Science and Government: New Currents Flowing

During the past few months there has been an unusual amount of activity and change throughout the network of people and institutions that rule relations between science and government. At this stage, forecasts of the consequences are not in order. But since policies and practices are quite likely to be affected by the new currents, it is useful to note that a number of key issues are awaiting decision and, at the same time, that there have been some developments affecting the cast that will influence and make the decisions.

In the case of the National Science Foundation, it is obvious that some important changes are impending in the surrounding political environment. Since the Foundation came into existence in 1950, its financial fortunes and many of the major decisions on the broad allocation of its funds have been governed by one man, Representative Albert Thomas (D–Tex.) who chairs the House Independent Offices Appropriations subcommittee. Last year, after an illness, Thomas announced that he would not be a candidate for reelection. However, he changed his mind, and at age 66 was easily reelected for his 15th term. A reading of appropriations transcripts shows that Thomas' health had not affected his hold over the Foundation or his acuity in searching out details of its activities and desires. Last month, however, Thomas underwent surgery for removal of a tumor, and while he is reported to be recovering well, some of his colleagues say they would not be surprised to see him go into retirement.

It is no exaggeration to say that, when the time comes to fill his appropriations chairmanship, there will be scarcely any other congressional post on which so much is at stake for basic research. Throughout his 15-year reign over NSF, Thomas provided a sort of petulant benevolence, riding herd on the Foundation's officials, never giving them as much money as they sought, but apparently striving to keep this unique creature of science and government away from pitfalls that weren't always visible to its politically green leaders. For example, long before the geographical distribution of research funds became an effective political issue, Thomas was warning the NSF leadership that it was sowing trouble by not attending to the have-nots.

At this point in its history, NSF is well established as part of the apparatus of government support of basic research, and it has the staff, experience, and techniques to fulfill the role that was long ago foreseen for it, at its genesis, by Vannevar Bush in *Science, the Endless Frontier*. What NSF doesn't have is the money; which is likely to be forthcoming only when its congressional overseer acknowledges its maturity and becomes its ally and promoter, rather than its scolding guardian. In seniority, Joe L. Evins (D–Tenn.) ranks behind the chairman, but seniority does not always govern succession on appropriations subcommittees.

Within Congress, but less directly related to the financial fortunes of NSF, is a new and growing influence, the subcommittee on science, research, and development, chaired by Emilio Q. Daddario (D–Conn.). The subcommittee, which comes under the Science and Astronautics Committee, has jurisdiction over the basic legislation that governs NSF. Since the original legislative charter provided a great deal of leeway in NSF operations—as long as they are related to basic research and associated educational activities—there have been relatively few substantive changes over the past 15 years. But Daddario's subcommittee is looking toward building its influence in research matters, and this interest coincides with a generally widespread feeling that it would be useful to subject the charter to a careful examination. During the past few months, this interest has led Daddario to conduct exhaustive hearings on NSF, involving lengthy testimony by 41 witnesses from government, the universities, and industry. At present, Daddario's staff is searching out further details by reviewing the transcripts and sending questions to many of the witnesses. The subcommittee hopes to issue a report by December. Just what it will contain isn't certain, but the areas under consideration include the role and operations of NSF's top advisory body, the National Science Board; NSF's role as a surveyor and analyst of the nation's basic research needs and opportunities—a role that NSF has never fully performed; and the Foundation's potential as a source of support and direction for research aimed toward acquiring fundamental knowledge applicable to major domestic problems, such as environmental pollution.

None of this gets to the fundamental problem of the Foundation's quest for more funds to support currently authorized activities that it deems worthy. But the Daddario committee, through its extensive hearings, has managed to introduce into the congressional atmosphere a number of the concerns felt by the scientific community about the plight of the Foundation. In the context of congressional concerns, these often are of a subtle and esoteric nature. Examples are the pressure that is put on funds available for project grants, when Congress votes to establish big research centers with large fixed costs but doesn't permit the overall budget to keep pace with the growth of obligations; and the financial pressures that arise when large training and fellowship programs are not followed by an increase in funds for supporting work by the new crop of researchers.

