appropriate scientific associations; and (iii) they would draw on data as to the societal effects of new (or anticipated) technologies, in part to be generated at their initiative, while at present—to the extent such supervisory decisions are made at all—they are frequently based on folk knowledge.

Most of us recoil at any such notion of regulating science, if only at the implementation (or technological) end of it, which actually is not science at all. We are inclined to see in such control an opening wedge which may lead to deeper and deeper penetration of society into the scientific activity. Actually, one may hold the opposite view—that unless societal costs are diminished by some acts of self-regulation at the stage in the R & D process where it hurts least, the society may "backlash" and with a much heavier hand slap on much more encompassing and throttling controls.

The efficacy of increased education of scientists to their responsibilities, of strengthening the barriers between intrascientific communications and the community at large, and of self-imposed, late-phase controls may not suffice. Full solution requires considerable international cooperation, at least among the top technology-producing countries. The various lines of approach to protecting society discussed here may be unacceptable to the reader. The problem though must be faced, and it requires greater attention as we are affected by an accelerating technological output with ever-increasing societal ramifications, which jointly may overload society's capacity to adapt and individually cause more unhappiness than any group of men has a right to inflict on others, however noble their intentions.

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NEWS AND COMMENT

Behavioral Sciences: Report Bids for a Bigger Role

Three years after the fall of Project Camelot, the ill-fated, Army-financed study of social change in Latin America, it is beginning to be possible to see Camelot as a milestone for the social and behavioral sciences rather than as a permanent millstone.

It is true that federal funds for support of research abroad are now harder to come by, and that Camelot embarrassed American social and behavioral scientists working abroad and raised practical difficulties for many of them. It is also true that, as a consequence of Camelot, the effect of military support of social science research abroad on U.S. foreign relations has been sharply questioned, particularly by Senator Fulbright. And it appears that Congress has adopted a more critical general attitude toward the social sciences.

On the other hand, the cause of the social sciences has found new champions in Congress, who, for example, advocate creation of a separate National Social Sciences Foundation (NSSF) and of a Council of Social Advisors. And, more concrete, many of the imposing number of federal education and social programs established in the middle 1960's provide not only funds for research by social scientists in the universities but opportunities for them to work as researchers, advisers, and administrators in the programs themselves.

It would take a Pollyanna with a masochist streak to say that Camelot was an unalloyed blessing for the social and behavioral sciences, but it did force a facing of facts and prompted a much-needed effort to define what the relationship between the federal government and the social and behavioral sciences should be.

One result of this effort is a report, *The Behavioral Sciences and the Federal Government*,* published this month by a committee of prominent behavioral scientists who have worked under the auspices of the National Academy of Sciences–National Research Council. This Advisory Committee on Government Programs in the Behavioral Sciences was formed late in 1965, with Donald R. Young, visiting professor at Rockefeller University, as chairman; Gene M. Lyons, Dartmouth, was later

* Available from the Printing and Publishing Office, National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, D.C. 20418.

to join as executive secretary.† As the report notes, the committee was formed under the "immediate stimulus" of Camelot, and, it is assumed, with fire-fighting intentions. The study was encouraged and partly supported by the Army.

Before Camelot there had been a feeling within the scientific leadership that a broad examination of relations between the federal government and the behavioral sciences needed to be made. The scope of the study was accordingly broadened, and, as the committee says, "the primary purpose of the report is to examine how the knowledge and methods of the behavioral sciences can be brought to bear effectively on the programs and policy of the federal government." (The committee defines behavioral sciences as anthropology, economics, history, political science, psychology, and sociology and also other disciplines which have behavioral dimensions, such as geography, psychiatry, and linguistics.)

Not surprisingly, the committee takes the example of the physical scientists as providing both the standard and the ideal for federal-science relations, as regards both the federal support for research they receive and their role in federal advisory machinery.

The report notes that, among social scientists, economists have been the most successful in scaling the heights where federal policy is made, and it cites the Council of Economic Advisors as a prime example of what can be done.

It is significant that, in considering ways to gain parity with physical and life scientists in the federal arena, the committee consistently takes the line that it is better to join them than fight them.

The committee is cautious, for example, about the suggestion that a Council of Social Advisors be established, roughly equivalent to the Council of Economic Advisors. It doesn't rule out the idea for the future, but considers it more important for the time being to create the format for an annual social report, analogous to the economic report, by developing reliable social indicators and a system of national social accounts.

