination of Jerome Wiesner to head the new office. The decision went to the Labor and Public Welfare Committee, principally because it has jurisdiction over the National Science Foundation, some of whose functions were transferred to Wiesner's office. OST's function is to survey all federal relations with science—broadly interpreted as ranging from education on through military research and development—but nowhere in the Senate is there any one committee that encompasses more than a few of the areas under OST's purview. The Labor and Public Welfare Committee came closest, though it did not come very close at all.

House Committee

In the House, the establishment of the Science and Astronautics Committee represents a start toward reducing the fragmentation of that chamber's science functions, but while the committee was given responsibility for a broad range of scientific activities, no effort was made to remove most of them from the committees that traditionally held them. The result is that the Science and Astronautics Committee has devoted most of its energies to its most clear-cut jurisdiction, the National Aeronautics and Space Ad-

ministration, while the great array of scientific matters that remain outside of NASA still rest with other committees.

Thus, in many respects, Congress is a victim of its internal jealousies when it finds itself unequipped to take a broad view of scientific expenditures and programs. During the past session, for example, Senator Proxmire (D-Wis.) sought to interest his colleagues in a study of the effect that the space program was having on the availability of trained manpower for other scientific programs. A number of his colleagues felt that Proxmire had raised an issue that demanded serious attention, but there was no single place within the Senate that could claim jurisdiction over the problem. NASA's Senatorial guardian, the Aeronautical and Space Sciences Committee, pushed aside Proxmire's case with assurances that (i) the space program was not disrupting other scientific efforts and (ii) several scientific manpower studies were under way outside of Congress. Proxmire's call for a congressional study was overwhelmingly voted down, but the result in no way altered the fact that many members of Congress feel that the space program has burgeoned beyond congressional influence, leaving Capitol Hill with no function but to ratify Administration decisions.

Medical Research

Congressional dissatisfaction with this role annually boils over in disputes on expenditures for medical research. It is now a well-established practice for both houses to give the National Institutes of Health an appropriation in excess of the Administration's request. This is politically popular, since no one is going to lose votes for being generous to medical research. But many members, while swept along by the tide that regularly expands the NIH budget, fervently wish they could get some expert guidance on the very difficult question of whether medical research is being financially overfed. Perhaps there is no answer, and therefore it is best to err on the side of generosity, but within Congress there is no informed judgment to be had on this or most scientific issues. The difficulty here lies in the fact that extremely few competent scientists wish to serve on congressional staffs. Although a few committee staffs have been "professionalized," and are chosen without regard to political ties, the general atmosphere of Congress is not inviting to people who have trained for a career in research. The House Science and Astronautics Committee got around this problem to some extent by establishing a panel of distinguished scientists that meets with the members twice annually to discuss various problems involving government and science. But, in general, Congressmen who seek scientific guidance must rely on nontechnically trained staff members or representatives of the very federal agencies whose programs they seek to judge. It is not surprising that they therefore feel that they are close to working blind in an area of vast importance.

Congressional Reform

Since Congress must consent to its own reform, it has never been a very reformable body. But in the session that just ended, it became obvious to even the most enthusiastic devotee of Congress' peculiar ways that the national legislative machinery is very much in need of an overhaul. Most attention has centered on the destructive squabbles between the House and Senate over the right to initiate appropriations bills and on the time-consuming delays involved in separating the authorizing and appropriations functions in each house. Because of these divisions of function, agency officials often find themselves giving virtually the same testimony before four separate congressional committees. To some extent, the method can be justified on the grounds that it produces an extremely careful and thorough examination of Administration proposals, but it also consumes vast chunks of time of executive officials who are overworked to begin with. The move for reform, which has fairly substantial bipartisan support, is largely directed toward these problems, but it might be useful for the scientific community to take advantage of the present atmosphere to interest Congress in equipping itself for its responsibilities to the national scientific effort. Congressional lack of understanding and the archaic legislative machinery have curiously worked to the advantage of the nation's scientists, but it is not difficult to recognize that a good deal of luck has been at work here and it would be better for everyone involved if Congress were both generous and intelligent about science.

—D. S. GREENBERG.

Announcements

The New York Medical College has announced plans for the establishment of an institute for research, education, diagnosis, and treatment of **cardiovascular disease**. Under the direction of Robert A. O'Connor, assistant dean of the college, the institute will offer both research and clinical study programs covering congenital, rheumatic, degenerative, and hypertensive heart disease. Facilities will include underground operating rooms to permit surgery under abnormal atmospheric pressures, and a 1500-seat auditorium for those who wish to observe operations via closed-circuit television. A heliport will be situated atop the hospital to facilitate the arrival of emergency cases.

The National Science Foundation has announced that the next closing dates for receipt of proposals for renovation or construction of **graduate-level research facilities** are 1 December 1962 and 1 April and 1 August 1963. Funds are granted on a 50-percent matching basis to departments having at least a master's program in the life, social, mathematical, engineering, or physical sciences. A booklet describing the NSF program is available. (Office of Institutional Programs, NSF, Washington 25, D.C.)

Bequests of **temporal** or **inner ear bones** of persons with hearing and equilibrium disorders are being sought by the Temporal Bone Banks Center, Chicago, to aid in studies of pathological conditions accompanying deafness and in evaluation of previous treatment. The center, recently established as coordinating agency for a chain of 22 ear banks, also needs bones of persons with normal hearing to aid in the training of ear surgeons. Legal forms for making such bequests are available. (Temporal Bone Banks Center, Box 146, Faculty Exchange, University of Chicago, Chicago 37, Ill.)

Courses

A short course on **measurement engineering** in engineering, physics, and metallurgy, will be offered at Arizona State University from 28 January to 1 February. The two-part course will consist of an experiment program, to be conducted during evening hours,