It takes a long time to make Congress sensitive to such matters, especially when many congressmen take a quick look at the research and development budget, note that it has grown enormously in the past 5 or 6 years, and conclude that money is the least of its problems. But by simply talking about it a lot, and by giving the scientific community a forum for expressing its concerns, the Daddario committee is performing an educational function that can contribute significantly to a more sensitive handling of the problems of the supposedly overaffluent scientific community.

As far as medical research is concerned, the major impending issues are (i) what to do about the recommendations of the Wooldridge report (*Science*, 26 March) and (ii) whether the NIH budget is to remain virtually horizontal or is to resume the fast climb that took

place between 1957 and 1963. About all that can be said about the Wooldridge proposals is that they are under study in the Department of Health, Education, and Welfare, which, at the moment, is going through a period of great change and expansion. In recent months the Department not only acquired a new Secretary, John Gardner, but it also took on an active civil rights role, the administration of the newly passed Medicare program, and a hugely expanded program of federal aid to education. In this setting the Wooldridge proposals are not likely to receive a high priority at the upper levels of administration. In addition, NIH's administrative superior, the Public Health Service, is looking for a successor for its retiring head, Surgeon General Luther L. Terry, and there is no reason to expect that anything decisive will be done about the Wooldridge proposals until that post is filled.

On budgetary matters, there are indications that NIH's chief congressional proponents, Representative John Fogarty (D–R.I.) and Senator Lister Hill (D–Ala.), feel that the atmosphere is favorable for a return to the practice of piling substantial funds atop the amounts requested by the administration. In fiscal 1963, they added $100 million, to bring the annual budget up to nearly $881 million—a stunning achievement when it is recalled that, just 6 years before, the budget totaled $183 million. But in 1964, charges of financial overfeeding and inadequate accountability procedures, along with a tougher stand by the Bureau of the Budget, caused Fogarty and Hill to veer away from what looked like a hostile reception to another round of beneficence. To soothe the critics, they cut a symbolic $12 million from the administration request, a step that easily quieted the opposition, since there's not much political mileage to be had from harping on the wisdom of spending less money for cancer research. When the budget for the current fiscal year came up, Fogarty and Hill cautiously added $9 million to the administration request, bringing the total up to $966 million. That didn't arouse any significant opposition. This year, reinforced by the Wooldridge report's kind words about the quality of NIH-supported research ("the activities of the NIH are essentially sound and . . . its budget of approximately $1 billion a year is, on the whole, being spent wisely and in the public interest"), the Fogarty-Hill team went a bit further toward restoring the pattern. The administration asked for $1.040 billion; to this Fogarty and Hill added $32 million, and the final figure passed through both houses with only one quibble, and that an ineffectual one. Senator William Proxmire (D–Wis.) stated: "The fear is that any Senator who votes to reduce this ridiculously excessive, this unneeded and unwanted appropriation will be identified henceforth as a fast friend of cancer, the buddy of heart disease, so the fight is hopeless." Hill promptly barraged him with excerpts from the Wooldridge report and a tale of a former member of Congress who "recently had 3½ feet of blood vessel taken out of his legs and a plastic tube substituted. He is now healthy and normal." Proxmire is right: against stuff like that, it is hopeless.

Just what the future holds for NIH's budgetary growth will depend on a composite of economic conditions, scientific opportunities, and personal influence. But it is interesting to note that the management of NIH doesn't subscribe to the generally held view that the growth rate for medical research is destined to be slow for some time to come. In a paper that NIH prepared to give other government agencies its views on the Wooldridge report, it was stated:

> Given a set of attitudes toward the vigor and magnitude of the scientific attack upon major disease problems comparable to that which motivates the national space effort, the present state of the art in many fields coupled with the growing interest and availability of industrial capacity could well precipitate another period of explosive growth.