The committee does regard it as essential that representation of social scientists be increased on the President's Science Advisory Committee (PSAC), the paramount science advisory body for the federal government, and that behavioral scientists be introduced on the staff of the Office of Science and Technology (OST). The report cogently argues that PSAC and OST are increasingly concerned "not with the content of the sciences, but with the complex issues of public policy and organizational arrangements in science and government." PSAC does have one member who is a behavioral scientist, Herbert A. Simon, professor of computer science and psychology at Carnegie-Mellon University. Simon, who is vice-chairman of the committee which wrote the new report, is also the sole behavioral scientist on the National Academy of Sciences' Committee on Science and Public Policy—all of which does suggest that tokenism is the prevailing policy in the integration of behavioral scientists into the science advisory structure.

A Separate Agency

As for the proposal to create a National Foundation for the Social Sciences, the committee opts for the present pluralistic system modified so that the National Science Foundation would be able to support a much larger volume of basic research in the social and behavioral sciences, and so that agencies such as the Department of Housing and Urban Development and the National Institutes of Health would give increasing support to basic as well as applied research.

On the sensitive question of foreign based research, the committee also declares for what might be called an improved status quo. The committee recommends "that in the field of foreign affairs, long range behavioral science research objectives be drawn up by an interagency planning group headed by the Department of State, with the support of the Office of Science and Technology, and that the research programs of all departments and agencies that operate overseas, including the United States Information Agency, Agency for International Development, Department of Defense and the Peace Corps, be continually related to these long-term objectives through the Foreign Area Research Coordination Group and foreign affairs planning mechanisms like the Senior Interdepartmental Group."

The committee goes on to ask that primary responsibility for behavioral science research and training conducted in foreign countries by universities be "civilianized" by placing such programs under the authority of civil agencies such as NSF, NIH, and the proposed Center for Educational Cooperation under the International Education Act.

Given the present economic and political climate in Washington, this bid to sanitize overseas research in applied and basic research in the behavioral sciences reflects either great tactfulness or simply wishful thinking by the committee. Much behavioral sciences research overseas is applied research. There is scant reason to hope that civilian agencies could soon take up the slack left by a withdrawal from the field by defense-agency patrons—which paid for about $13 million of the estimated $40 million in overseas research in 1967.

In the case of both foreign and domestic research, relations between Congress and the behavioral sciences research community are likely to retain their delicacy. In discussing gaps in the support for basic research the committee lists "research on controversial issues or in areas potentially sensitive." Congress generally continues to view the behavioral sciences with some suspicion. And the advisory committee demonstrated a firm grasp of political realities when it urged that the behavioral sciences take their chances with NSF and the other research supporting agencies rather than depend primarily on a separate NSSF.

If the committee sidestepped the realities at any point it was in failing to come squarely to grips with the criticism of classified research in the universities. This point was raised at a symposium on the report which was held at the American Political Science Association meeting in Washington last week. The reply was that the committee's job was to provide a broad "overview" of the field, and that it could not deal in detail with each issue. For many behavioral scientists, however, the issue is a very pressing one on their campuses, particularly since the behavioral sciences have provided many of the leaders and almost all the analysis and rhetoric for the antiestablishmentarian dissent movement. In general, the report seems to reflect mainstream opinion in the profession, but on this point the Young-Lyons committee seems to be talking like the old lions of the behavioral sciences.

Actually, the opportunities for self-criticism by behavioral scientists will be

† Others on the committee were vice chairman Herbert A. Simon, Frederic N. Cleaveland, A. Hunter Dupree, George M. Foster, Jr., Albert Garretson, Morris Janowitz, Herbert C. Kelman, Lyle H. Lanier, Wilbert E. Moore, Karl J. Pelzer, Ithiel de Sola Pool, Thomas C. Schelling, Joseph J. Spengler, Alexander Spoehr, and George K. Tanham.

ample in the months ahead. Another NAS Committee, the Behavioral and Social Sciences Survey Committee (BASS), is due to bring in before the end of the year a state-of-the-science report, in the series that includes the Westheimer and Pake reports on chemistry and physics. An NSF commission on the social and behavioral sciences is also working in its own sector.

