policy in dividing R&D work between government establishments and industry. "I have slowly come to the conclusion," said Blackett, "that Britain after the war inadvertently took a wrong turning when it continued to rely so much for defence and atomic energy R&D on its own government stations rather than on industry. I believe that in the U.S.A. a bigger fraction of government funds for defence and atomic energy went to industry and less to government stations. Few would now doubt that the United States has gained greatly from the resulting strengthening of industry and the building up of very strong firms and that Britain has lost relatively."

This is fairly strong stuff, but what Blackett said was perhaps less remarkable than the fact that he said it at all. Some idea of local reaction is indicated by a line in an editorial in *Nature* (25 February), which said, "If Professor Blackett goes on like this, he may easily persuade others who give advice to governments without becoming civil servants that they do not have ever afterwards to bite off their tongues, which would help enormously to improve the quality of public life."

It would be misleading to suggest that development of science policy is a back-room operation in Whitehall. University scientists do participate as advisors in decisions, and a scientists' grapevine—similar to the one in the United States—does operate, at least for those near the top of the vine. Alumni of the wartime scientific mobilization in Britain have continued to be particularly influential. And it is worth noting, for example, that an outsider, a German scientist working at a British government research station, expressed surprise at the extent of discussion within the scientific community before decisions on scientific matters are taken.

Nevertheless, it appears that science policy formulation is a more open process in the United States than in Britain. Congressional committees dealing with science programs and budgets have operated as increasingly effective monitors as their expertise has advanced. The science advisory structure which undergirds the President's Science Advisory Committee, NSF, NIH, and the science programs of NASA, AEC, and the Defense Department involves civilian scientists on a massive scale and not only provides advice to the government but constitutes a major information feedback system to the scientific community. The National Academy of Sciences committee on science and public policy (COSPUP) and the interuniversity consortium formed to administer the projected 200-Bev accelerator are prime examples of *sui generis* organizations formed to influence government science policy.

Americans can avoid *hubris* over their science-policy-making system, however, by examining its actual workings. For example, the officials of the Bureau of the Budget, who figure prominently in decisions on science projects, are, in their professional lives, as fully incommunicado as any British civil servant. On the biggest scientific-technical decision of the last decade—the moon-landing program—the scientists were, in effect, consulted after the fact. Project Mohole had a history that many people would prefer to forget. Now the machinery is being tested by a situation in which more men and projects are competing for proportionally fewer dollars, but by and large the system has worked relatively well.

Policy Machinery

Britain seems to be developing parallel institutions. Richard Crossman, leader of the majority in the House of Commons and a proponent of reform of the House, has argued that, while the modern governmental trends have deprived the House of real control over expenditure, the legislature should at least exercise its responsibility to investigate. He has been rebuffed on proposals for radical reform but has succeeded in having two select investigating committees created, one on agriculture and the other on science and technology. Because of the current interest in science and technology in Britain, the scientific committee is regarded as the more interesting test case. Its authority is not limited to one ministry, it can make its own rules, it can hold public sessions and investigate and report on whatever subject it chooses. Its opportunities are therefore ample, but it is still too early to judge or even predict its performance.

While members of the Royal Society have been among the most important scientific advisers to the British government, the role of the Society itself has been an anomalous one. This too could be changing. It is known that a delegation from the National Academy of Sciences familiar with COSPUP operations visited the Royal Society at the end of February. The visit was characteristically described as being for the purpose of "private discussions," but it is not too difficult to imagine the point of the conversations.

The reorganization of British government science apparatus culminated recently in absorption of the Ministry of Aviation by the new Ministry of Technology. Because of the disparity in size, this was a little like Jonah swallowing the whale. The Ministry of Technology, however, has shown considerable ingenuity and flexibility in its main task of encouraging the technical and managerial modernization of British industry, and it is regarded as likely to maintain its momentum.

In Britain's present economic situation, the Ministry of Technology and the government in general must persuade people to do things and to endure things for their own good and the country's good. In this dimension of policy the old habits of presenting the *fait accompli* don't serve very well. But the habits seem hard to break. This has been illustrated recently by incidents affecting money and education. A report on decimal reform of the British coinage and currency was issued, and simultaneously the government announced its choice of the centpound system. Opposition to the system has been stiff, and the opponents have been particularly irked because the government, in effect, said it would not listen to reasons. The way news of a raise in university fees for overseas students was released a few weeks ago set off a series of student protests in Britain which may prove to be only a first round. The government even found chief university administrators lined up against the increase, which added to the embarrassment and indicated that the consultation process short-circuited somewhere. The hint for Whitehall may well be that a little trouble early is better than a lot of trouble later.

—JOHN WALSH

Erratum: In the report "Selection of social partners as a function of peer contact during rearing" by C. L. Pratt and G. P. Sackett (3 Mar., p. 1133), the third sentence of the first paragraph should read as follows: "Monkeys reared in isolation tend to withdraw from other animals and huddle by themselves in social situations. If such animals prefer each other over more normal monkeys, they may not be effectively exposed to the stimuli which lead to some degree of social adjustment."

Erratum: On the contents page of the 24 March issue, the title of the first article should read "Planetary Contamination I: The Problem and the Agreements: *N. H. Horowitz, R. P. Sharp, R. W. Davies.*"

Erratum: In the report "Amino acid transport: evidence for genetic control of two types in human kidney" by C. R. Scriver and O. H. Wilson (17 Mar., p. 1428), the first sentence in the abstract should read "A mutation affecting renal transport of proline, hydroxyproline, and *glycine* occurs in man."