It is doubtful, however, that the NIH-congressional alliance can engineer a return to "explosive growth" unless the administration is willing to go along. In 1956, when Fogarty and Hill teamed up with NIH director James Shannon and HEW Secretary Marion Folsom to expand medical research, the President's Science Advisory Committee (PSAC) was an uninfluential appendage of the Office of Defense Mobilization. In 1957, when Sputnik propelled PSAC directly into the White House, along with a full-time science adviser and staff, the entire apparatus immediately became wholly enmeshed in the missile race and related national security problems, and had no time to attend to NIH. Science and engineering advice in the Defense Department was heavily influenced, if not dominated, by a military-aerospace alliance that was eager to sign up for virtually any multi-billion-dollar weapons system that came in the mail. As a consequence, in the post-Sputnik years the science adviser and the reactivated PSAC were performing functions that later were assigned to a powerful, civilian-controlled research and engineering operation in Defense.

By the beginning of the Kennedy administration, weaponry and space still occupied a good deal of the time of PSAC and its staff, but there was both time and inclination to take a critical look at the burgeoning of NIH. And an alliance of the White House science office and the Bureau of the Budget dealt with the Fogarty-Hill gambit by simply cutting down on spending that was in excess of administration requests for NIH. This combination is still in being, and, if anything, has become more effective through the refinement of various budgetary processes. But Fogarty, Hill, and Shannon are themselves a very persuasive trio, and with the President obviously attuned to the promise of medical research, the ground is increasingly fertile for a new round of rapid growth.

Finally, there is a spirit of change in the National Academy of Sciences which merits notice. At the time of its centennial 2 years ago, it could have been said that the Academy was 100 years old and acted it. But even then, things were stirring below the surface at the honorary apex of American science. Prior to turning the presidency over to Frederick Seitz in 1962, Detlev Bronk warmly encouraged the establishment of the Academy's Committee on Science and Public Policy (COSPUP), a step that made possible an unprecedented involvement of the Academy in public-affairs-related science. Seitz later agreed to serve in a full-time capacity —and this, except for a short period in the 1920's, was also unprecedented for the Academy. And now, with COSPUP fully established and serving as a uniquely prestigious and influential voice on many matters long overdue for attention (*Science*, 27 August), its first chairman, George B. Kistiakowsky, has become vice president of the Academy. Kistiakowsky, one of the shrewdest and most effective statesmen of science (though he has publicly said that he prefers to think of himself as a "scientist-politician"), is to be succeeded as chairman of COSPUP by Harvey Brooks, dean of engineering and applied physics at Harvard, who is definitely one of the long ball hitters in the science and government game. The Seitz-Kistiakowsky-Brooks combination is a formidable one, and is not likely to be content with sitting on its prestige.

For a long time the Academy has been eclipsed by the emergence of the White House science office as a center for initiative in federal relations with research. The people running these two institutions are all old friends and associates and share a concern for the well-being of science; thus, there is a built-in inclination to work together and, particularly, to avoid letting the public view any dissension in the ranks of science. But the White House Office of Science and Technology (OST) is an implement of the political process, while the Academy is the representative of science, and institutional loyalties have a way of assuming critical importance, even between old friends. Such was the case when the Academy and the National Science Foundation became quite angry with each other over who was to take the rap for the Mohole mess. There are no similar botches awaiting resolution, but basic research, which is the primary constituency of the Academy, is coming under serious financial pressure as the Johnson administration puts increasing emphasis on the application of science to social needs. And, while OST is fully sympathetic to the necessity of nurturing basic research without demanding a sure payoff, the Viet-Nam crisis is impinging on Johnson's budgetary freedom, and the money has to come from somewhere. Already there are reports that increased costs and budgetary pressures may seriously affect the Mohole project. After all, it is not hard to imagine budget-weary politicos having a hard time understanding why the U.S. government should lay out $100 million for a few yards of buried rock.—D. S. GREENBERG

Social Sciences: Cancellation of Camelot after Row in Chile Brings Research under Scrutiny

A Presidential order early in August directed the Secretary of State to set up machinery for the clearance of all federally supported social sciences research abroad which might impinge on American foreign relations. The action dampened but did not quench a controversy ignited early this summer in Chile.