The state of the behavioral sciences vis-à-vis the federal government, in fact, is modestly flourishing. In the National Academy of Sciences, a section which used to harbor a few anthropologists and psychologists has been expanded, under academy President Frederick Seitz's encouragement, into a behavioral sciences division in touch with many more disciplines and displaying much more confidence and energy.

In the federal agencies the social and behavioral scientists have been expanding the beachhead they established in the statistical services and in the area of economic analysis and advice—in the Census Bureau, Social Security Agency, and Bureau of Labor Statistics, for example. Starting with the Manpower Training and Development Act of 1962, which provided for studies of the effect of technological change on manpower needs, the education and antipoverty legislation of the Kennedy-Johnson era has created broad opportunities for behavioral scientists in both operational and research roles.

Opportunities for university researchers are likely to increase in the future, but the ground rules are likely to change. Robert C. Wood, former M.I.T. professor who is now Under Secretary of the Department of Housing and Urban Development, said at the APSA meeting that agencies will be more selective about supporting university research. The old system of "letting one's colleagues in, applauding their proposals," and awarding research contracts is passing. "There are not enough dollars and too many colleagues," Wood noted. Behavioral science researchers face other difficulties. Longitudinal studies involving data available in various agencies are being called for, but creation of a central data file, for example, would raise misgivings about invasion of privacy.

There still are plenty of problems of ethics and economics facing behavioral scientists in their relation with the federal government. And some of the new report's proposals for improving the status and influence of behavioral scientists—like the proposal for setting up a National Institute for Advanced Research and Public Policy to make long-range analyses of national policies—will strike many as a recipe for pie in the sky. But the report also makes it evident that the behavioral scientists are well started along the road already traveled by the physical scientists, who got where they are today by making themselves necessary.—JOHN WALSH

Science Attachés: U.S. Aides Meet To Report on International Scene

Belgrade. A rare survey of research policies and politics over a good portion of the globe was presented here last month at a closed gathering of some dozen scientific and technical specialists who hold assignments at U.S. diplomatic posts in Europe, the Middle East, and India.

The meeting, called by Herman Pollack, director of the State Department's Office of International Scientific and Technological Affairs, was not inspired by any particular event, and was held here simply because the U.S. owns a hoard of Yugoslav dinars and the peculiar plumbing of the dollar drain dictates that it's cheaper to meet here than in most other places. In any case, the meeting was illuminating, though it must be reported on with a distasteful amount of discretion, since the participants, most of them science attachés at U.S. embassies, are all going back to their posts, and *Science* was permitted to attend only on the condition that no one be embarrassed by any public report of their discussions. However, even on this restrictive basis, the proceedings are worth reporting, both because of the substance and because they give some idea of what the State Department is being told about the policy implications of science and technology abroad.

Perhaps the most striking impression to come out of the meeting is that, in this era of European concern over America's scientific and technological brawn, many long-planned cooperative efforts in "big science" are faltering on the closely connected grounds of nationalism, tight budgets, and doubts over the payoff to be had from investment in certain lines of research, particularly basic research. For the major nations of Western Europe, the gist of the reports was that Britain, yet to feel any major restorative effects from the devaluation of the pound, is proud of and supportive of her large and scientifically productive basic research establishment, but is increasingly gripped by the notion that science and technology must be steered toward producing a better economic payoff. France remains committed to maintaining at least a "presence" in every major field of science and technology, but feels the need to juggle its accounts to make up for the economic losses and substantial wage increases that followed last spring's political upheavals. A rearrangement of priorities is inevitably in the offing. Nevertheless, France, perhaps more than any other nation, has made science and technology an instrument of domestic and foreign policy, and is currently reinforcing this design by assigning Foreign Office personnel to science policy councils and by increasing the number of science attachés assigned to the United States. Italy, though happy with the European Organization for Nuclear Research (CERN), the most successful example of European cooperation in big science, was reported to be increasingly disillusioned over the returns it is getting from other costly multinational ventures. West Germany, in contrast to the others, is prosperous to the point of talking about raising the value of the mark, and is favorably disposed to the idea of doing its share in various major ventures.

Against this background, the present status of various projects appears to be as follows. Europe's long-ailing bid for a role in space—through the European Launcher Development Organization (ELDO) and the European Space Re-