The President issued the order about a month after the Army canceled a research program—dubbed Project Camelot—designed to produce a better understanding of the dynamics of revolutions in foreign countries.

The furor was generated when word of preliminary soundings in behalf of the project in Chile reached unsympathetic ears. A Communist newspaper in Santiago started things with charges of intrusion by the American military into Chilean affairs, and the case became something of a *cause célèbre* in Chile and beyond. The American ambassador to Chile, Ralph Dungan, who apparently had not been consulted about Camelot, protested vigorously, and in short order the Army announced cancellation of the project. Research projects of various kinds were to have been carried out in several countries under the banner of Camelot by the Special Operations Research Office (SORO), whose parent institution, American University in Washington, D.C., held the contract with the Army.

The incident attracted congressional attention, and early in July hearings were held by the House Foreign Affairs Committee's subcommittee on international organizations and movements. The subcommittee chairman, Dante B. Fascell (D–Fla.), appears willing to accept the view that social sciences research abroad can be of value, but he is a strong advocate of better coordination.

Camelot, on the other hand, roused the wrath of Senator J. W. Fulbright (D–Ark.), chairman of the Senate Foreign Relations Committee. Fulbright made no bones about viewing Camelot as an unwarranted incursion by the Defense Department into the field of foreign relations, and he also expressed general misgivings about the value of behavioral sciences research.

An investigation of Camelot was known to be under consideration by the Senate Foreign Relations Committee, but the idea has been put aside, at least for the fast-waning, present session. On 25 August, however, weeks after the President's order was issued, a stinging statement by Fulbright was read into the *Congressional Record* (Fulbright was ill that day), and Senator Wayne L. Morse (D–Ore.) followed with an even more acrid reprise.

Perhaps the strongest section of Fulbright's statement was his declaration, "I am personally concerned with such projects as Camelot because I believe there lies beneath the jargon of 'science' in which these studies abound a reactionary, backward looking policy opposed to change. Implicit in Camelot, as in the concept of 'counterinsurgency,' is an assumption that revolutionary movements are dangerous to the interests of the United States and that the United States must be prepared to assist, if not actually to participate in, measures to repress them. It may be that I am mistaken in this interpretation; if so, I would be greatly reassured to have convincing evidence to that effect."

So far, except for the hearings, little has been said on or off the record in behalf of Camelot and behavioral sciences research. The Defense Department policy seems to be to keep its upper lip stiff and tightly buttoned, and the State Department, which was initially more talkative, adopted the same policy. Social scientists associated with the government, either by Civil Service tenure or contract, who know about Camelot and its upshot have been equally taciturn.

It should be noted that the Camelot affair brought to the surface feelings which lie not far below it about federal support of behavioral sciences research. The House Appropriations Committee, for example, this spring cut funds requested by the Defense Department for behavioral sciences research from $22.9 million to about $20 million. In its report on the appropriations bill the committee observed, "Some of the areas being pursued in behavioral sciences appear not to offer any real promise of providing useful information. Other studies appear to be concerned with trivial matters on which intelligent people should not require studies in order to be informed."

The Senate, acting after the Chilean incident, put a finer point on the House cuts by specifying that $1.1 million earmarked for Camelot—the full amount—be withheld.

The point to be kept in mind is that Congress has appropriated funds on an increasing scale to the military for behavioral sciences research, but its misgivings, too, have perhaps been increasing.

SORO, the current center of attention, has been one of the Army's chief surrogates in performing social sciences research. Its annual budget lately has represented perhaps a tenth or better of funds spent by the military on behavioral sciences research.

The organization was established 10 years ago, principally to permit consolidation of psychological warfare studies then being made for the Army by nonprofit research groups engaged primarily in other lines of research. SORO specialized first in problems of mass media communications in overseas areas. In the late 1950's the organization began to branch out by making studies of revolutionary activity. In 1958 SORO was awarded a contract, which has been